

APPENDIX E Updated Impact Assessment Matrices

E1 - Impact Assessment Matrix - Construction Phase

E2 – Impact Assessment Matrix – Operations Phase

E3 – Impact Assessment Matrix – Closure Phase

E4 - Impact Assessment Matrix - Post-Closure Phase

Côté Gold Project **Environmental Effects Review Report** September 2018

EA: EA 05-09-02; EAIMS: 13022; CEAA: 80036



E1 - Impact Assessment Matrix - Construction Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level II	Level II	Level I	Level I	Level I				
				EER	Level II	Level II	Level I	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Total Particulate Matter (PMtot.)	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping and stockpiling and onsite road traffic.	-Dust Best Management Plan (DBMP) -IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	EA	Concentrations are below Federal and/or Provincial criteria (<120 µg/m3).	Effect extends into the loca study area	l The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		and stockyming and offsice road traffic.		EER	Concentrations are below Federal and/or Provincial criteria (<120 µg/m3).	Effect extends into the loca study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA	Level II	Level II	Level I	Level I	Level I				
				EER	Level II	Level II	Level I	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Particulate Patter (PM10); 24 Hour Average	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping	-DBMP -IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	EA	Concentrations are below Federal and/or Provincial criteria (<50 µg/m3).	Effect extends into the loca study area	l The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		and stockpiling and onsite road traffic.		EER	Concentrations are below Federal and/or Provincial criteria (<50 µg/m3).	Effect extends into the loca study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA	Level II	Level II	Level I	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter (PM2.5): 24 Hour	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping	-DBMP -IAMGOLD is committing to meeting Federal and/or Provincial criteria at the property boundary	EER	Level II Concentrations are below Federal and/or Provincial criteria (<25 μg/m3).	Level II Effect extends into the local study area	Level I The duration of the effect is less than or equal to 2 years	Level I Effect occurs infrequently	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Average	and stockpiling and onsite road traffic.		EER	Concentrations are below Federal and/or Provincial criteria (<25 µg/m3).	Effect extends into the loca study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA	Level I	Level I	Level I	Level III	Level I				
				EER	Level I	Level I	Level I	Level III	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter (PM2.5); Annual	Changes in air quality due to particulate emissions from construction activities. These activities include site preparation and construction, open pit overburden stripping	-DBMP	EA	Concentrations are comparable to baseline levels (4.2 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Average	and stockpiling and onsite road traffic.		EER	Concentrations are comparable to baseline levels (4.2 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
	Sulphur Oxides (SOx), Mainly	Changes in air quality due to gaseous emissions from	-Engine Maintenance Program -Equipment compliant with Transport Canada	EA EER	Level II Level II Concentrations are below Federal and/or Provincial criteria.	Level I Level I Effect is restricted to the Project footprint	Level I Level I The duration of the effect is less than or equal to 2 years	Level II Level II Effect occurs intermittently or with a certain degree of regularity	Level I Level I Effect is fully reversible				
Air Quality	as Sulphur Dioxide (SO2)	construction activities, mainly vehicle exhausts.	vehicle emissions requirements -Use of low sulphur fuel	EER	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs intermittently	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EA	Level II	Level II	Level I	Level I	Level I				
Air Quality	Nitrogen Dioxide (NO2); 24 Hour Average	Changes in air quality due to gaseous emissions from construction activities, mainly vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emissions requirements	EER	Concentrations are below Federal and/or Provincial criteria (<200 μg/m3).	Level II Effect extends into the loca study area	Level I The duration of the effect is less than or equal to 2 years	Level I Effect occurs infrequently	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	Concentrations are below Federal and/or Provincial criteria (<200 µg/m3).	Effect extends into the loca study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA	Level II	Level II	Level I	Level I	Level I				
Air Quality	Nitrogen Dioxide (NO2); 1 Hour Average	Changes in air quality due to gaseous emissions from construction activities, mainly vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emissions requirements	EER	Level II Concentrations are below Federal and/or Provincial criteria (<400 μg/m3).	Effect extends into the loca study area	Level I The duration of the effect is less than or equal to 2 years	Level I Effect occurs infrequently	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	nuui Average	constitution activities, mainly venice exhausts.	veniue emissions requirements	EER	Concentrations are below Federal and/or Provincial criteria (<400 µg/m3).	Effect extends into the loca study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA	Level I	Level I	Level I	Level III	Level I				
Air Quality	Arsenic; 24 Hour Average	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase,	-DBMP	EA	Concentrations are comparable to baseline levels (0.0018 µg/m3).	Level I Effect is restricted to the Project footprint	Level I The duration of the effect is less than or equal to 2 years		Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		emissions of metals are infrequent.		EER	Concentrations are comparable to baseline levels (0.0018 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years		Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level I	Level I	Level III	Level I				
				EER	Level I	Level I	Level I	Level III	Level I				
Air Quality	Lead	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase,	-DBMP	EA	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		emissions of metals are infrequent.		EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level I	Level I	Level III	Level I				
				EER	Level I	Level I	Level I	Level III	Level I				
Air Quality	Manganese; 24 Hour Average	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase,	-DBMP	EA	Concentrations are comparable to baseline levels (0.0055 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		emissions of metals are infrequent.		EER	Concentrations are comparable to baseline levels (0.0055 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	continuously	Effect is fully reversible				
				EA	Level I	Level I	Level I	Level III	Level II				
				EER	Level I	Level I	Level I	Level III	Level II				
Air Quality	VOCs	Changes in air quality due to gaseous emissions from construction activities, mainly vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emissions requirements	EA	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level I	Level I	Level I	Level III	Level I				
				EER	Level I	Level I	Level I	Level III	Level I				
Air Quality	Other Key Metals	Changes in air quality due to particulate emissions from construction activities, mainly handling of mine rock. Due to infrequent blasting during the construction phase,	-DBMP	EA	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		emissions of metals are infrequent.		EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
A in Countille	Hydrogen Cyanide (HCN); 24	No cyanide is used during the construction phase.	Matanakaski	EA									Net Applicable
Air Quality	Hour Average	Therefore, this effect is not assessed during the construction phase.	Not applicable	EER	_	_	_	-	_	_	_	_	Not Applicable

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to construction activities, including equipment movement, haulage and stockpiling operations.	-1 km setback distances to be kept at the Project site between the construction location and the receptors -Construction equipment not to exceed noise	EA EER	Level II Level I Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Level II Level II Effect extends into the loc study area	Level I Level I The duration of the effect is less than or equal to 2 years	Level III Level III Effect occurs frequently or continuously	Level I Level I Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are reduced compared to the EA. Daytime noise below baseline levels due to reduced footprint.
			levels specified in NPC-115 and NPC-118	EER	Noise level below or equal to daytime baseline of 44 dBA.	Effect extends into the loc study area	The duration of the effect is less than or equal to 2 years		Effect is fully reversible				
				EA EER	Level III Level II	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Noise & Vibration	Nighttime Noise Level	Changes in noise levels due to construction activities, including equipment movement, haulage and stockpiling	-1 km setback distances to be kept at the Project site between the construction location and the receptors -Construction equipment not to exceed noise	EA			The duration of the effect is less than or equal to 2 years	Effect occurs frequently or	Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are reduced compared to the EA. Noise levels are below NPC-115 and NPC-
		operations.	levels specified in NPC-115 and NPC-118	EER	Noise level above nighttime baseline (34 dBA) and below or equal to 40 dBA.	Effect extends into the loc study area	The duration of the effect is less than or equal to 2 years		Effect is fully reversible				118 for nighttime operation.
				EA	Level II	Level II	Level I	Level II	Level I				
Noise & Vibration	Blasting Noise Level	Changes in air vibration levels due to construction activities at the Project site and near watercourse realignments. Blasting is expected to occur infrequently during the construction phase.	-Charge size of construction blasting outside of the open pit boundary will be such that the objectives of NPC-119 will be achieved -Blasting charge size in the open pit is planned to be in compliance with NPC 119		Blasting noise level above the adjusted baseline noise level (39 dBA) but below the regulatory limit of 120 dBL.	Level II Effect extends into the loc study area	Level I The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Level I Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA
		construction phase.	to be in compliance with Nr C 117	e size of construction blasting outside of one pit boundary will be such that the citives of NPC-119 will be achieved g charge size in the open pit is planned be in compliance with NPC 119	Blasting noise level above the adjusted baseline noise level (39 dBA) but below the regulatory limit of 120 dBL.		The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible				
				EA	Level II	Level II	Level I	Level II	Level I				
Noise & Vibration	Blasting Vibration Level	Changes in ground vibration levels due to construction activities. Blasting expected to occur infrequently during the construction phase.	-Charge size of construction blasting outside of the open pit boundary will be such that the objectives of NPC-119 will be achieved -Blasting charge size in the open pit is planned to be in compliance with NPC 119		Level II Blasting vibration level at the receptor is above perceptible vibration level (0.14 mm/s) and below the regulatory limit (10 mm/s).	Level II Effect extends into the loc study area	Level I The duration of the effect is less than or equal to 2 years	Level II Effect occurs intermittently or with a certain degree of regularity	Level I Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA
				of construction blasting outside of it boundary will be such that the s of NPC-119 will be achieved arge size in the open pit is planned n compliance with NPC 119	Blasting vibration level at the receptor is above perceptible vibration level (0.14 mm/s) and below the regulatory limit (10 mm/s).	Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level III	Level I	Level I	Level III	Level III				
Hydrogeology	Groundwater Levels (Water Table)	Localized changes in groundwater levels due to construction activities, mainly watercourse realignments.	Not applicable	EER	Change in the water table elevation is predicted to be greater than 5 m.	Level I Effect is restricted to the Project footprint	Level I The duration of the effect is less than or equal to 2 years		Level II Effect is not reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. Waterlevels normalize with realignment channels following construction completion
				EER	Change in the water table elevation is predicted to be greater than 5 m.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years		Effect is partially reversible				
				EA	Level I	Level II	Level I	Level III	Level II				
				EER	Level I	Level II	Level I	Level III	Level II				
Hydrology & Climate	Change in Flow	Streamflow changes due to construction of various Project components, such as watercourse realignments, TMF and MRA.		EA	<10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the loca study area	The duration of the effect is less than or equal to 2 years		Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. Fewer watercourse alignments are required for the Project, which directs flows to Three Duck Lake (Upper) however increase in flow is not
				EER	<10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the loca study area	I The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				expected to change the hydrological characteristics of Three Duck Lake (Upper).
				EA	Level II	Level II	Level I	Level II	Level I				
				EER	Level II	Level II	Level I	Level I	Level I				
Water Quality	Change in Water Quality	Changes in water quality due to erosion and runoff which could potentially increase total suspended solids in water courses. Best Management Practices will be used during the construction phase, which will prevent changes in water	-Best Management Practices (BMPs) and engineering design to limit soil erosion and mobilization/transport of sediments from	EA	Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.		l The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible	Not Significant	Not Significant	Not likely	Impacts are reduced compared to the EA. The reduced footprint results in less potential of total suspended solids entering water
		quality.	disturbed areas	EER	Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.		l The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				courses.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level I	Level I	Level III	Level II				
				EER	Level I	Level I	Level I	Level III	Level II				
Terrestrial Biology	Upland Plant Community Types	Vegetation loss due to site clearing. The Project is predicted to alter approximately 1,800 ha of the land cover.			There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not likely	No Change from EA
			practicable -Rehabilitate habitat for plants as practicable -Limit / prevent the transfer of invasive plant species from equipment and imported soil	EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level I	Level I	Level I	Level III	Level II				
				EER	Level I	Level I	Level I	Level III	Level II				
Terrestrial Biology	Wetlands	Loss of wetland areas due to site clearing. The Project is predicted to alter approximately 185 ha of wetlands.	waterbodies along the transmission line ROW,		There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years		Effect is partially reversible	Not Significant	No Change from EA	Not likely	No Change from EA
			Where practical, avoid placement structures in valerbodies along the transmission line ROW, and to the extent practicable, in low-lying areas		There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
Terrestrial Biology	Vegetation Species at Risk, Species of Special Concern	No predicted effect on Species at Risk, Species of Special Concern and Provincially Rare Species as none were	Not applicable	EA	-	-	-	-	-	_	_	_	Not applicable
	and Provincially Rare Species	identified during baseline data collection. Therefore, this effect is not assessed.		EER	_	-	_	-	_				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level III	Level I	Level III	Level II				
Terrestrial Biology	Ungulates	Potential change in ungulates population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated1,106 ha of suitable moose winter habitat and 1,074 ha of suitable moose summer habitat. Additional effects are potentially	-Reduce risk of mortality to wildlife -Minimize construction of new roads -No hunting by Project personnel -Enforce speed limits on Project roads	EA	There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the regional study area	Level I The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	Not Significant	Not likely	Impacts are reduced compared to the EA. Less habitat being disturbed due to a reduced Project footprint.
		associated with general disturbance and vehicular collisions.	-Awareness trainings for employees	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				reduced Froject toophili.
		Potential change in furbearers population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 355 ha of	-Reduce risk of mortality to wildlife	EA EER	Level I Level I There is no measurable residual effect to population abundance and distribution.	Level III Level II Effect extends into the regional study area	Level I Level I The duration of the effect is less than or equal to 2 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Effect is partially reversible				
Terrestrial Biology	Furbearers	suitable beaver habitat. Between 1,074and 1,266 ha of suitable black bear, eastern wolf, and American marten habitat will be removed from construction of the Project. Additional effects are potentially associated with general disturbance and vehicular collisions.	-Minimize construction of new roads -No hunting by Project personnel -Enforce speed limits on Project roads -Awareness trainings for employees	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Not likely	Impacts are reduced compared to the EA. Less habitat being disturbed due to a reduced Project footprint.
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Terrestrial Biology	Migratory Birds	Potential change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Site construction will remove 99 and 216 ha of suitable nightjar, olive-sided flycatcher, rusty blackbird, and waterbird habitat. The Project is predicted to		EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the loca study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Not likely	Impacts are comparable to the EA, with the exception of a shorter transmission line
		remove 1,203 and 1,233 ha of suitable Canada warbler and tree-nesting raptor habitat, respectively. The Project is not anticipated to remove any suitable short-eared owl habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the loca study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	·	g	, , ,	alignment which requires fewer disturbances.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level II	Level I	Level III	Level II				
				EER	Level I	Level II	Level I	Level III	Level II				
Terrestrial Biology	Wildlife Species at Risk	Potential change in wildlife species at risk population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 1,233 ha of suitable bat habitat. Additional effects	-Reduce the risk of mortality to birds and bats -Reduce risk of mortality to wildlife	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the loca study area	I The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not likely	No Change from EA
		are potentially associated with general disturbance and vehicular collisions.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the loca study area	l The duration of the effect is less than or equal to 2 years		Effect is partially reversible				
				EA	Level I	Level I	Level I	Level III	Level I				
				EER	Level I	Level I	Level I	Level III	Level I				
Terrestrial Biology - TL	Vegetation Communities	Vegetation loss due to transmission line ROW clearing. The Project is predicted to result in the removal of 549.2 ha of forested communities including 146 ha of coniferous	soil erosion, and use existing roads and rails as practicable		There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
		swamp.	-Retain existing low-lying vegetation along the transmission line ROW	EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level III	Level I	Level III	Level I				
				EER	Level I	Level II	Level I	Level III	Level I				
Terrestrial Biology - TL	Ungulates - Moose	Potential change in moose population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat including areas with high potential Moose aquatic carrying capacities as well as 24 ha of identified over-	-Reduce risk of mortality to wildlife -Minimize construction of new roads -No hunting by Project personnel	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	Not Significant	Not likely	Impacts are reduced compared to EA. Reduced power requirement allows the Project to utilize a TLA from the Shining Tree
		wintering areas and portions of areas with the potential to support moderate to high densities of Moose in the dorman season. Additional effects are potentially associated with general disturbance and vehicular collisions.	-Enforce speed limits on Project roads t -Awareness trainings for employees	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the loca study area	I The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				Distribution Station.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level III	Level I	Level III	Level I				
Terrestrial Biology - TL	Furbearers - Wolves	Potential change in wolves population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat. Noise from construction activities may temporary displace local wolves and/or local Moose that wolves depend on for food. Additional effects are potentially	-Reduce risk of mortality to wildlife -Minimize construction of new roads -No hunting by Project personnel -Enforce speed limits on Project roads	EER	Level I There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	Level I The duration of the effect is less than or equal to 2 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
		associated with general disturbance and vehicular collisions.	-Awareness trainings for employees	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years		Effect is fully reversible				
				EA	Level I	Level III	Level I	Level III	Level I				
				EER	Level I	Level III	Level I	Level III	Level I				
Terrestrial Biology - TL	Furbearers - American Marten	Potential change in American marten population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of habitat including 127 ha of identified core marten habitat.		EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
		Additional effects are potentially associated with general disturbance and vehicular collisions.	-Enrorce speed limits of Project roads -Awareness trainings for employees	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level III	Level I	Level III	Level I				
				EER	Level I	Level III	Level I	Level III	Level I				
Terrestrial Biology - TL	Furbearers - Black Bear	Potential change in black bear population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of	-Reduce risk of mortality to wildlife -Minimize construction of new roads -No hunting by Project personnel	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
	distribution due to the construction of the transmission line opgy - TL Furbearers - Black Bear dispriment. This will result in the removal of 549.2 ha of habitat. Additional effects are potentially associated with -Enfor	-Enforce speed limits on Project roads -Awareness trainings for employees	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Terrestrial Biology - TL	Bats	Potential change in bats population abundance and distribution due to the construction of the transmission line. A total of 130 ha of suitable vegetation community types for bat roosting habitat will be cleared for Project development.	-Enforce speed limits along Project roads -Reduce the risk of mortality to birds and bats	EA	There is no measurable residual effect to population abundance and distribution.	study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
		Additional effects are potentially associated with general disturbance and vehicular collisions.		EER	There is no measurable residual effect to population abundance and distribution.	study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level II	Level I	Level III	Level I				
Terrestrial Biology - TL	Migratory Birds	Potential change in migratory birds population abundance and distribution due to the construction of the transmission line alignment. This will result in the removal of 549.2 ha of	-Limit risk of nest destruction and mortality of migratory birds -Construct the transmission line ROW outside of the migratory bird breeding season -Install conductor wires at a sufficient distance apart to prevent accidental electrocution of birds -Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable	EA	Level I There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	Level I The duration of the effect is less than or equal to 2 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
The state of the s		habitat. Additional effects are potentially associated with general disturbance and vehicular collisions	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist -No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife -Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife	i FFR	There is no measurable residual effect to population abundance and distribution.	study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	. Total Significant	S.	. v morg	Grange non 2.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
		Potential change in raptors population abundance and	-Limit risk of nest destruction and mortality of migratory birds -Construct the transmission line ROW outside of the migratory bird breeding season -Install conductor wires at a sufficient distance apart to prevent accidental electrocution of birds -Maintain existing vegetation ground cover along the transmission line ROW to the extent	EA	Level I Level I There is no measurable residual effect to population abundance and distribution.	study area	Level I Level I The duration of the effect is less than or equal to 2 years		Level I Level I Effect is fully reversible				
Terrestrial Biology - TL	Raptors	distribution due to the construction of the transmission line. Vegetation clearing for construction of the transmission line alignment is anticipated to remove 403.2 ha of forested land capable of providing woodland raptors nesting habitat. No raptor nests are located within the proposed transmission line alignment footprint and it is not expected that habitat removal will affect known raptor nests through habitat removal. Effects are potentially associated with general disturbance and vehicular collisions.	- Utilize existing infrastructure for access and d minimize construction of new roads and other corridors where alternatives exist	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the loc study area	The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
		Data-tiel shares in any data-shared and distribution		EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and	Potential change in population abundance and distribution for species at risk, species of special concern and provincially rare species due to the construction of the transmission line. Overall, construction of the transmission line alignment will result in the clearing and temporary removal of 232.9 ha of deciduous mixed woodland habitat which may be used as nesting habitat by Canada Warbler; 403.2 ha of forest habitat which may be used as nesting	-Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable -Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist.	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
	Provincially Rare Species	habitat for Common Nighthawk; 22.9 ha of wetland habitat and 146 ha of coniferous forest habitat suitable for Olivesided Flycatcher and Rusty Blackbird; 22.6 ha of wetland habitat and 3.8 ha of open water habitats which may provide potential habitat to Snapping Turtles. Additional effects are potentially associated with general disturbance and vehicular collisions.	-No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife -Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife		There is no measurable residual effect to population abundance and distribution.	Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years		Effect is fully reversible				
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level II Level II	Level I Level I				
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to changes in water quality. Best Management Practices will be used during the construction phase, which will prevent changes in water	-The use of erosion control measures and timing of construction to avoid spawning and egg incubation periods	EA	Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.		al The duration of the effect is less than or equal to 2 years	Effect occurs intermittently	Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
		quality.	33 1	EER	Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.		al The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible				
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level II Level II	Level I Level I				
Aquatic Biology	Commercial, Recreational,	Effects on commercial, recreational and Aboriginal fisheries due to site construction, including relocation of fish due to developing of Citical Jack construction function for the course.	environmental conditions	EA	There is no measurable residual effect to communities or populations.	Effect extends into the loc		Effect occurs intermittently	Effect is fully reversible	Not Significant	Not Significant	Not likely	Impacts are reduced compared to EA. Fewer watercourse realignment channels, reducing
-	Aboriginal Fisheries	dewatering of Côté Lake, construction of watercourse realignments and overpressure from blasting.	-Removal of terrestrial vegetation prior to flooding will reduce the potential for methyl mercury production through decaying of terrestrial vegetation	EER	There is no measurable residual effect to communities or populations.	Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible				organics disturbances.

Di	scipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
					EA	Level I	Level I	Level I	Level III	Level II				
					EER	Level I	Level I	Level I	Level III	Level II				
Aqua	tic Biology	Loss of Aquatic Habitat	Loss of aquatic habitat due to construction of Project components. Lotic habitat affected includes Mollie River, Clam Creek and Bagsverd Creek. Lentic habitat affected includes Coté Lake, Beaver Pond, Clam Lake, Little Clam	-Spawning habitat within the water bodies affected will be included in the Fisheries Act Authorization for the site as a loss of habitat and will be addressed through the compensation plan (including modifications to ensure flow, fish passage and use of habitats)		Less than 10% of lotic habitat (stream length - m) and /or lentic habitat (lake area - m2) within the local study area.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not likely	No Change from EA
			Lake, Unnamed Pond #3 and East Beaver Pond.	Design of the realignment channels will incorporate the life cycle requirements of the resident fish species and promote, where possible, an increase in habitat	EER	Less than 10% of lotic habitat (stream length - m) and /or lentic habitat (lake area - m2) within the local study area.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
					EA	Level II	Level I	Level I	Level III	Level III				
					EER	Level II	Level I	Level I	Level III	Level III				
Land and	Resource Use	Land Use Plans and Policies	Potential effects on land use planning areas during the construction phase of the Project may include overlapping of land use policy area where the use would not be allowed	-Incorporate the MOE D-series guidelines	EA	The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years		Effect is not reversible	Not Significant	No Change from EA	Likely	No Change from EA
Edita dile	Nessure osc	Zuna osci i lais aila i olisics	and creating land use conflicts.	incorporate the MOL B series galactines	EER	The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years		Effect is not reversible	- Not Significant	No Shange Hom 21	Later	No Grange Hall
					EA	Level II	Level II	Level I	Level III	Level II				
Land and	Resource Use	Mineral Exploration	Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the construction phase.	-Work with claim holders to identify access changes and negotiate access agreements if there is any requirement to use or cross IAMGOLD properties	EER	The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities.	Effect extends into the loca study area	l The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	_	Likely	Impact is no longer applicable. IAMGOLD has acquired the mineral claims within the Project area.
	and and Resource Use Mineral E				EER		-		-					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Land and Resource Use	Forestry	The potential effects on forestry due to the construction phase of the Project include overlapping, and therefore, loss of Forest Management Units (FMUs) area, long-term removal of forest resources (at the Project site fo	-Re-route the Chester Access Road south of the Project site	EA	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect extends into the lo study area	ocal The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA, except references to the cross-country TLA are no longer applicable
		along the Cross-Country TLA and at the Project site.		EER	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect extends into the lo study area	ocal The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Land and Resource Use	Hunting	Potential effects on hunting during the construction phase of the Project include overlapping of, and therefore, limiting use of or access to WMUs, overlapping of, and therefore, limiting use of or access to BMAs, increased access to BMAs along the TLA alternatives and changes to the	-Enforce speed limits and warn IAMGOLD personnel of areas of high wildlife activity and crossings	EA	The Project overlaps with		ocal The duration of the effect is less than or equal to 2 years			Not Significant	No Change from EA	Likely	No Change from EA
		abundance and distribution of wildlife that could affect hunting success rates due to construction activities.	-Prohibit hunting on IAMGOLD property -Food wastes generated on-site will be appropriately disposed of to reduce the attraction of wildlife	EER	The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the lo study area	ocal The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Land and Resource Use	Trapping	A number of trapline areas overlap with the Project site and TLA alternatives. Potential effects on trapping during the construction phase of the Project include loss of trapline areas or trap cabins, changes to access to trapline areas or trap cabins and changes to the abundance and distribution of furbearers that could affect trapping success rates, and	-To be determined through consultation between the MNR and affected trappers	EA	The Project overlaps with small portions of trapline		The duration of the effect is less than or equal to 2 years			Not Significant	No Change from EA	Likely	No Change from EA
		therefore, trapping income due to changes in biophysical or anthropogenic conditions.		EER	The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Effect extends into the lo study area	ocal The duration of the effect is less than or equal to 2 years		Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
Land and Resource Use	Pecreational and Commercial	The Project site and TLAs overlap with Fisheries Management Zone (FMZ) 8 and several bait harvest areas. Potential effects on fishing during the construction phase of the Project include loss of bait harvest areas or recreational fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish that could	Not applicable		Level II Level II The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Level II Level II Effect extends into the lo study area	Level I Level I The duration of the effect is less than or equal to 2 years		Level I Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		affect fishing success rates, and therefore, any commercial fishing income (such as for bait fish harvesters) due to changes in biophysical or anthropogenic conditions.			The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	study area	cal The duration of the effect is less than or equal to 2 years	continuously	Effect is fully reversible				
				EA EER	Level II Level II	Level I Level I	Level I	Level III Level III	Level I Level I				
Land and Resource Use	Cottages and Outfitters	Numerous cottages and outfitters are located near the Project site. Potential effects on the cottagers may include decreased enjoyment and leisure lifestyle associated with cottaging due to construction noise and dust; perceived effects to water quality, quantity and area aesthetics) and increased vehicle traffic. The potential effects of the Project on the outfitters may include decrease in areas recommended by outfitters to clientele (related to effects on BMAs), perception that the	-Limit recreational boating for workers while they are staying at the work camp on-site	EA	The Project is proximal to cottage areas or areas used by outfilters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers/outfitters.	Effect is restricted to th Project footprint	The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
Land and Resource Use		area is not pristine or natural which could detract clientele and increased local clientele due to increased workforce in area (staying or hunting, etc).		EER	The Project is proximal to cottage areas or areas used by outfitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers/outfitters.	Effect is restricted to th Project footprint	The duration of the effect is less than or equal to 2 years		Effect is fully reversible				
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Land and Resource Use	Navigable Waters	Due to the construction of the watercourse realignments and retention dams, canoe routes will need to be modified during the construction phase.	-To be determined through consultation with any potential cance route users to facilitate navigation during construction and operations	FΔ	The Project is proximal to canoe routes/waterways		The duration of the effect is less than or equal to 2 years	Effect occurs frequently or	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		during the constitution phase.	nanganon during constitution and operations		The Project is proximal to cance routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect extends into the lo study area	cal The duration of the effect is less than or equal to 2 years		Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Land and Resource Use	Other Recreational Uses	The potential effects on other recreational uses include temporary disruption of the snowmobile Trunk Trail due to construction of the Project transmission alignment, changes to access to the Project area that may have previously been used for other recreation uses and changes in the natural control of the project which provides the programment of the project is an extensive the project transmission.	Snowmobile Clubs to minimize potential	EA	The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years		Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		aesthetic of the area which may detract some recreational users to avoid the Project area.		EER	The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years		Effect is partially reversible				
				EA	Level II	Level I	Level I	Level III	Level I				
Traditional Land Use	Plant Harvesting	There is a potential for blueberry harvesting to be affected during the construction phase of the transmission line due to clearing of vegetation.	Not applicable	EER	Level II The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.	Effect is restricted to the Project footprint	Level I The duration of the effect is less than or equal to 2 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		o county of regetation.		EER	The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level II	Level II	Level I	Level III	Level II				
Traditional Land Use	Traditional Hunting	Potential effects on traditional hunting during the construction phase include changes in access to and overlapping of the waterfowl hunting site and waterfowl hunting route and therefore limiting its use, enhanced access to hunting areas and travel corridor resulting from transmission line ROW clearing and changes to the	-Prohibit hunting on IAMGOLD property to provide safety for both hunters and workers	EER	The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	Level I The duration of the effect is less than or equal to 2 years		Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		abundance and distribution of wildlife due to construction activities that have the potential to affect hunting.		EER	The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Traditional Land Use	Fishing	Potential effects on fishing during the construction phase of the Project include loss of traditional fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish due to construction activities.	-Design or time construction activities so there are limited or no in-water works required	EA	The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Effect extends into the lo study area	cal The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Effect extends into the lo study area	cal The duration of the effect is less than or equal to 2 years		Effect is fully reversible				
				EA	Level II	Level II	Level I	Level III	Level II				
Traditional Land Use	Canoeing	Due to the construction of the watercourse realignments and retention dams, canoe routes will need to be modified during the construction phase.	-To be determined through consultation with any potential canoe route users to facilitate navigation during construction and operations	EA	The Project is proximal to traditional canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect extends into the lo study area	Level I cal The duration of the effect is less than or equal to 2 years		Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	canoeing/portaging and does not limit the ability to use these navigable waters.	Effect extends into the lo study area	cal The duration of the effect is less than or equal to 2 years	continuously	Effect is partially reversible				
				EA EER	Level I Level I	Level II Level II	Level I	Level III Level III	Level I Level I				
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	Changes in ability of Aboriginal people to access sites that may be of cultural, spiritual, ceremonial value or may increase or decrease intrinsic values such as privacy, in	-Inform workers of locally nesting raptors	EA	The Project does not overlap important cultural, spiritual or ceremonial sites.		cal The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		using sites.		EER	The Project does not overlap important cultural, spiritual or ceremonial sites.	study area	cal The duration of the effect is less than or equal to 2 years		Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Visual Aesthetics	Change in Landscape from Receptor Locations	Changes in landscape due to construction of Project components that could potentially be seen from nearby receptors.	-Limit the design height of the MRA to 150 meters -Purchase and remove the trapper's cabin on Three Duck Lakes	EA	No perceptible change in landscape.	Effect extends into the lo study area	cal The duration of the effect is less than or equal to 2 years		Effect is partially reversible	Not Significant	No Change from EA	Not likely	No Change from EA
				EER	No perceptible change in landscape.	Effect extends into the lost study area	cal The duration of the effect is less than or equal to 2 years		Effect is partially reversible				
				EA	Level II	Level II	Level I	Level III	Level II				
Visual Aesthetics	Change in Landscape from Non-Receptor Locations	Changes in landscape due to construction of Project components that could potentially be seen from nearby bodies of water.	-Limit the design height of the MRA to 150 meters	EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Level II Effect extends into the lostudy area	Level I The duration of the effect is less than or equal to 2 years		Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	affect enjoyment of the viewscape.	Effect extends into the lostudy area	less than or equal to 2 years	continuously	Effect is partially reversible				
				EA EER	Level II Level II	Level II Level II	Level I	Level III Level III	Level I Level I	-			
Visual Aesthetics	Change in Landscape due to the Transmission Line	Changes in landscape due to construction of the transmission line that could potentially be seen from nearby receptors.	/ Not applicable	EA	Perceptible change in		cal The duration of the effect is less than or equal to 2 years			Not Significant	Not Significant	Likely	Impacts are reduced compared to EA. Reduced power requirement allows the Project to utilize a TLA from the Shining Tree
				EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the lo	cal The duration of the effect is less than or equal to 2 years		Effect is fully reversible				Distribution Station.
		Direct, indirect and induced employment levels are expected to increase due to Project construction activities.	-Support employment of local community members where possible -Implement a procurement process that encourages Aboriginal and local suppliers	EA	_	_	_	-	-				
Socio-Economic	Labour Market	The effect on employment is therefore positive and highly distinguishable in the regional study area and lasts for the life of the Project.	-Cultural awareness training -Provide on-the-job Common Core training to workers -Provide training and education in local communities	EER	-	_	-	-	-	_	_	_	Not applicable

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
Socio-Economic	Business Opportunities	The construction of the Project is expected to result in increased business opportunities. There will be a positive highly distinguishable effect in the	-Implement a procurement process that encourages Aboriginal and local suppliers -Implement a procurement policy that structures opportunities in terms of package size and bid evaluation to reflect Aboriginal and local capabilities	— A	-	-	-	-	-	1	_	Not applicable
		regional study area and will last for the life of the Project.	-Establish a system to monitor and report on local and regional content with mechanisms to adapt procurement policies where required -Support capacity building for local businesses	R —	-	-	-	-				
		The Project is expected to produce substantial revenues for Federal and Provincial governments through corporate taxes and royalties, indirect taxes on products, indirect taxes on production and direct taxes on income earned	E	A	-	-	-	_				
Socio-Economic	Government Finances	from economic activity. The residual effect is considered positive effect that lasts for the life of the Project and is expected to result in a measurable change in revenues outside of the normal range of variability for the Provincial and Federal governments.	Not applicable	R —	_	-	-	_	_	_	_	Not applicable
6.15		The Project will create employment during the construction, operation and closure phases. This has the potential to positively affect, directly and indirectly, the population and demographics of regional study area communities. Regionally: Residual positive (growth) effects but not likely	-Support employment of local community members where possible -Implement a procurement process that encourages Aboriginal and local suppliers	_ A	-	-	-	-				
Socio-Economic	Population and Demographics	to be noticeable are expected in Timmins and Sudbury when construction begins. Locally: positive, highly distinguishable effect and may result in the need for investment by the community or government that lasts for the construction phase.	-Cultural awareness training -Provide on-the-job Common Core training to workers -Provide training and education in local communities	R —	_	_	-	_	_			Not applicable
			E		Level III	Level I	Level III	Level II				
			EE	R Level I	Level III	Level I	Level III	Level II				
Socio-Economic	Community Health Conditions	This Project has the potential to affect the existing health of the population in a variety of ways including the interaction of the workers with the local population, increased	-Provide for basic worker health care -Provide information on health-related issues	Effects are within the norma range of variability.	ll Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
Socio-Economic	Sommering reduit conditions	employment and income. This interaction could result in a more positive or adverse lifestyle depending on individual choices and the on-site work environment.	such as nutrition, sexually transmitted infections, alcohol abuse etc. to workers -Provide worker transportation to and from Project site	R Effects are within the norma range of variability.	ll Effect extends into the regional study area	The duralion of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	ror agmitant	No Shange Hull En	-involy	No Gridingo Horri EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level III	Level I	Level III	Level II				
				EER	Level I	Level III	Level I	Level III	Level II				
Socio-Economic	Housing and Temporary Accommodation	economy.	-Monitor indicators of Project housing effects	EA	Effects are manageable within the stock of existing housing and temporary accommodations.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		Locally: Residual housing effects in the local study area, while considered positive, are distinguishable and require investment by the community or government to address and be experienced in the construction phase.	and adapting management measures	EER	Effects are manageable within the stock of existing housing and temporary accommodations.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level II	Level II	Level I	Level III	Level II				
				EER	Level II	Level II	Level I	Level III	Level II				
Socio-Economic	Public Utilities	The Project has the potential to effect demands on public utilities such as water and wastewater, electricity, and solid waste systems because the Project will require them on-site and an increase in population may result in growth in housing and businesses with associated demands for	-Work with Gogama Local Service Board	EA	Effects may require investment to meet Project needs that are within the capabilities of communities or governments.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		public utilities. Regionally: Population changes in Timmins and Sudbury are low and therefore not expected to result in noticeable increased demands for any public utilities.		EER	Effects may require investment to meet Project needs that are within the capabilities of communities or governments.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
Socio-Economic	Education	The Project could intersect with the education and training sector in a variety of ways including increases in population of school aged children and increased demands for post-secondary school training to access Project employment effects (direct, indirect and induced).	-Support post secondary education of workers	EA	-	-	-	-	-	_	_	_	Not applicable
		The residual effect on primary and secondary education is considered positive since it results in a slight increase in enrolment in elementary schools in the local study area and in enrolment in high schools in the regional study area (Timmins and Sudbury).	,	EER	-	_	-	_	-				·

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Socio-Economic	Emergency Services	The Project will affect emergency services due to increases in population; increases in disposable income levels due to direct and indirect employment related to the Project; and through increases in Project-related accidents that require	-Maintain open communication with local service providers to monitor existing social	EA	Effects may require investment to meet Project needs that are within the capabilities of emergency service providers.	Effect extends into the loc study area	The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		medical attention.		EER	Effects may require investment to meet Project needs that are within the capabilities of emergency service providers.	Effect extends into the loc study area	The duration of the effect is less than or equal to 2 years		Effect is fully reversible				
				EA	Level II	Level II	Level I	Level III	Level II				
				EER	Level II	Level II	Level I	Level III	Level II				
Socio-Economic	Other Community Services	The Project could affect community services as a result of population changes and residency decisions, and the extent to which direct or indirect population growth in certain communities may place pressure on their services and infrastructure. Regionally: Residual effects on community services in Timmins and Sudbury are expected to be within the normal	-Implement the Zero Harm policy at the Project	EA	Effects may require investment to meet Project needs that are within the capabilities of community service providers.	Effect extends into the loc study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	. Not Significant	No Change from EA	Likely	No Change from EA
		range of variability and last throughout the life of the Project. Locally: Positive effects for recreation services and negative due to lack of services in local study area communities (for shelters, victims' services, child care and health care).	Sile	EER	Effects may require investment to meet Project needs that are within the capabilities of community service providers.	Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible			,	
				EA	Level II	Level II	Level I	Level III	Level I				
				EER	Level II	Level II	Level I	Level III	Level I				
Socio-Economic	Transportation	The effects of the Project on traffic volumes will occur on Highway 144 as vehicular traffic will be the main mode of transportation used to transport goods, services and workers to and from the Project site. Rail may also be used during the construction phase to transport some Project	-Road safety awareness training -Schedule major equipment delivery and removal -Schedule shuttle bus travel and shifts -Ensure heavy load sizing and seasonal load restrictions	EA	Traffic may increase but does not require investment in roadway infrastructure to accommodate Project demands.		The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		materials to Gogama, to be offloaded there and transported by truck to the Project site.	-Transport oversized loads in parts -Report wildlife sightings on highways	EER	Traffic may increase but does not require investment in roadway infrastructure to accommodate Project demands.	Effect extends into the loc study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level II	Level I	Level III	Level III				
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontological or architectural importance that may be	Grand - Completed mitigation - archaeological assessments Stages 1, 2, 3 and 4, as required - Buffer zones are established, as required		The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the Heritage Act.	Level I Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years		Level III Effect is not reversible	Not Significant	Not Significant	Not likely	Impacts are comparable with the EA. Changes in MTCS protocols regarding the curation and storage of artifacts. Discussions with MFN are in progress to identify suitable public institution(s).
		overprinted by Project components.	- buller zones are established, as required	EER	The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the Heritage Act.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years		Effect is not reversible				Inspecting newly-exposed shorelines.
				EA	Level I	Level II	Level I	Level III	Level I				
				EER	Level I	Level II	Level I	Level III	Level I				
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage resources could potentially be affected by the Project.	Not applicable	EA	The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years		Effect is fully reversible	Not Significant	No Change from EA	Not likely	No Change from EA
		potentially be affected by the Project.		EER	The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Effect extends into the loc study area	al The duration of the effect is less than or equal to 2 years		Effect is fully reversible				



E2 – Impact Assessment Matrix – Operations Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II	Level II	Level II	Level I	Level I Level I				
			-DBMP	EER	Level II	Level II	Level II	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Total Particulate Matter	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock	-TMF DBMP -Dust collection systems -Control measures provided by equipment supplier for drilling -Blasting to occur mid-day based on favourable	EA	Concentrations are below Federal and/or Provincial criteria (<120 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	Not Significant	Likely	Project related impacts are comparable with the EA. Reduced pit size requires a smaller fleet of vehicles and
	(PMtot.)	management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.	climatic conditions -Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage -IAMGOLD is committed to meeting Federal and/or Provincial criteria at the property boundary	EER	Concentrations are below Federal and/or Provincial criteria (<120 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible		J	ŕ	reduced production requirements which reduces emissions.
				EA EER	Level II	Level II	Level II	Level I	Level I				
				EÉR	Level II	Level II	Level II	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Particulate Patter	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock	-DBMP -TMF DBMP -Dust collection systems -Control measures provided by equipment supplier for drilling -Blasting to occur mid-day based on favourable	EA	Concentrations are below Federal and/or Provincial criteria (<50 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	Mot Significant	Not Significant	Likely	Project related impacts are comparable with the EA. Reduced pit size requires a smaller fleet of vehicles and
All County	(PM10): 24 Hour Average	management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.		EER	Concentrations are below Federal and/or Provincial criteria (<50 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	- Not Significant	Not Significant	Likery	reduced production requirements which reduces emissions.
				EA	Level II	Level II	Level II	Level I	Level I				
				EER	Level II	Level II	Level II	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock	-DBMP -TMF DBMP -Dust collection systems -Control measures provided by equipment supplier for drilling -Blasting to occur mid-day based on favourable	EA	Concentrations are below Federal and/or Provincial criteria (<25 μg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	Not Significant	Likely	Project related impacts are comparable with the EA. Reduced pit size requires a smaller fleet of vehicles and
nii Gdany	(PM2.5): 24 Hour Average	management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.	climatic conditions -Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage -IAMGOLD is committed to meeting Federal and/or Provincial criteria at the property boundary	EER	Concentrations are below Federal and/or Provincial criteria (<25 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	- Not organicum	no ogundan	Likely	reduced production requirements which reduces emissions.
				EA EER	Level II	Level I	Level II	Level III	Level I				
			į	EER	Level II	Level I	Level II	Level III	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter	Changes in air quality due to particulate emissions from operations activities. These activities include onsite road traffic, mine rock	-DBMP -TMF DBMP -Dust collection systems -Control measures provided by equipment supplier for drilling -Blasting to occur mid-day based on favourable	EA	Concentrations are below Federal and/or Provincial criteria (<8.8 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Likely	Project related impacts are comparable to the EA. Reduced pit size requires a smaller fleet of vehicles and
· · · · · · · · · · · · · · · · · · ·	ality (Dust) as Fine Particulate Matter (PMZ 5). Annual Average (PMZ 5). Annual Average	management, primary crushing, drilling, blasting, loading and hauling of ore and mine rock in the open pit.	climatic conditions -Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage -IAMGOLD is committed to meeting Federal and/or Provincial criteria at the property boundary	EER	Concentrations are below Federal and/or Provincial criteria (<8.8 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible		. c. c.gumean	-mory	reduced production requirements which reduces emissions.

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Discipline	Indicator Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
			EA	Level II	Level I	Level II	Level III	Level I				
			EER	Level II	Level I	Level II	Level III	Level I				
Air Quality	Sulphur Oxides (SOx), Mainly as Sulphur Dioxide (SO2) Changes in air quality due to gaseous emissions from Project site activities, mainly from the cyanide destruction process but also from the cyanide des	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emission requirements -Use of Iow sulphur fuel	EA	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	venice exhausis.	-Closed loop delivery of SO ₂ gas for cyanide destruction	EER	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
			EA	Level II	Level II	Level II	Level II	Level I				
			EER	Level II	Level II	Level II	Level II	Level I				
Air Quality	Nitrogen Dioxide (NO2); 24 Hour Changes in air quality due to gaseous emissions from Project site	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emission requirements -Blasting to occur mid-day based on favourable climatic conditions	EA	Concentrations are below Federal and/or Provincial criteria (<200 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible	Not Significant	Not Significant	Likelv	Project related impacts are comparable with the EA. Reduced pit size requires a smaller fleet of vehicles and
	Average activities, mainly blasting but also vehicle exhausts.	-Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	EER	Concentrations are below Federal and/or Provincial criteria (<200 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible			,	reduced production requirements which reduces emissions
			EA	Level II	Level III	Level II	Level I	Level I				
		Fasina Maiatanana Barana	EER	Level II	Level III	Level II	Level I	Level I				
Air Quality	Nitrogen Dioxide (NO2); 1 Hour Changes in air quality due to gaseous emissions from Project site activities, mainly blasting but also vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emission requirements -Blasting to occur mid-day based on favourable climatic conditions	EA	Concentrations are below Federal and/or Provincial criteria (<400 µg/m3).	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	Not Significant	Likely	Project related impacts are comparable with the EA. Reduced pit size requires a smaller fleet of vehicles and reduced production requirements which reduces
	Average activities, mainly biasting but also vehicle exhausts.	-Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	EER	Concentrations are below Federal and/or Provincial criteria (<400 µg/m3).	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible				emissions
			EA	Level I	Level I	Level II	Level III	Level I				
			EER	Level I	Level I	Level II	Level III	Level I				
Air Quality	Changes in air quality due to particulate emissions from Project si activities, mainly handling of ore and mine rock.	aniling	EA	Concentrations are comparable to baseline levels (0.0018 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
All County	duvinos, manny naraning or ofe and finite took.	-Blasting to occur mid-day based on favourable climatic conditions -Follow manufacturers recommended guidelines regarding water infiltration and time of explosives usage	EER	Concentrations are comparable to baseline levels (0.0018 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	root organican	At Change from EA	Linciy	140 Glange num EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level I	Level I	Level II	Level III	Level I				
				EER	Level I	Level I	Level II	Level III	Level I				
Air Ouality	Changes in air quality due to particulate emissions from Project site activities, mainly handling of ore and mine rock.	-DBMP -TMF DBMP -Dust collection systems -Control measures provided by equipment supplier for drilling -Blasting to occur mid-day based on favourable	EA	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA	
		climatic conditions -Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible					
				EA	Level II	Level II	Level II	Level II	Level I				
				EER	Level II	Level II	Level II	Level II	Level I				
Air Quality	Manganese; 24 Hour Average	Changes in air quality due to particulate emissions from Project site activities, mainly handling of ore and mine rock.	arilling	EA	Concentrations are below Federal and/or Provincial criteria (<0.2 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
in deany	manganoso, 2 · read readge	countries, mainly randing or one and raine room	-Blasting to occur mid-day based on favourable climatic conditions -Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	EER	Concentrations are below Federal and/or Provincial criteria (<0.2 µg/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible	To organizati	NU Change Iron EA		
				EA EER	Level II	Level I	Level II	Level III	Level II Level II				No Change from EA
Air Quality	VOCs	Changes in air quality due to gaseous emissions from Project site activities, mainly operation of the landfill and vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle	EA	Concentrations are below Federal and/or Provincial criteria.	Level I Effect is restricted to the Project footprint	Level II The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	
			emission requirements	EER	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level II	Level II	Level II	Level II	Level I				
Air Quality	Other Key Metals	Changes in air quality due to particulate emissions from Project site activities, mainly handling of ore and mine rock.	uning	EER EA	Concentrations are below Federal and/or Provincial criteria.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		activities, mainly handling of ore and mine rock. -Bla -Foll	-Blasting to occur mid-day based on favourable climatic conditions -Follow manufacturer's recommended guidelines regarding water infiltration and time of explosives usage	EER	Concentrations are below Federal and/or Provincial criteria.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible				No Change from EA

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Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER		
				EA	Level II	Level III	Level II	Level I	Level I						
				EER	Level II	Level III	Level II	Level I	Level I						
Air Quality	Hydrogen Cyanide (HCN); 24 Hour Average	Changes in air quality due to gaseous emissions from Project site activities, mainly operation of outdoors cyanide leach tanks.	-Cyanide destruction at the ore processing plant	EA	Concentrations are below Federal and/or Provincial criteria (<8 µg/m3).	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA		
			EER	Concentrations are below Federal and/or Provincial criteria (<8 µg/m3).	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible							
				EA	Level II	Level II	Level II	Level III	Level I						
				EER	Level II	Level II	Level II	Level III	Level I						
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to activities at the Project site, including open pit operations, mine rock and ore haulage, additional vehicle movements at the site, operation of the ore processing plant.	-Site equipment will be operated to meet NPC-300 operational noise limits	EA	Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA		
		movements at the site, operation of the ore processing plant.		EER	Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible						
				EA	Level II	Level II	Level II	Level III	Level I						
				EER	Level II	Level II	Level II	Level III	Level I						
Noise & Vibration	Nighttime Noise Level	Changes in noise levels due to activities at the Project site, including open pit operations, mine rock and ore haulage, additional vehicle	operational noise limits	operational noise limits		EA	Noise level above nighttime baseline (34 dBA) and below or equal to 40 dBA.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	ficant Not Significant	Likely	Impacts are comparable to the EA. Nighttime noise levels remain below NPC-300 limits with the optimized layout.
		movements at the site, operation of the ore processing plant.	receptors may be purchased	EER	Noise level above nighttime baseline (34 dBA) and below or equal to 40 dBA.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible						
				EA		Level II	Level II	Level II	Level I						
				EER	Level II	Level II	Level II	Level II	Level I						
Noise & Vibration	Noise & Vibration Blasting Noise Level Changes in air vibration levels due to Project site activities, i.e., oper pit blasting		-Blasting charge size in the open pit is planned to be in compliance with NPC-119	-Blasting charge size in the open pit is planned to be	EA	Blasting noise level above the adjusted baseline noise level (39 dBA) but below the regulatory limit of 120 dBL.		The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible		Likely	No Change from EA		
		ри ивъшу		EER	Blasting noise level above the adjusted baseline noise level (39 dBA) but below the regulatory limit of 120 dBL.		The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible				No Change Irom EA		

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level II	Level II	Level II	Level II	Level I				
Noise & Vibration	Noise & Vibration Blasting Vibration Level Changes in ground vibration levels due to Project site activities, i.e., open pit blasting.	-Blasting charge size in the open pit is planned to be in compliance with NPC-119		Level II Blasting vibration level at the receptor is above perceptible vibration level (0.14 mm/s) and below the regulatory limit (10 mm/s).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA	
				EER	Blasting vibration level at the receptor is above perceptible vibration level (0.14 mm/s) and below the regulatory limit (10 mm/s).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible				
			EA EER	Level II Level II	Level II Level II	Level II Level II	Level III Level III	Level I Level I					
Hydrogeology	Groundwater Levels (Water	Changes in groundwater levels due to open pit development.	Not applicable	EA	Change in the water table elevation is predicted to be between 1 and 5 m.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. Given that the footprint of the put has reduced and is within the originally proposed extent for which for the 3d model was
	Hydrogeology Changes in groundwate Table) Changes in groundwate		Not applicable	EER	Change in the water table elevation is predicted to be between 1 and 5 m.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				constructed to predict water level draw downs, the effects predicted are anticipated to be similar
				EA EER	Level I Level I	Level II Level II	Level II Level II	Level III Level III	Level II Level II				
Hydrology & Climate		Streamflow changes due to water intake and discharge in addition to continued operation of various Project components, such as watercourse realignments, TMF and MRA.	-Realignment channels and dams	EA	<10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. Fewer watercourse alignments are required for the Project, which directs flows to Three Duck Lake (Upper) however increase in
Hydrology & Climate Change in Flow				EER	<10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				flow is not expected to change the hydrological characteristics of Three Duck Lake (Upper).

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
		engineering design to lim mobilization/transport of sed areas - Treatment of process wat operation of engineered watet Changes in water quality due to Project discharges and runoff. Parameters potentially exceeding baseline include: ammonia, water; returned (or recycled) te	-Treatment of process water; construction and operation of engineered water management systems to collect runoff and seepage from the TMF; reclaim water; returned (or recycled) to the process plant; use	EA	Level II Level III Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.	Level II Level II Effect extends into the local study area	Level II Level II The duration of the effect is between 2 and 15 years	Level III Level I Effect occurs frequently or continuously	Level II Level II Effect is partially reversible				Impacts are comparable to the EA. Average arsenic
Water Quality	Change in Water Quality	arsenic, parium, caicium, cinoride, copair, copper, molypoenium, nickel, nitrate, phosphorus, potassium, sodium, strontium, sulphate, uranium.	of liners on starter tailings dams to limit seepage losses during the early years of operations - Management of solid domestic and industrial waste in a permitted landfill, including the use of BMPs -Inclusion of PAG rock within the bulk of the MRA -BMPs for explosives use -Treatment of sewage -Monitoring and treatment of effluent, monitoring of groundwater quality and remedial action, as required	EER	Concentrations greater than baseline concentrations and greater than water quality guidelines, where applicable.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is partially reversible	Not Significant	Not Significant	Likely	concentrations slightly exceed water quality guidelines on an infrequent basis.
				EA EER	Level I Level I	Level I Level I	Level II Level II	Level III Level III	Level II Level II				No Change from EA
Terrestrial Biology	Upland Plant Community Types	Continued vegetation loss due to site clearing in the construction phase. The Project is predicted to alter approximately 1,800 ha of the land cover		EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	
	land cover.			EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I	Level I	Level II	Level III Level III	Level II				
Terrestrial Biology		y Not applicable	EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from ΕΔ	
Terrestrial Biology Wetlands		construction phase. The Project is predicted to alter approximately 185 ha of wetlands.	Not applicable	EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				No Change from EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
T	Vegetation Species at Risk,	No predicted effect on Species at Risk, Species of Special Concern	N T. II	EA	-	_	-	-	-		N. Classification		N. G (v. 5)
Terrestrial Biology	Species of Special Concern and Provincially Rare Species	and Provincially Rare Species as none were identified during baseline data collection. Therefore, this effect is not assessed.	Not applicable	EER	_	_	_	-	_	_	No Change from EA	-	No Change from EA
				EA	Level I	Level III	Level II	Level III	Level II				
		Continued potential for change in ungulates population abundance and distribution due to habitat removal during the construction will remove an estimated 1,106 ha of suitable	Include wildlife awareness information in regular safety and environmental inductions Project personnel will be advised not to interfere or harass or feed wildlife Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence Project personnel will be required to handle food and	EER EA	There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible				Project related impacts are reduced compared to EA. Less habitat being disturbed due to a reduced Project footprint
Terrestrial Biology	Ungulates	sine construction will reliable an estimated in the land statement moose winter habital and 1,074 ha of suitable moose summer habital. Additional effects are potentially associated with general disturbance and vehicular collisions.	Foreign personner with cerequired to relative toour and food wastes in a responsible manner No hunting by Project personnel will be permitted while working or residing on site Enforce speed limits along Project roads to reduce the potential for collisions with wildlife Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Not Likely	
				EA EER	Level I Level I	Level III Level III	Level II Level II	Level III Level III	Level II				
Terrestrial Biology	Furbearers	Continued potential for change in furbearers population abundance and distribution due to habitat removal during the construction phase. Site construction will remove an estimated 355 ha of suitable beaver habitat. Between 1,074 and 1,266 ha of suitable black bear, eastern	transmission line ROW to the extent practicable -No hunting by Project personnel will be permitted	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area		Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Not Likely	Project related impacts are reduced compared to EA. Less habitat being disturbed due to a reduced Project
		wolf, and American marten habitat will be removed from construction of the Project. Additional effects are potentially associated with general disturbance and vehicular collisions.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible			,	footprint
				EA	Level I	Level II	Level II	Level III	Level II				
		Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Site construction will remove between 99 and 216 ha of suitable nightjar, olive-sided flycatcher, rusty blackbird, and	-Reduce the risk of mortality to birds and bats	EER EA	There is no measurable residual effect to population abundance and distribution.	Level II Effect extends into the local study area	Level II The duration of the effect is between 2 and 15 years	Level III Effect occurs frequently or continuously	Level II Effect is partially reversible				Project related impacts are comparable to the EA, with the
Terrestrial Biology	Migratory Birds waterbird habitat. The Project is predicted to remove 1,203 and 1,233 ha of suitable Canada warbler and tree-nesting raptor habitat, respectively. The Project is not anticipated to remove any suitable short-eared owl habitat. Additional effects are potentially associated with general disturbance and vehicular collisions.	-Reduce risk of mortality to wildlife		There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	- Not Significant	Not Significant	Not Likely	exception of a shorter transmission line alignment which requires fewer disturbances.	

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA FFR	Level I Level I	Level II	Level II	Level III Level III	Level II				
Terrestrial Biology	abundance and distribution due to habitat removal during the	construction phase. Site construction will remove an estimated 1,233	ROW -Ensure that ongoing clearing is constrained to the	EA r	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		necessary area of clearance (the ROW) -Use mechanical brushing		There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible					
			_	EA EER	Level I Level I	Level I Level I	Level II Level II	Level III	Level I Level I				
		Continued vegetation loss due to transmission line ROW clearing during the construction phase. The Project is predicted to result in	Include wildlife awareness information in regular safety and environmental inductions Project personnel will be advised not to interfere or harass or feed wildlife Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence Project personnel will be required to handle food and		There is no measurable residual effect to the bundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Level III Effect occurs frequently or continuously	Effect is fully reversible				
Terrestrial Biology - TL	Vegetation Communities	during the construction phase. The Project is predicted to result in the removal of 549.2 ha of forested communities including 146 ha of coniferous swamp.	-Project personnel will be required to nandie rood and food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along Project roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER al	There is no measurable residual effect to the bundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	urs frequently or Fffect is fully reversible	No Change from EA	Not Likely	No Change from EA	
				EA	Level I	Level III	Level II	Level III	Level I				
Terrestrial Binlonv - TI	Unqulates - Moose	Continued potential for change in moose population abundance and	-Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence -Project personnel will be required to handle food and		Level I There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
Terrestrial Biology - TL Unç	Singulated incode	distribution due to habitat removal during the construction phaseN -Er -S	food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along Project roads to reduce the potential for collisions with wildlife		There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	. G. O.g. moun	Stange tan Li	· vo. Linouy	. o onango non El

District Co.	1.15.1	Fr	APIC OF OFFICE AND ADDRESS OF THE APIC OF THE APIC OFFICE AND ADDRESS OF THE APIC OFFICE ADDRESS OF TH		M 9. 1	<u></u>	.		D	Residual Impact Significance	Residual Impact Significance	19.00	2
Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	(EA)	(EER)	Likelihood of the Effect	Comparison between EA and EER
				EA FFR	Level I	Level III Level III	Level II	Level III	Level I Level I				
Terrestrial Biology - TL	Continued potential for change in wolves population abundance ar distribution due to habitat removal during the construction phase. Increased levels of trapping or hunting can negatively affect local wolf population through increased mortality rates and increased no from recreational use can displace wolves as well as their prey.	-Project personnel will be required to handle food and	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA	
		No hunting by Project personnel will be permitted while working or residing on-site Enforce speed limits along Project roads to reduce the potential for collisions with wildlife Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible					
				EA EER	Level I	Level III	Level II Level II	Level III	Level I Level I				
Terrestrial Biology - TL	Furbearers - American Marten	Continued potential for change in American marten population abundance and distribution due to habitat removal during the construction phase becaused leaves of transping have the potential to	Include wildlife awareness information in regular safety and environmental inductions Project personnel will be advised not to interfere or harass or feed wildlife Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence Project personnel will be required to handle food and food wastes in a responsible manner	EA	There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area		Level III Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		construction phase. Increased levels of trapping have the potential to negatively affect local marten populations.	-No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along Project roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	-	No Grange Hori EA	ioi Enery	
				EA	Level I	Level III	Level II	Level III	Level I				
Terrestrial Biology - TL	Furbearers - Black Bear	Continued potential for change in black bear population abundance and distribution due to habitat removal during the construction phase. Increased levels of trapping or hunting can negatively affect local	-Enforce speed limits along Project roads -Reduce the risk of mortality to birds and bats	EER EA	Level I There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area	Level II The duration of the effect is between 2 and 15 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		ard distribution due to habital removal during the construction phase. Increased levels of trapping or hunting can negatively affect local populations.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
			Limit sight of a set should all the set of t	EA EER	Level I Level I	Level II Level II	Level II Level II	Level III Level III	Level I Level I				
Terrestrial Biology - TL		Continued potential for change in bats population abundance and distribution due to behind a general during the conduction of the continued on	-Chilli has on less destinuction and monanty of migratory birds -Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable -No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife -Project personnel will be educated to handle food and front waters responsible and enforce policies of	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
Terrestrial Biology - TL		commune potential for change in pals population abundance and distribution due to habital removal during the construction phase. -Proj		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	J	· ·	·	

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER				
				EA	Level I	Level II	Level II	Level III	Level I				 				
				EER	Level I	Level II	Level II	Level III	Level I								
Terrestrial Biology - TL	Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase. Additional potential effects include collisions w power lines and electrocutions.	-Limit risk of nest destruction and mortality of migratory birds -Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable -No hunting by Project personnel will be permitted while working or residing on site, and advised not to interfere/harass wildlife -Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA					
		power lines and electrocutions.	-Minimize the level of potentially disturbing activities near any known or subsequently discovered active raptor nest sites during the raptor breeding season until nests are vacated -Remove carcasses of road-killed animals or any other carcasses found onsite in a timely manner to limit the attraction of wildlife	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible								
				EA	Level I	Level II	Level II	Level III	Level I								
				EER	Level I	Level II	Level II	Level III	Level I								
Terrestrial Biology - TL	Raptors	Continued potential for change in raptors population abundance and distribution due to habitat removal during the construction phase. Additional potential effects include collisions with power lines and	interfere/harass wildlife	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA				
		electrocutions.	and food wastes responsibly and enforce policies of no feeding of wildlife	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible								
								EA	Level I	Level II	Level II	Level III	Level I				
						EER	Level I	Level II	Level II	Level III	Level I						
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and Provincially	Continued potential for change in population abundance and distribution for species at risk, species of concern and provincially rare species due to habitat removal during the construction phase.	-Incorporate the MOE D-series guidelines	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA				
	Kale Species	Concern and Provincially rare species due to habital removal during the construction phase Additional potential effects include collisions with power lines and electrocutions.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible								
				EA	Level I	Level II	Level II	Level III	Level I								
	1			EER	Level I	Level II	Level II	Level II	Level I								
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to changes in water quality, primarily	-Site specific water quality objectives will need to be developed for these substances or effluent treatment will need to be employed such that protection of aquatic life is assured		Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible		Not Significant	Likely	Impacts are reduced compared to EA. Water quality predictions indicated that fewer substances were elevated above benchmarks relative to the EA, and concentrations of most substances achieve water quality guidelines with the exception of arsenic, which is expected to periodically exceed the water quality guideline (CCME) during the dry year (1 in 25 year). However, the maximum predicted monthly average concentration is only marginally over the guidelines (0.0071 mg/L) and does not exceed toxicity thresholds.				
				EER	Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.		The duration of the effect is between 2 and 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible								

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER					
				EA	Level I	l evel l	Level I	Level III	Level II	` '	` '							
				EER	Level I	Level I	Level I	Level II	Level II									
Aquatic Biology	Commercial Pecceational Lotic habitat affected includes Mollie River, Clam Creek and	Bagsverd Creek. Lentic habitat affected includes Côté Lake, Beaver	habitats)	EA	There is no measurable residual effect to communities or populations.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Not likely	Impacts are reduced compared to EA. The habitat area to be lost is approx. 33% less than the EA due to a reduced open pit footprint. The resulting habitat borders the open pit and will be affected by blasting until the mining level of					
		-Design of the realignment channels will incorporate the life cycle requirements of the resident fish species and promote, where possible, an increase in habitat.	EER	There is no measurable residual effect to communities or populations.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is partially reversible				the open pit is below the area of effect.						
				EA EER	Level I Level I	Level II	Level II	Level III Level III	Level I Level I									
Aquatic Biology	Commercial, Recreational,	Effects on commercial, recreational and Aboriginal fisheries due to open pit blasting and because newly established watercourse	-Relocate fish (representative numbers of the community) to established habitats. Time relocation relative to life cycle requirements and environmental conditions -Removal of terrestrial vegetation prior to flooding will		There is no measurable residual effect to communities or populations.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Not Likely	Impacts are reduced compared to EA, with a 33%					
	Aboriginal Fisheries	realignments may not be fully established.	reduce the potential for methyl mercury production through decaying of terrestrial vegetation -Design water intake structures to meet DFO requirements to prevent/limit fish impingement	EER	There is no measurable residual effect to communities or populations.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible		·		reduction in areas flooded for the creation of habitat					
			-Time construction of watercourse realignments to allow for vegetation growth for one season prior to commissioning of watercourse realignments, if possible or conduct planting of aquatic vegetation	EA EER	Level I Level I	Level II	Level II	Level III	Level II				No Change from EA					
Aquatic Biology	Loss of Aquatic Habitat	Continued loss of aquatic habitat due to Project footprint. Lotic habitat affected includes Mollie River, Clam Creek and Bagsverd Creek. Lentic habitat affected includes Coté Lake, Beaver Pond,		EA	Less than 10% of lotic habitat (stream length - m) and /or lentic habitat (lake area - m2) within the local study area.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant No Change from EA	Not Likely						
	,	Clam Lake, Little Clam Lake, Unnamed Pond #3 and East Beaver Pond.	immediately following commissioning of channel realignments to promote the establishment of vegetation within the newly constructed habitats -Use appropriate erosion control methods	EER	Less than 10% of lotic habitat (stream length - m) and /or lentic habitat (lake area - m2) within the local study area.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible		·	,						
				EA	Level II	Level I	Level II	Level III	Level II									
Land and Resource Use	Potential effects on land use planning areas during the operations phase of the Project may include overlapping of land use policy are where the use would not be allowed and creating land use conflicts	and pagetiate access agreements if there is any	EER	The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA						
				where the use would not be anowed and creating rand use conflicts.	hore the use would not be allowed and creating land use conflicts	whore the use would not be allowed and creating land use conflicts			EER	The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II	Level II	Level II	Level III	Level II				
Land and Resource Use	Mineral Exploration	Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the	-Re-route the Chester Access Road south of the Project site	EA	Concentrations are below Federal and/or Provincial criteria (<120 ug/m3).	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	_	Likely	Impact is no longer applicable. IAMGOLD has acquired the mineral claims within the Project area.
		operations phase.	. Topos site	EER		-		-					the named dumb tham the region dide.
				EA FFR	Level II	Level II	Level II	Level III	Level II				
Land and Resource Use	Forestry	The potential effects on forestry due to the operations phase of the Project include overlapping, and therefore, loss of Forest Management Units (FMUs) area, long-term removal of forest resources (at the Project site footprint and along transmission line	-To be determined through consultation between the MNR and any affected BMA holders -Enforce speed limits and warn IAMGOLD personnel of areas of high wildlife activity and crossings	EA	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		alignment) and changes to access along the Cross-Country TLA and at the Project site.	-Prohibit hunting on IAMGÖLD property -Food wastes generated on-site will be appropriately disposed of to reduce the attraction of wildlife	EER	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II	Level II Level II	Level II	Level III Level III	Level II				
Land and Resource Use	Hunting	Potential effects on hunting during the operations phase of the Project include overlapping of, and therefore, limiting use of or access to WMUs, overlapping of, and therefore, limiting use of or access to BMAs, increased access to BMAs along the TLA	-To be determined through consultation between the MNR and affected trappers	EA	The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		alternatives and changes to the abundance and distribution of wildlife that could affect hunting success rates due to operations activities.		EER	The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II Level II	Level II	Level II Level II	Level III Level III	Level II				
Land and Resource Use	Trapping	of the Project include loss of trapline areas or trap cabins, changes to access to trapline areas or trap cabins and changes to the abundance and distribution of furbearers that could affect trapping		EA	The Project overlaps with smal portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Effect extends into the local	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		alternatives. Potential effects on trapping during the operations phase of the Project include loss of trapline areas or trap cabins, changes to access to trapline areas or trap cabins and changes to the		EER	The Project overlaps with smal portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Effect extends into the local	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II	Level II	Level II	Level III Level III	Level I				
Land and Resource Use	Recreational and Commercial	The Project site and TLAs overlap with Fisheries Management Zone (FMZ) 8 and several bait harvest areas. Potential effects on fishing during the operations phase of the Project include loss of bait harvest areas or recreational fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish that	-Limit recreational boating for workers while they are	EA	The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Effect extends into the local	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Fishing	could affect fishing success rates, and therefore, any commercial fishing income (such as for bait fish harvesters) due to changes in biophysical or anthropogenic conditions.	staying at the work camp on-site	EER	The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Effect extends into the local	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible			,	
				EA	Level II	Level I	Level II	Level III	Level I				
Land and Resource Use	Cottages and Outfitters	Numerous cottages and outfitters are located near the Project site. Potential effects on the cottagers may include decreased enjoyment and leisure lifestyle associated with cottaging due to operation noise and dust; perceived effects to water quality, quantity and area aesthetics and increased vehicle traffic. The potential effects of the Project on the outfitters may include	-To be determined through consultation with any potential canoe route users to facilitate navigation	EER	The Project is proximal to cottage areas or areas used by outfitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers/outfitters.	Level I Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		decrease in areas recommended by outfilters to clientele (related to effects on BMAs), perception that the area is not pristine or natural which could detract clientele and increase local clientele due to increased workforce in area (staying or hunting, etc).		EER	The Project is proximal to cottage areas or areas used by outlitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers/outlitters.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level II Level II	Level I Level I	Level II Level II	Level III Level III	Level I Level I				
Land and Resource Use	Navigable Waters	Due to the continued presence of the watercourse realignments and retention dams during the operations phase, use of canoe routes may		EA	The Project is proximal to canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect is restricted to the	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		be disturbed during the operations phase.		EER	The Project is proximal to canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect is restricted to the Project footprint	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level II Level II	Level II Level II	Level II Level II	Level III Level III	Level II Level II				
Land and Resource Use	Other Recreational Uses	The potential effects on other recreational uses include changes to access to areas that may have previously been used for other recreational uses and changes in the natural aesthetic of the area which may detract some recreational users.	-Vegetation clearing will avoid the use of chemical agents	EA	The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA	Level II	Level I	Level II	Level III	Level I				
				EER	Level II	Level I	Level II	Level III	Level I				
Traditional Land Use	Plant Harvesting	There is a potential for blueberry harvesting to be affected during the operations phase of the transmission line due to periodic clearing of vegetation.	-Prohibit hunting on IAMGOLD property to provide safety for both hunters and workers	EA	The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		vegetation.		EER	The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA		Level II	Level II	Level III	Level II				
				EER	Level II	Level II	Level II	Level III	Level II				
Traditional Land Use	Traditional Hunting	Potential effects on traditional hunting during the operations phase include changes in access to and overlapping of the waterfowl hunting site and waterfowl hunting route and therefore limiting its use, enhanced access to hunting areas and travel corridor resulting from transmission line right-of-way clearing and changes to the abundance and distribution of wildlife due to operations activities that have the potential to affect hunting. Additionally, the transmission line	Not applicable	EA	The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Likely	Project related impacts are comparable to the EA. The shorter TLA will have fewer or equivalent effects on hunting compared to the EA.
		corridor may attract non-traditional hunters to hunt in the area that is currently principally used for hunting by the Mattagami First Nation.		EER	The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				naturing compared to the Erc
				EA		Level II	Level II	Level III	Level I				
				EER	Level II	Level II	Level II	Level III	Level I				
Traditional Land Use	Fishing	Potential effects on fishing during the operations phase of the Project include loss of traditional fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish due to	-To be determined through consultation with any potential canoe route users to facilitate navigation	EA	The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Effect extends into the local	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. The optimized Project footprint and reduction in watercourse realignments will have fewer or equivalent effects on fishing compared to
		operations activities.	during construction and operations	EER	The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Effect extends into the local	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				the EA.
				EA	Level II	Level II	Level II	Level III	Level II				
				EER	Level II	Level II	Level II	Level III	Level II				
Traditional Land Use	9 1 1 1		EA	The Project is proximal to traditional canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA	
			, , , , , , , , , , , , , , , , , , ,	EER	The Project is proximal to traditional canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	9		,	

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level I Level I	Level II Level II	Level II Level II	Level III Level III	Level I Level I				
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	Changes in ability of Aboriginal people to access sites that may be of cultural, spiritual, ceremonial value or may increase or decrease	Limit the design height of the MRA to 150 meters -Purchase and remove the trapper's cabin on Three Duck Lakes	EA	The Project does not overlap important cultural, spiritual or ceremonial sites.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		intrinsic values such as privacy, in using sites.		EER	The Project does not overlap important cultural, spiritual or ceremonial sites.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level II Level II	Level II Level II	Level II Level II	Level III Level III	Level II Level II				
Visual Aesthetics	Change in Landscape from Receptor Locations	Changes in landscape due to the development of Project components (TMF, MRA and low-grade ore stokpile) that could repetially be not from geographs destings.	-Limit the design height of the MRA to 150 meters - Purchase and remove the trapper's cabin on Three Duck Lakes	EA	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. With the exception of the TMF visible from a receptor on Schist Lake, the number of receptors that will have the viewscape affected
		potentially be seen from receptor locations.		EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				by the Project is consistent with the EA.
				EA EER	Level II Level II	Level II Level II	Level II Level II	Level III Level III	Level II Level II				
Visual Aesthetics	Change in Landscape from Non-	Changes in landscape due to the development of Project components (TMF, MRA and low-grade ore stokpile) that could	- Limit the design height of the MRA to 150 meters	EA	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. The ore stockpiles, which are relatively small features compared to the TMF and MRA will be seen from portions of Bagsverd Lake and Three Duck Lakes, which is consistent with the EA. It is
visida Acamerica	Receptor Locations	potentially be seen from nearby waterbodies.	Limit the design reagn to the most to low meters	EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	- Wei Significant	io. Sgiinean	incly	expected that the changes in the visual landscape during the Operations phase will be perceptible but will not affect enjoyment of the viewscape.
				EA EER	Level II Level II	Level II Level II	Level II Level II	Level III Level III	Level I Level I				
Visual Aesthetics	Change in Landscape due to the Transmission Line	Changes in landscape due to the presence of the transmission line that could potentially be seen from receptor locations.	Not applicable	EA	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are reduced compared to EA. The presence of the transmission line is expected to result in a perceptible change in landscape, which does not affect enjoyment of the viewscape. The reduced length of the TLA and
	Hansingsout Line	ала сова росенкану ве зоен пон гесерия (ocalions.		EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				utilization of the existing ROW will have fewer or equivalent effects compared to the EA.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
6.1.5		Direct, indirect and induced employment levels are expected to increase due to Project operations activities.		EA	_	_	-	-	_				N.A. F. U.
Socio-Economic	Labour Market	The effect on employment is positive and highly distinguishable in the regional study area and lasts for the life of the Project.		EER	-	-	-	-	-	_	_	_	Not Applicable
		The operation of the Project is expected to result in increased	-Implement a procurement process that encourages Aboriginal and local suppliers -Implement a procurement policy that structures	EA	-	-	-	-	-				
Socio-Economic	Business Opportunities	business opportunities. There will be a positive highly distinguishable effect in the regional study area and will last for the life of the Project.	opportunities in terms of package size and bid evaluation to reflect Aboriginal and local capabilities -Establish a system to monitor and report on local and regional content with mechanisms to adapt procurement policies where required -Support capacity building for local businesses	EER	-	-	-	-	_	-	-	-	Not Applicable
		The Project is expected to produce substantial revenues for Federal and Provincial governments through corporate taxes and royalties, indirect taxes on products, indirect taxes on production and direct		EA	-	_	-	_	-				
Socio-Economic	Government Finances	taxes on income earned from economic activity. The residual effect is considered positive effect that lasts for the life of the Project and is expected to result in a measurable change in revenues outside of the normal range of variability for the Provincial and Federal governments.		EER	-	-	-	-	_	-	-	-	Not Applicable
Socio-Economic	Population and Demographics	The Project has the potential to affect the population of the local and regional study area communities through the employment which would provide reason for people to remain in the region or by causing migrants to move to the area for jobs that cannot be filled locally.	-Implement a procurement process that encourages	EA	-	_	-	-	-				Not Applicable
Sud-Ecolonic	Population and Demographics	Regionally: Residual positive (growth) effects but not likely to be noticeable are expected in Timmins and Sudbury Locally: positive, highly distinguishable effect and may result in the need for investment by the community or government.	-Provide on-the-job Common Core training to workers -Provide training and education in local communities -Identify and implement basic skills and technical training for Aboriginal and local community members to upgrade marketable skills and increase capacity	EER	-	-	-	-	-	_	_	_	ког друпсаве
				EA EER	Level I Level I	Level III Level III	Level II Level II	Level III Level III	Level II Level II				
Socio-Economic	Community Health Conditions	The Project is likely to interact with community health through the provision of long-term employment and a stable income which could			Effects are within the normal range of variability.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		positively or negatively affect an individual's health depending on life style choices.	nutrition, sexually transmitted infections, alcohol abuse etc. to workers -Provide worker transportation to and from Project site	EER E	Effects are within the normal range of variability.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible			,	V * *

Dissipling	Indicator	Effect	Mitigation/Efforts Management Maccures		Magnitudo	Extent	Duration	Fraguenay	Dovoroihility	Residual Impact Significance	Residual Impact Significance	Likelihood of the Effect	Comparison between FA and FED
Discipline	indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	(EA)	(EER)	Likelinood of the Effect	Comparison between EA and EER
				EA EER	Level I Level I	Level III Level III	Level II Level II	Level III	Level II				
	Housing and Temporary	The Project will interact with permanent and temporary housing through the need to provide housing to the temporary workforce, migrants seeking work and others who are attracted to the region as		EA	Effects are manageable within	Effect extends into the regional study area		Level III Effect occurs frequently or continuously	Effect is partially reversible				
Socio-Economic	Accommodation	it becomes a more robust economy. Locally: Residual housing effects in the local study area, while considered positive, are distinguishable and require investment by the community or government to address.	-Monitor indicators of Project housing effects and consider adapting management measures	EER	Effects are manageable within the stock of existing housing and temporary accommodations.	Effect extends into the regional study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EA EER	Level II Level II	Level II Level II	Level II Level II	Level III Level III	Level II Level II				
Socio-Economic	Public Utilities	The Project has the potential to create additional demands on water and wastewater treatment facilities, solid waste facilities and power supplies from population increases in local and regional study area communities.		EA	Effects may require investment to meet Project needs that are within the capabilities of communities or governments.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
JOHN-ECHNING	1 done dinnes	Regionally: Population changes in Timmins and Sudbury are low and therefore not expected to result in noticeable increased demands for any public utilities.	-Work with Gogama Local Service Board	EER	Effects may require investment to meet Project needs that are within the capabilities of communities or governments.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	voi signitean	NO CHEINGE HUILLEA	Lively	no charge non EA
		The residual effect on primary and secondary education is considered positive since it results in a slight increase in enrolment in		EA	_	_	_	_	_				
Socio-Economic	Education	elementary schools in the local study area and in enrolment in high schools in the regional study area (Timmins and Sudbury).	-Support post-secondary education of workers	EER	_	-	_	_	_	_	No Change from EA	Likely	No Change from EA
				EA		Level II	Level II	Level III	Level I				
				EER	Level II	Level II	Level II	Level III	Level I				
Socio-Economic		-Maintain open communication with local service providers to monitor existing social issues	EA	Effects may require investment to meet Project needs that are within the capabilities of emergency service providers.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA	
			EER	Effects may require investment to meet Project needs that are within the capabilities of emergency service providers.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible					

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Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood of the Effect	Comparison between EA and EER
				EA EER	Level II	Level II	Level II	Level III Level III	Level II				
Socio-Economic	Other Community Services	During operations, the Project is expected to result in population changes which, in turn, could affect the delivery of community services such as employment assistance, shelters and victims, child care, recreation, and health care services. Regionally: Residual effects on community services in Timmins and Sudbury are expected to be within the normal range of variability and	Implement the Zero Harm policy at the Project cite.	EA	Effects may require investment to meet Project needs that are within the capabilities of community service providers.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		last throughout the life of the Project. Locally: Positive effects for recreation services and negative due to lack of services in local study area communities (for shelters, victims services, child care and health care).		EER	Effects may require investment to meet Project needs that are within the capabilities of community service providers.	study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II	Level II Level II	Level II Level II	Level III Level III	Level I Level I				
Socio-Economic	Transportation	During operations, the Project is likely to affect the transportation system within the local and regional study area through the transport		EA	Traffic may increase but does not require investment in roadway infrastructure to accommodate Project demands.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		of products, general goods and workers.	restrictions -Transport oversized loads in parts -Report wildlife sightlings on highways	EER	Traffic may increase but does not require investment in roadway infrastructure to accommodate Project demands.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I Level I	Level II Level I	Level II	Level III Level II	Level III Level III				
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontologica or architectural importance that may be overprinted by Project	Stages 1, 2, 3 and 4, as required	EA	The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the Heritage Act.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is not reversible	Not Significant	Not Significant	Not Likely	Impacts are comparable to the EA. Field work is on-going to support the EER and priorities have been updated to
		components.	-Buffer zones are established, as required	EER	The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the Heritage Act.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is not reversible				reflect the Project footprint.
				EA EER		Level II	Level II	Level III	Level I Level I				
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage recourses cultural netables have a feeted by the Deniert	-Support employment of local community members where possible -Implement a procurement process that encourages Aboriginal and local suppliers -Cultural awareness training -Provide on-the-job Common Core training to workers	EA	The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.		The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Not Likely	Impacts are comparable to the EA.
	Resources Effect on Heritage Resources cultural heritage landscapes, as regulated by the Ontario Heritage	-Provide training and education in local communities -Identify and implement basic skills and technical training for Aboriginal and local community members to upgrade marketable skills and increase capacity	EER	The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible					



E3 - Impact Assessment Matrix - Closure Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level I Level I	Level I Level I				
Air Quality	Suspended Particulate Matter (Dust) as Total	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and	-DBMP -IAMGOLD is committing to meeting Federal and/or Provincial criteria at the	EA	Concentrations are below Federal and/or Provincial criteria (<120 µg/m3).	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Particulate Matter (PMtot.)	rehabilitation and onsite road traffic.	property boundary	EER	Concentrations are below Federal and/or Provincial criteria (<120 µg/m3).	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA		Level II	Level I	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Particulate Patter (PM10):	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and	-DBMP -IAMGOLD is committing to meeting Federal and/or Provincial criteria at the	EER EA	Level II Concentrations are below Federal and/or Provincial criteria (<50 µg/m3).	Effect extends into the local study area	Level I The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Particulate Patter (PM10); 24 Hour Average emissions nonrecessing activities include site demolition and rehabilitation and onsite road traffic.	property boundary	EER	Provincial criteria (<50 µg/m3).	,	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible					
				EA EER	Level II	Level II	Level I	Level I	Level I				
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and	-DBMP -IAMGOLD is committing to meeting Federal and/or Provincial criteria at the	EA	Level II Concentrations are below Federal and/or Provincial criteria (<25 µg/m3).		Level I The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	(PM2.5); 24 Hour Average	Matter (Dust) as Fine Particulate Matter emissions from closure activities. These activities include site demolition and	property boundary	EER	Concentrations are below Federal and/or Provincial criteria (<25 µg/m3).	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA EER	Level I	Level I	Level I	Level III	Level I				
				EER		Level I	Level I	Level III	Level I				
Air Quality	ir Quality Matter (Dust) as Fine emissions from closure activit Particulate Matter activities include site demol	Changes in air quality due to particulate emissions from closure activities. These activities include site demolition and	-DBMP	EA	Concentrations are comparable to baseline levels (4.2 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	(PM2.5); Annual Average	rehabilitation and onsite road traffic.		EER	Concentrations are comparable to baseline levels (4.2 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level II	Level I	Level I	Level II	Level I				
				EER	Level II	Level I	Level I	Level II	Level I				
Air Quality	Sulphur Oxides (SOx), Mainly as Sulphur Dioxide	Changes in air quality due to gaseous emissions from closure activities, mainly vehicle exhausts. Very limited emission of sulphur oxides due to	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emissions	EA	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	(SO2)	the fact that the cyanide destruction will be decommissioned.	requirements -Use of low sulphur fuel	EER	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is fully reversible				
				EA	Level II	Level II	Level I	Level I	Level I				
				EER	Level II	Level II	Level I	Level I	Level I				
Air Quality	Nitrogen Dioxide (NO2);	Changes in air quality due to gaseous emissions from closure activities, mainly vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emissions	EA	Concentrations are below Federal and/or Provincial criteria (<200 µg/m3).	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	IIAIIIV I S V Y I S V Y	, , , , , , , , , , , , , , , , , , , ,	requirements	EER	Concentrations are below Federal and/or Provincial criteria (<200 µg/m3).	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA EER	Level II	Level II	Level I	Level I	Level I				
Air Quality	Nitrogen Dioxide (NO2); 1 Hour Average	Changes in air quality due to gaseous emissions from closure activities, mainly vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emissions	EER EA	Level II Concentrations are below Federal and/or Provincial criteria (<400 µg/m3).	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Level I Effect occurs infrequently	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Tiour Notage	Trom decare detrities, mainly verifies extinues.	requirements	EER	Concentrations are below Federal and/or Provincial criteria (<400 µg/m3).	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				
				EA	Level I	Level I	Level I	Level III	Level I				
				EER	Level I	Level I	Level I	Level III	Level I				
Air Quality	Arsenic; 24 Hour Average	Changes in air quality due to particulate emissions from closure activities. No blasting is planned during the closure phase,	-DBMP	EA	Concentrations are comparable to baseline levels (0.0018 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Air Quality Arsenic: 24 Hour Average	emissions of metals are limited.		EER	Concentrations are comparable to baseline levels (0.0018 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level I	Level I	Level III	Level I				
Air Quality	Lead	Changes in air quality due to particulate emissions from closure activities. No blasting is planned during the closure phase,	-DBMP	EER	Level I Concentrations are comparable to baseline levels.	Level I Effect is restricted to the Project footprint	Level I The duration of the effect is less than or equal to 2 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		emissions of metals are limited.		EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level I	Level I	Level III	Level I				
Air Quality	Manganese; 24 Hour Average	Changes in air quality due to particulate emissions from closure activities. No blasting is planned during the closure phase,	-DBMP	EER EA	Level I Concentrations are comparable to baseline levels (0.0055 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Air Quality Average No blasting is planned during	emissions of metals are limited.		EER	Concentrations are comparable to baseline levels (0.0055 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level II	Level I	Level I	Level III	Level II				
Air Quality	VOCs	Changes in air quality due to gaseous emissions from closure activities, mainly operation of the landfill and vehicle exhausts.	-Engine Maintenance Program -Equipment compliant with Transport Canada vehicle emissions requirements	EER EA	Level II Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	Level I The duration of the effect is less than or equal to 2 years	Level III Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		ianumi anu venicie exhausts.	requirements	EER	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I	Level I	Level I	Level III	Level I				
				EER	Level I	Level I	Level I	Level III	Level I				
Air Quality	Air Quality Other Key Metals	Changes in air quality due to particulate emissions from closure activities. No blasting is planned during the closure phase,	-DBMP	EA	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		emissions of metals are limited.		EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
Air Quality	Hydrogen Cyanide (HCN);	No cyanide is used during the closure phase. Therefore, this effect is not assessed during the	Net applicable	EA	_	_	ı	1	_				Not applicable
Air Quality	24 Hour Average	closure phase.	Not applicable	EER	_	_	-	_	_	_	_	_	Not applicable
				EA	Level II	Level II	Level I	Level III	Level I				
				EER	Level II	Level II	Level I	Level III	Level I				
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to closure activities. These activities include site demolition and	Not applicable	EA	Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		rehabilitation and onsite road traffic.		EER	Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
Noise & Vibration	Nighttime Noise Level	No nighttime activities are planned during the closure phase. Therefore, this effect is not	Not applicable	EA	-	-	_	_	_	_	_	_	Not applicable
		assessed during the closure phase.		EER	_	_	_	_	_				
		No blasting is planned during the closure phase.		EA	_	_	_	-	_				
Noise & Vibration	Blasting Noise Level	Therefore, this effect is not assessed during the closure phase.	Not applicable	EER	_	_	_	_	_	_	_	_	Not applicable
		No blasting is planned during the closure phase.		EA	_	_	_	_	_				
Noise & Vibration	Blasting Vibration Level	Therefore, this effect is not assessed during the closure phase.	Not applicable	EER	_	_	_	_	_	_	_	_	Not applicable
				EA	Level II	Level II	Level I	Level III	Level I				
				EER	Level II	Level II	Level I	Level III	Level I				
Hydrogeology	(Water Table) water level in the open pit will begin to rise	Not applicable	EA	Change in the water table elevation is predicted to be between 1 and 5 m.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. Given that the footprint of the pit has reduced and i within the originally proposed extent for whic for the 3D model was constructed to predict	
		response to direct precipitation inputs and		EER	Change in the water table elevation is predicted to be between 1 and 5 m.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				water level draw downs, the effects predicted are anticipated to be similar.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
Hydrology & Climate	Change in Flow	Streamflow changes due to various Project components, such as watercourse realignments,	-Realignment channels and dams	EA EER EA	Level I Level I <10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the	Level I Level I The duration of the effect is less than or equal to 2 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. Fewer watercourse alignments are required for the Project, which directs flows to Three Duck
Trydrology & Cliniae	Change in Flow	TMF and MRA.		EER	<10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Tot og med t	100 Ogmican	Litory	Lake (Upper) however increase in flow is not expected to change the hydrological characteristics of Three Duck Lake (Upper).
				EA FFR	Level II Level III	Level II Level II	Level I Level I	Level III Level I	Level II Level II				
		Changes in water quality due to erosion and runoff which could potentially increase total suspended solids in water courses. For the	-Best Management Practices (BMPs) and engineering design to limit soil erosion and mobilization/transport of sediments from disturbed areas -Management of solid domestic and industrial waste in a permitted landfill,	EA	Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.		The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				Impacts are comparable to the EA. Applying
Water Quality	Water Quality Change in Water Quality p	purposes of a conservative effects prediction, the water quality model results for the Operations phase were applied to the Closure phase.	including the use of BMPs -Inclusion of PAG rock within the bulk of the MRA -Construction and operation of engineered water management systems to collect runoff and seepage; monitoring and treatment of effluent, as required.	EER	Concentrations greater than baseline concentrations and greater than water quality guidelines, where applicable.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is partially reversible	Not Significant	Not Significant	Not likely	model results for the Operations phase to the effects assessment for the Closure phase is a conservative approach.
				EA	Level I	Level I	Level I	Level III	Level II				
				EER	Level I	Level I	Level I	Level III	Level II				
Terrestrial Biology	Upland Plant Community Types	Continued vegetation loss due to site clearing in the construction phase. The Project is predicted to alter approximately 1,800 ha of the land cover. However, once closure activities are	-Rehabilitate habitat for plants and wildlife as practicable -Limit / prevent the transfer of invasive	EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
Terrestrial Biology Upland Plant Community to to Types the control to the control	completed, vegetation will be allowed to reestablish itself.	plant species from equipment and imported soil	EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level I Level I	Level I Level I	Level I Level I	Level III Level III	Level II Level II				
Terrestrial Biology	Wetlands	Continued loss of wetland areas due to site clearing during the construction phase. The Project is predicted to alter approximately 185 ha of wetlands. However, once closure activities	Not applicable	EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		are completed, vegetation will be allowed to reestablish itself.		EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
Terrestrial Biology	Vegetation Species at Risk, Species of Special Concern and Provincially	No predicted effect on Species at Risk, Species of Special Concern and Provincially Rare Species as none were identified during baseline	Not applicable	EA						_	_	_	Not applicable
	Rare Species	data collection. Therefore, this effect is not assessed.		EER	_	-	_	_	_				
				EA EER	Level III Level III	Level III Level III	Level I Level I	Level III Level III	Level II Level II				
Terrestrial Biology	Ungulates	Continued potential for change in ungulates population abundance and distribution due to habitat removal during the Closure phase.	-Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware of seasonal changes in local large mammal behaviour or presenceProject personnel will be required to handle food and food wastes in a responsible manner	EA	The residual effect to population abundance and distribution is large enoµgh that the changes are near or exceeding the predicted adaptive capability and resilience limits of the effects assessment indicator.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		Additional effects are potentially associated with general disturbance and vehicular collisions.	-No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along Project roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	The residual effect to population abundance and distribution is large enoµgh that the changes are near or exceeding the predicted adaptive capability and resilience limits of the effects assessment indicator.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level III	Level I	Level III	Level II				
Terrestrial Biology	Furbearers	Continued potential for change in furbearers population abundance and distribution due to	-Limit risk of nest destruction and mortality of migratory birds -Maintain existing vegetation ground cover along the transmission line ROW to the extent practicable -No hunting by Project personnel will be permitted while working or residing	EA	There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
Terrestrial biology	ruibealeis	habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	on site, and advised not to interfere/harass wildlife -Project personnel will be educated to handle food and food wastes responsibly and enforce policies of no feeding of wildlife		There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change Irom EA
				EA	Level I	Level II	Level I	Level III	Level II				
Terrestrial Biology	Migratory Birds	Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase.	-Reduce the risk of mortality to birds and bats	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
	Ferrestrial Biology Migratory Birds had	Additional effects are potentially associated with general disturbance and vehicular collisions.	-Reduce risk of mortality to wildlife	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Terrestrial Biology	Wildlife Species at Risk	Continued potential for change in wildlife species at risk population abundance and distribution due to habitat removal during the construction	-Time removal of transmission line infrastructure to minimize the potential for ground disturbance and soil erosion by equipment and vehicles -Retain existing low-lying vegetation ground cover thereby minimizing vegetation clearing		There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
Terresural biology	Whalle Openes at NSA	phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	-Minimize the speed of service vehicles along Project roads and along the transmission line ROW -Encourage natural revegetation and recolonization of the ROW as part of the reclamation process	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	not organicant	Ato onlings from EA	roc Encry	No Grange Hull EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
		Continued vegetation loss due to transmission line ROW clearing during the construction	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist -Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware of seasonal changes in local large	EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Level I Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Level III Level III Effect occurs frequently or continuously	Level I Level I Effect is fully reversible				
Terrestrial Biology - TL	Vegetation Communities	phase. The Project is predicted to result in the removal of 549.2 ha of forested communities including 146 ha of coniferous swamp. However, once closure activities are completed, vegetation will be allowed to reestablish itself.	mammal behaviour or presence -Project personnel will be required to	EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
				EA EER	Level I Level I	Level III Level III	Level I Level I	Level III Level III	Level I Level I				
		Continued potential for change in moose	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist -Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware of seasonal changes in local large	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
Terrestrial Biology - TL	Ungulates - Moose	population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	mammal behaviour or presence -Project personnel will be required to handle food and food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along proposed access roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
		Continued extential for change in walves	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist -Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware	EA	There is no measurable residual effect to population abundance and distribution.	Level III Level III Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Level I Effect is fully reversible				
Terrestrial Biology - TL	Furbearers - Wolves	Continued potential for change in wolves population abundance and distribution due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	of seasonal changes in local large mammal behaviour or presence -Project personnel will be required to handle food and food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along proposed access roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
				EA EER	Level I	Level III Level III	Level I	Level III Level III	Level I Level I				
		Continued potential for change in american marten population abundance and distribution	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where other alternatives exist -Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware of seasonal changes in local large	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
Terrestrial Biology - TL	Furbearers - American Marten	due to habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	mammal behaviour or presence -Project personnel will be required to handle food and food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along proposed access roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level III	Level I	Level III	Level I				
Terrestrial Biology - TL	Furbearers - Black Bear	Continued potential for change in black bear population abundance and distribution due to habitat removal during the construction phase.	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist	EER EA	There is no measurable residual effect to population abundance and distribution.	Level III Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		Additional effects are potentially associated with general disturbance and vehicular collisions.	-Project personnel will be advised not to interfere or harass wildlife	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Terrestrial Biology - TL	Bats	Continued potential for change in bats population abundance and distribution due to habitat removal during the construction phase.	- Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist - Include wildlife awareness information in regular safety and environmental inductions - Project personnel will be advised not to interfere or harass or feed wildlife - Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence - Project personnel will be required to	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		habitat removal during the construction phase.	handle food and food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along Project roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
Terrestrial Biology - TL	Migratory Birds	Continued potential for change in migratory birds population abundance and distribution due to habitat removal during the construction phase.	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist -Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware of seasonal changes in local large mammal behaviour or presence	EA	There is no measurable residual effect to population abundance and distribution.	Level II Level II Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Level I Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
Terresular blology * 12	Migratory Direct	Additional effects are potentially associated with general disturbance and vehicular collisions.	-Project personnel will be required to handle food and food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along Project roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not olyimicant	No onlinge from EA	Not Likely	No offarige from EA
		Continued potential for change in raptors population abundance and distribution due to	-Utilize existing infrastructure for access and minimize construction of new roads and other corridors where alternatives exist -Include wildlife awareness information in regular safety and environmental inductions -Project personnel will be advised not to interfere or harass or feed wildlife -Project personnel will be made aware of seasonal changes in local large	EA	There is no measurable residual effect to population abundance and distribution.	Level II Level II Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Level III Level III Effect occurs frequently or continuously	Level I Level I Effect is fully reversible				
Terrestrial Biology - TL	Raptors	habitat removal during the construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	mammal behaviour or presence -Project personnel will be required to handle food and food wastes in a responsible manner -No hunting by Project personnel will be permitted while working or residing on-site -Enforce speed limits along Project roads to reduce the potential for collisions with wildlife -Signs warning drivers of the possibility of wildlife encounters will be posted in areas of high wildlife activity	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level II	Level I	Level III	Level I				
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and	Continued potential for change in population abundance and distribution for species at risk, species of special concern and provincially rare species due to habitat removal during the	-Incorporate the MOE D-series quidelines	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
	Provincially Rare Species	construction phase. Additional effects are potentially associated with general disturbance and vehicular collisions.	gattanio	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I	Level II	Level I	Level III	Level I				
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to changes in water quality. Best Management Practices will be used during the closure phase, which will	Not applicable	EA	Level I Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are reduced compared to EA. Predictions appear to be improved compared to those in the EA resulting from a decreased
		prevent changes in water quality. No planned discharge.		EER	Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is fully reversible				footprint.
				EA EER	Level I Level I	Level II	Level I	Level III Level II	Level I Level II				
Aquatic Biology	Commercial, Recreational, Aboriginal Fisheries	Effects on commercial, recreational and Aboriginal fisheries due to site runoff during closure. Best Management Practices will be used during the closure phase, which will	Not applicable	EA	There is no measurable residual effect to communities or populations.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Not Likely	Impacts are comparable to the EA. Habitat potentially lost in the EA (East Clam Lake) is no longer lost but is temporarily affected during Construction and Operations blasting.
		prevent changes in water quality. No planned discharge.		EER	There is no measurable residual effect to communities or populations.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs intermittently or with a certain degree of regularity	Effect is partially reversible				Effect is removed in Closure.
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Aquatic Biology	Loss of Aquatic Habitat	Continued loss of aquatic habitat due to Project footprint. Lotic habitat affected includes Mollie River, Clam Creek and Bagsverd Creek. Lentic habitat affected includes Côté Lake, Beaver	Not applicable	EA	Less than 10% of lotic habitat (stream length- m) and /or lentic habitat (lake area - m2) within the local study area.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		Pond, Clam Lake, Little Clam Lake, Unnamed Pond #3 and East Beaver Pond.		EER	Less than 10% of lotic habitat (stream length m) and /or lentic habitat (lake area - m2) within the local study area.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				

			Mitigation/Effects Management			T	Г		<u> </u>	Residual Impact	Residual Impact		<u> </u>
Discipline	Indicator	Effect	Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Significance (EA)	Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level II Level II	Level I Level I	Level I Level I	Level III Level III	Level II Level II				
Land and Resource Use	Land Use Plans and Policies	Potential effects on land use planning areas during the closure phase of the Project may include overlapping of land use policy area	-Work with claim holders to identify access changes and negotiate access	EA	The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Folicies	where the use would not be allowed and creating land use conflicts.	agreements if there is any requirement to use or cross IAMGOLD properties	EER	The Project overlaps very small portions of land use areas that may be incompatible with mining activities but will not impede the designated land use.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II	Level II	Level I	Level III	Level II				
Land and Resource Use	Mineral Exploration	Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the closure phase.	-Re-route the Chester Access Road south of the Project site	EA	The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities.	Effect extends into the local study area	The duration of the effect is between 2 and 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	_	_	Impact is no longer applicable. IAMGOLD has acquired the mineral claims within the Project area.
		Goodie pilade.		EER	-	-	-	-	-				
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Land and Resource Use	Forestry	The potential effects on forestry due to the closure phase of the Project include overlapping, and therefore, loss of Forest Management Units (FMUs) area, long-term removal of forest resources (at the Project site footprint and along	-Enforce speed limits and warn IAMGOLD personnel of areas of high	EA	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA		No Change from EA
Land and Nesource USE	i oresu y	transmission line alignment) and changes to access along the Cross-Country TLA and at the Project site.	-Prohibit hunting on IAMGOLD	EER	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	not orginicant	No Grange HUIII EA	Likely	INO GHAINGE ITOHI EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA		Level II	Level I	Level III	Level II				
Land and Resource Use	Huntina	Potential effects on hunting during the closure phase of the Project include overlapping of, and therefore, limiting use of or access to WMUs, overlapping of, and therefore, limiting use of or access to BMAs, increased access to BMAs	-To be determined through consultation between the MNR and	EER	The Project overlaps with portions of	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	v	along the TLA alternatives and changes to the abundance and distribution of wildlife that could affect hunting success rates due to closure activities.	affected trappers	EER	The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Ü		ŕ	· ·
				EA	Level II	Level II	Level I	Level III	Level II				
Land and Resource Use	Trapping	A number of trapline areas overlap with the Project site and TLA alternatives. Potential effects on trapping during the closure phase of the Project include loss of trapline areas or trap cabins, changes to access to trapline areas or trap cabins and changes to the abundance and distribution of furbearers that could affect trapping success rates, and therefore, trapping income due to changes in biophysical or	Not applicable	EA	The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities. The Project overlaps	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		anthropogenic conditions.		EER	with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Land and Resource Use	Recreational and Commercial Fishing	The Project site and TLAs overlap with Fisheries Management Zone (FMZ) 8 and several bait harvest areas. Potential effects on fishing during the closure phase of the Project include loss of bait harvest areas or recreational fishing areas, changes to access to fishing areas and changes to the abundance and distribution of fish that	-Limit recreational boating for workers while they are staying at the work	EA	The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		could affect fishing success rates, and therefore, any commercial fishing income (such as for bait fish harvesters) due to changes in biophysical or anthropogenic conditions.	camp on-site	EER	The Project may affect a small number of waterbodies used for fishing but does not limit the ability to fish.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level II	Level I	Level I	Level III	Level I				
Land and Resource Use	Cottages and Outfitters	Numerous cottages and outfitters are located near the Project site. Potential effects on the cottagers may include decreased enjoyment and leisure lifestyle associated with cottaging due to closure activities noise and dust; perceived effects to water quality, quantity and area aesthetics) and vehicle traffic. The potential effects of the Project on the outfitters may include decrease in areas	Not applicable	EA	The Project is proximal to cottage areas or areas used by outfitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers/outfitters.	Effect is restricted to	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		recommended by outfitters to clientele (related to effects on BMAs), perception that the area is not pristine or natural which could detract clientele and increased local clientele due to increased workforce in area (staying or hunting, etc).		EER	The Project is proximal to cottage areas or areas used by outfitters and may require the removal of a few cottages but will not limit the use of these areas by most cottagers/outfitters.	Effect is restricted to	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level II	Level II	Level I	Level III	Level I				
Land and Resource Use	Navigable Waters	Due to the continued presence of the watercourse realignments and retention dams during the closure phase, use of canoe routes	Not applicable	EA	The Project is proximal to canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		may be disturbed during the closure phase.		EER	The Project is proximal to canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Land and Resource Use	and and Resource Use Other Recreational Uses us	The potential effects on other recreational uses include changes to access to areas that may have previously been used for other recreational uses and changes in the natural aesthetic of the	Not applicable	EA	The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.		The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		area which may detract some recreational users.		EER	The Project overlaps or changes access to portions of outdoor recreation areas but does not limit the ability to participate in outdoor recreation activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level II	Level I	Level I	Level III	Level I				
Traditional Land Use	Plant Harvesting	There is a potential for blueberry harvesting to be affected during the closure phase of the	Not applicable	EA	The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		transmission line due to closure activities.		EER	The Project overlaps with areas used for traditional plant harvesting but does not limit the ability to harvest plants.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA FFR	Level II	Level II	Level I	Level III	Level II				
Traditional Land Use	Traditional Hunting	Potential effects on traditional hunting during the closure phase include changes in access to and overlapping of the waterfowl hunting site and waterfowl hunting route and therefore limiting its use, enhanced access to hunting areas and travel corridor resulting from transmission line ROW clearing and changes to the abundance and distribution of wildlife due to operations	Not applicable	EA	Level II The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	aditional Land Use Traditional Hunting and distribution activities that have Additionally, the tattract non-tradition that is currently p	activities that have the potential to affect hunting. Additionally, the transmission line corridor may attract non-traditional hunters to hunt in the area that is currently principally used for hunting by the Mattagami First Nation.		EER	The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level II	Level II	Level I	Level III	Level I				
Traditional Land Use	Fishing	Potential effects on fishing during the closure phase of the Project include loss of traditional fishing areas, changes to access to fishing areas	Not applicable	EA	The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.		The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
Traditional Land Use Fishing	and changes to the abundance and distribution of fish due to closure activities.		EER	The Project may affect a small number of waterbodies used for traditional fishing but does not limit the ability to fish.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	-	-	·		

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA		Level II	Level I	Level III	Level II				
Traditional Land Use	Canoeing	Due to the continued presence of the watercourse realignments and retention dams	Not applicable	EA	The Project is proximal to traditional canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Level II Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		during the closure phase, use of canoe routes may be disturbed during the closure phase.		EER	The Project is proximal to traditional canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	Changes in ability of Aboriginal people to access sites that may be of cultural, spiritual, ceremonial value or may increase or decrease intrinsic		EA	The Project does not overlap important cultural, spiritual or ceremonial sites.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		values such as privacy, in using sites.		EER	The Project does not overlap important cultural, spiritual or ceremonial sites.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level II	Level II	Level I	Level III	Level II Level II				
Visual Aesthetics	Change in Landscape presence of Project components	Changes in landscape due to the continued presence of Project components (TMF and MRA) that could potentially be seen from	-Carry out the revegetation program on the MRA and TMF.	EA	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. TMF has been relocated in the Project, however levels
				EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.		The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				remain unchanged from the EA.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level II	Level II	Level I	Level III	Level II	,	,		
Visual Aesthetics	Change in Landscape from Non-Receptor	Changes in landscape due to the continued presence of Project components (TMF and MRA) that could potentially be seen from nearby	Not applicable	EA	Perceptible change in	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. TMF has been relocated in the Project; however, levels
	Locations	waterbodies.		EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				remain unchanged from the EA.
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Visual Aesthetics	Change in Landscape due to the Transmission Line	Changes in landscape due to the activities surrounding the removal of the transmission line that could potentially be seen from receptor	Not applicable	EA	Perceptible change in landscape, which does not affect enjoyment of the viewscape.		The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are comparable to the EA. The presence of the transmission line is expected to result in a perceptible change in landscape, which does not affect enjoyment of the viewscape. The reduced length of the
		locations.		EER	not affect enjoyment of the viewscape.		The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				TLA and utilization of the existing ROW will have fewer or equivalent effects compared to the EA.
				EA EER	Level II Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Socio-Economic	Labour Market	Direct, indirect and induced employment levels are expected to remain increased compared to baseline levels but reduced compared to	-Implement a procurement process that encourages Aboriginal and local suppliers -Implement a procurement policy that structures opportunities in terms of package size and bid evaluation to reflect Aboriginal and local capabilities -support capacity building for local	EA	Effects may result in a measurable change to the socio-economic indicator outside of the normal range of	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		operations phase levels.	businesses -support local entrepreneurial development -Communicate with affected businesses to prepare for the effects of contract termination	EER	Effects may result in a measurable change to the socio-economic indicator outside of the normal range of variability, although the changes are not substantive enough to require or result in a community or government response or investment.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA Level II	Level II	Level I	Level III	Level II				
Socio-Economic	Business Opportunities	During closure, the Project's contribution to the economy will gradually lessen, eventually returning the regional economy to pre-Project,	Not applicable	ER Level II Effects may requinvestment or expansions to meast the within the capabit of existing business.	et Effect extends into the local study area lies	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		baseline conditions.		EFR EFR EFF EFF EFF EFF EFF EFF EFF EFF	Effect extends into the local study area lesses.	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
			EA Level I EER Level I	Level III Level III	Level I Level I	Level III Level III	Level II Level II					
		During closure, the Project's contribution to the	-Implement a procurement process that encourages Aboriginal and local suppliers -Offer company services linking workers with local social services that provide job placement assistance -Develop an employment community relations programIdentify and Implement basic skills and technical training for Aboriginal and local community members to upgrade marketable skills and increase capacity	Effects are expert to occur and are with normal rangivariability.	ed thin Effect extends into the	The duration of the	Effect occurs frequently or continuously	Effect is partially reversible				
Socio-Economic	Government Finances	economy will gradually lessen, eventually returning the regional economy to pre-Project, baseline conditions.	-Work with local communities to Develop a Project closure strategy that will minimize potential adverse effects of Project closure on regional communities -Engage and support local and regional communities and stakeholders in planning decisions relating to future use of the Project site -Support the establishment of local/regional job opportunities roster/forum accessible for workers -Post information on site for workers about other services agencies in the region that support small business ventures and planning	Effects are expe	thin Effect extends into the	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA Level II EER Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Socio-Economic	Population and Demographics	Workforce required for the closure phase is less than during the operations phase, forcing some of the population to look for jobs elsewhere. As a	-Provide information on health-related issues such as nutrition, sexually	EA Effects are outside of the normal range of variability, although the changes are not substantive enough to result in a community or government response.	Effect extends into the	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Demographics	consequence, the population is forecasted to decrease.	transmitted infections, alcohol abuse etc. to workers -Provide worker transportation to and from Project site	Effects are outside of the normal range of variability, althoµgh the changes are not substantive enoµgh to result in a community or government response.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA Level II EER Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Socio-Economic	Community Health Conditions	During Project closure, the direct employment from the Project will decline. The associated decrease in employment may negatively affect how people perceive their health due to diminished financial security and challenges associated to finding employment. Terminated	-Develop on-site camp -Monitor indicators of Project housing effects and adapting management measures	Health conditions change from baseline conditions so that some investment in health care services to manage this change may be necessary.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		employees may have to move or commute outside of the regional study area to find work which may increase stress on family and friend relations.	-Support local economic diversification programs that could facilitate resident retention after Project closure	Health conditions change from baseline conditions so that some investment in health care services to manage this change may be necessary.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA Level II EER Level II	Level II Level II	Level I Level I	Level III Level III	Level II Level II				
Socio-Economic	Housing and Temporary Accommodation	With closure, the Project's contribution to the economy will gradually lessen, eventually returning the regional economy to pre-Project, baseline conditions. This would cause a negative effect on housing demand as workers leaving the area sell their homes, although some	Not applicable	Effects may require investment to meet Project housing needs that are within the capabilities of communities / developers.	Effect extends into the local study area	The direction of the		Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		workers may choose to commute to a different mine from the same home community, or may retire in the same home community, or may migrate to a new community in search of employment.		Effects may require investment to meet Project housing needs that are within the capabilities of communities / developers.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level II	Level I	Level III	Level II				
Socio-Economic	Public Utilities	During the two year closure phase direct employment from the Project will diminish. Population trends indicate a decline in Timmins, Gogama and Mattagami First Nation reserve	-Support post secondary education of workers	EER	Effects are	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		and relatively steady state for Sudbury. Reduced population size will decrease demands on public utilities as use decreases.		EER	Effects are manageable within the existing capacities of public utilities.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I Level I	Level III Level III	Level I Level I	Level III Level III	Level II Level II				
Socio-Economic	Education	It is expected that there will be a decline in primary school enrolment, and an increase in demands for post-secondary training to	-Maintain open communication with local service providers to monitor	EA	Effects are manageable within the existing capacities of schools and/or education institutions.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		transition workers to other employment.	existing social issues	EER	Effects are manageable within the existing capacities of schools and/or education institutions.	Effect extends into the regional study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I Level I	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Socio-Economic	Emergency Services	A decrease in employment and potential out- migration of workers to seek other job opportunities has the potential to create adverse social effects such as depression, substance	-inform and/or provide employees with	EA	Effects are	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		abuse, and domestic violence that would require emergency and/or police response.	access to resources to support transition to other employment	EER	Effects are manageable within the existing capacities of emergency service providers.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level II	Level II	Level I	Level III	Level II				
Socio-Economic	Other Community Services	During closure, direct employment from the Project is expected to decline. As a result of this and other factors included in population projections for the regional study area, populations are expected to continue to decline	-Road safety awareness training -Schedule major equipment delivery and removal -Schedule shuttle bus travel and shifts -Ensure heavy load sizing and	EA	Effects may require investment to meet Project needs that are within the capabilities of community service providers.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		resulting in corresponding declines or, in some cases increases, in demands for other community services and infrastructure to pre- Project levels.	seasonal load restrictions -Transport oversized loads in parts -Report wildlife sightings on highways	EER	Effects may require investment to meet Project needs that are within the capabilities of community service providers.	Effect extends into the local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA Level I	Level II Level II	Level I Level I	Level III Level III	Level I Level I				
Socio-Economic	Transportation	During the closure phase of the Project, Highway 144 will be used to transport material and equipment from the Project site		Effects are	in the Effect extends into the	The duration of the	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		decommissioning.		EER Effects are manageable with existing capacit highway service	in the Effect extends into the es of local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA Level I EER Level I	Level II	Level I	Level III	Level III Level III				
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontological or	Not applicable	EER Level I The Project is proximal to archaeological s the site has be assessed and cl in accordance w Heritage Ac	tes or een local study area th the	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is not reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		architectural importance that may be overprinted by Project components.		The Project is proximal to archaeological s the site has be assessed and cl in accordance w Heritage Ac	tes or en local study area local study area	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is not reversible				
				EA Level I EER Level I	Level II Level II	Level I Level I	Level III Level I	Level II				
			-Implement a procurement process that encourages Aboriginal and local suppliers -Offer company services linking workers with local social services that provide job placement assistance -Develop an employment community relations programIdentify and implement basic skills and technical training for Aboriginal and local community members to	The Project is proximal to cul heritage resource	not ural es or scape Effect extends into the local study area the ural	The duration of the	Effect occurs frequently or continuously	Effect is fully reversible				
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage resources could potentially be affected by the Project.	upgrade marketable skills and increase capacity -Work with local communities to develop a Project closure strategy that will minimize potential adverse effects of Project closure on regional communities -Engage and support local and regional communities and stakeholders in planning decisions relating to future use of the Project site -Support the establishment of local/regional job opportunities roster/forum accessible for workers -Post information on site for workers about other services agencies in the region that support small business ventures and planning	The Project is proximal to cul heritage resource	ural es or ccape that local study area the ural	The duration of the effect is less than or equal to 2 years	Effect occurs infrequently	Effect is not reversible	Not Significant	No Change from EA	Not Likely	No Change from EA



E4 - Impact Assessment Matrix - Post-Closure Phase

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level I Level I Concentrations are	Level I Level I	Level III Level III The duration of the	Level III Level III	Level I Level I				
Air Quality	Suspended Particulate Matter (Dust) as Total Particulate Matter (PMtot.)	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable		comparable to baseline levels (21.4 µg/m3).	Effect is restricted to the Project footprint	effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		greatly reduced.			Concentrations are comparable to baseline levels (21.4 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I Level I				
Air Quality	Suspended Particulate Matter (Dust) as Particulate Patter (PM10); 24 Hour	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	EA c	Concentrations are comparable to baseline levels (13.9 µg/m3).	Effect is restricted to the	The duration of the effect is beyond 15 years	500		Not Significant	No Change from EA	Likely	No Change from EA
	Average	greatly reduced.			Concentrations are comparable to baseline levels (13.9 µg/m3).	Project tootprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I Level I	-			
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter (PM2.5);	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	EA c	Concentrations are comparable to baseline levels (9.8 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	24 Hour Average	greatly reduced.		EER c	Concentrations are comparable to baseline levels (9.8 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I Level I	-			
				LLIX		ECVOIT		LOVELIN	ECVOIT				
Air Quality	Suspended Particulate Matter (Dust) as Fine Particulate Matter (PM2.5);	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	EA c	Concentrations are comparable to baseline levels (4.2 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
			EER c	Concentrations are comparable to baseline levels (4.2 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magr	nitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
					Level I	Level I	Level III	Level III	Level I				
Air Quality	Sulphur Oxides (SOx), Mainly as Sulphur Dioxide	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable		ncentrations are arable to baseline levels.	Level I Effect is restricted to the Project footprint	Level III The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	(\$02)	greatly reduced.		EER compa	ncentrations are arable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	or continuously	Effect is fully reversible				
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I Level I				
Air Quality	Nitrogen Dioxide (NO2); 24 Hour Average	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	Conc EA compa	ncentrations are arable to baseline Is (24.6 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect and the second second	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		greatly reduced.		EER compa	ncentrations are arable to baseline Is (24.6 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	or continuously	Effect is fully reversible				
				EA EER	Level I	Level I	Level III	Level III Level III	Level I Level I				
Air Quality	Nitrogen Dioxide (NO2); 1 Hour Average	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	Cond EA compa	ncentrations are arable to baseline Is (24.6 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect accura from contin	Effect is fully reversible	rsible Not Significant	No Change from EA	Likely	No Change from EA
		greatly reduced.		EER compa	ncentrations are arable to baseline Is (24.6 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I	Level I	Level III Level III	Level III Level III	Level I Level I	-			
				EEK	Level I	Level I	LeverIII	Lever III	Leveri				
Air Quality	Arsenic; 24 Hour Average	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	EA compa	ncentrations are arable to baseline s (0.0018 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible		No Change from EA	Likely	No Change from EA
			EER compa	ncentrations are arable to baseline (0.0018 µg/m3).	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				No orange nom EA	

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I Level I				
Air Quality	Lead	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	EA	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		greatly reduced.		EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I Level I				
Air Quality	Manganese; 24 Hour Average	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable		Concentrations are comparable to baseline levels (0.0055 µg/m3).	Effect is restricted to the	The duration of the effect is beyond 15 years	Effect occurs from onth	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		greatly reduced.			Concentrations are comparable to baseline levels (0.0055 µg/m3).	Project footprint	The duration of the effect is beyond 15 years	or continuously	Effect is fully reversible				
				EA EER	Level II Level II	Level I Level I	Level III Level III	Level III Level III	Level II Level II				No Change from EA
Air Quality	VOCs	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	EA	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	
		greatly reduced.		EER	Concentrations are below Federal and/or Provincial criteria.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant			
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I Level I				
Air Quality	Other Key Metals	Once closure activites are completed, there will be very limited onsite staff and activities. Therefore the potential for changes in air quality due to post-closure activities is	Not applicable	EA	Concentrations are comparable to baseline levels.	Effect is restricted to the	The duration of the effect is beyond 15 years	Effect ecoure frequently	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		greatly reduced.		EER	Concentrations are comparable to baseline levels.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
Air Quality	Hydrogen Cyanide (HCN);	No cyanide is used during the post-closure phase. Therefore, this effect is not assessed during the post-	Not applicable	EA	-	_	_	-	_	_	_	_	Not applicable
All Quality	24 Hour Average	closure phase.	пот аррпеавте	EER		_	_	_	_				Not applicable
				EA	Level II	Level I	Level III	Level III	Level I				
Noise & Vibration	Daytime Noise Level	Changes in noise levels due to post-closure activities, including water management around the MRA and the flooding open pit. Site activities during the post-closure	Not applicable	EER	Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Level I Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Level III Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		phase will be very limited.		EER	Noise level above daytime baseline (44 dBA) and below or equal to 45 dBA.	Effect is restricted to the Project footprint	The duration of the effect is less than or equal to 2 years	Effect occurs frequently or continuously	Effect is fully reversible				
Noise & Vibration	Nighttime Noise Level	No nighttime activities are planned during the post-closure phase. Therefore, this effect is not assessed during the	Not applicable	EA	_	-	_	-	_	_	_	_	Not applicable
Holos a Vibration	Tigricumo Noiso Zoto.	post-closure phase.	Tot applicable	EER	-	_	_	_	_				пот аррисале
Noise 9 Vibration	Disating Naise Level	No blasting is planned during the post-closure phase.	Met applicable	EA	_	_	_	_	_				Mot applicable
Noise & Vibration	Blasting Noise Level	Therefore, this effect is not assessed during the post- closure phase.	Not applicable	EER	_	_	_	_	_	_	_	_	Not applicable
Noise & Vibration	Blasting Vibration Level	No blasting is planned during the post-closure phase. Therefore, this effect is not assessed during the post-	Not applicable	EA	-	_	_	_	_	_	_	_	Not applicable
Noise & Vibidilott	biasting vibration Level	closure phase.	тчот арупсавле	EER	1	_	_	_	-	_	_	_	ног арріісаме

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level II Level II	Level II Level II	Level III Level III	Level III Level III	Level I Level I				
Hydrogeology	Groundwater Levels (Water Table)	Groundwater levels will continue to rise and over time, will approximate pre-mining conditions except in the immediate vicinity of water realignment structures where	Not applicable	EA	Change in the water table elevation is predicted to be between 1 and 5 m.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	/ Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		these are to remain in place.		EER	Change in the water table elevation is predicted to be between 1 and 5 m.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level II	Level III	Level III	Level II				Impacts are comparable to the EA. For
Hydrology & Climate	Change in Flow	Streamflow changes due to various Project components, such as watercourse realignments, TMF and MRA. In post-closure stage II the reconfiguration of the	-Realignment channels and dams	EER	Level I <10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	Not Significant	Likely	the simulated climate conditions, surface water flow changes in Post-closure were estimated to be 10% or less compared to Existing Conditions, suggesting a long term return to the natural flow regime at the Project site. Greater than 10% surface water
		realignments will result in watersheds that more closely resemble baseline conditions.		EER	<10% or a change in flow which does not affect the hydrological characteristics.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	r Effect is partially reversible				flow changes are predicted at Clam Lake and Little Clam Lake, and are a result of watershed area change and seepage at the rehabilitated TMF and rehabilitation and resulting runoff from
				EA	Level II	Level II	Level III	Level III	Level II				Ţ.
Water Quality	Change in Water Quality	Changes in water quality due to site runoff and, eventually, overflow from the flooded open pit.	-Best Management Practices (BMPs) and engineering design to limit soil erosion and mobilization/transport of sediments from disturbed areas -Management of solid domestic and industrial waste in a permitted landfill,	EA	Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level II / Effect is partially reversible	Not Significant	Not Significant	Likely	Impacts are reduced compared to EA. The reduced footprint reduces the potential of total suspended solids
			including the use of BMPs -Inclusion of PAG rock within the bulk of the MRA -Monitoring and water collection and treatment as required	EER	Concentrations greater than baseline concentrations, but less than water quality guidelines, where applicable.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs intermittently or with a certain degree of regularity	Effect is partially reversible				entering water courses.

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level II Level II				
Terrestrial Biology	Upland Plant Community	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site. No activities during	Not applicable	EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the	Effect occurs frequently or continuously		Not Significant	No Change from EA	Not Likely	No Change from EA
	Types	the post-closure phase will further disrupt vegetation.		EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level I	Level I	Level III	Level III	Level II				
Terrestrial Biology	Wetlands	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site. No activities during	Not applicable	EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Level I Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		the post-closure phase will further disrupt vegetation.		EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
Torrostrial Dialogy	Vegetation Species at Risk Species of Special Concern	No predicted effect on Species at Risk, Species of Special Concern and Provincially Rare Species as none were	Not applicable	EA	_	_	_	_	_				Not applicable
Terrestrial Biology	and Provincially Rare Species	identified during baseline data collection. Therefore, this effect is not assessed.	Not applicable	EER	_	_	_	_	_		_	_	Not applicable
				EA EER	Level I Level I	Level III Level III	Level III Level III	Level III Level III	Level II Level II				
Terrestrial Biology	post-closure phase are not anticipated to further result in	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously		Not Significant	No Change from EA	Not Likely	No Change from EA	
	to reestablish itself at the Project site, therei wildlife species to return to this area. Activitie post-closure phase are not anticipated to furt	effects to ungulates population abundance and		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level I Level I	Level III Level III	Level III Level III	Level III Level III	Level II Level II				
		During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the		EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
Terrestrial Biology	Furbearers	post-closure phase are not anticipated to further result in effects to furbearers population abundance and distribution.	Not applicable	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
				EA	Level I	Level II	Level III	Level III	Level II				
				EER	Level I	Level II	Level III	Level III	Level II				
Terrestrial Biology	Migratory Birds	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		effects to migratory birds population abundance and distribution.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level I	Level II	Level III	Level III	Level II				
Terrestrial Biology	Wildlife Species at Risk	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in	Not applicable	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	Level III The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		effects to wildlife species at risk population abundance and distribution.	Not applicable	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I Level I	Level I Level I	Level III Level III	Level III Level III	Level I				
Terrestrial Biology - TL	rial Biology - TL Vegetation Communities During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. No activities during the post-closure phase will further disrupt vegetation.	Not applicable	EA	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the	Effect occurs frequently or continuously	Level I Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA	
	Terrestrial Biology - TL			EER	There is no measurable residual effect to the abundance and distribution of plant populations and communities.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level III	Level III	Level III	Level I				
				EER	Level I	Level III	Level III	Level III	Level I				
Terrestrial Biology - TL	Ungulates - Moose	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		post-closure phase are not anticipated to further result in effects to moose population abundance and distribution.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level III	Level III	Level III	Level I				
				EER	Level I	Level III	Level III	Level III	Level I				
Terrestrial Biology - TL	Furbearers - Wolves	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		effects to wolves population abundance and distribution.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	-	Effect is fully reversible				
				EA EER	Level I Level I	Level III Level III	Level III Level III	Level III Level III	Level I Level I				
Terrestrial Biology - TL	Furbearers - American Marten	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area Activities during the post-closure phase are not anticipated to further result in	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years		Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		effects to american marten population abundance and distribution.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level III	Level III	Level III	Level I				
Torrophial Dial T	Eurhouses Black Da	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level I / Effect is fully reversible		No Change from EA	Mail Bat.	No Chango from EA
rerrestriai Biology - TL	Terrestrial Biology - TL Furbearers - Black Bear		Not applicable	EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level II	Level III	Level III	Level I				
				EER	Level I	Level II	Level III	Level III	Level I				
Terrestrial Biology - TL	Bats	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area Activities during the	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		post-closure phase are not anticipated to further result in effects to bats population abundance and distribution.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level II	Level III	Level III	Level I				
				EER	Level I	Level II	Level III	Level III	Level I				
Terrestrial Biology - TL	Migratory Birds	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the post-closure phase are not anticipated to further result in	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		effects to migratory birds population abundance and distribution.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level II	Level III	Level III	Level I				
				EER	Level I	Level II	Level III	Level III	Level I				
Terrestrial Biology - TL	Raptors	During the post-closure phase, vegetation will be allowed to reestablish itself at the Project site, thereby allowing wildlife species to return to this area. Activities during the	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
		post-closure phase are not anticipated to further result in effects to raptors population abundance and distribution.		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EA	Level I	Level II	Level III	Level III	Level I				
				EER	Level I	Level II	Level III	Level III	Level I				
Terrestrial Biology - TL	Species at Risk, Species of Special Concern and	post-closure phase are not anticipated to further result in	Not applicable	EA	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years		Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	to reestablish itself at the Project site, thereby allowing Species at Risk, Species of wildlife species to return to this area. Activities during the		EER	There is no measurable residual effect to population abundance and distribution.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level I Level I Median concentrations	Level II Level II	Level III Level III	Level III Level I	Level I Level I				
Aquatic Biology	Aquatic Toxicity	Effects on aquatic species due to site runoff and, eventually, overflow from the flooded open pit.	Not applicable	EA	less than guidelines or less than chronic toxicity thresholds for substances without guidelines.		The duration of the effect is beyond 15 years	Effect occurs frequent or continuously	Effect is fully reversible	Not Significant	Not Significant	Likely	Impacts are reduced compared to EA. Expedited flooding will allow water courses to return back to naturalized
		or or nearly, or or near near near near near near near nea		EER	Median concentrations less than guidelines or less than chronic toxicity thresholds for substances without guidelines.		The duration of the effect is beyond 15 years	Effect occurs infrequently	Effect is fully reversible				channels faster than modelled in the EA.
				EA	Level I	Level II	Level III	Level III	Level I				
Aquatic Biology	Commercial, Recreational, Aboriginal Fisheries	Effects on commerical, recreational and Aboriginal fisheries due to site runoff and, eventually, overflow from the flooded open pit.	EEF	EA	Level I There is no measurable residual effect to communities or populations.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequent or continuously	Level I Selfect is fully reversible	Not Significant	Not Significant	Likely	Impacts are reduced compared to EA. Expedited flooding will allow watercourses to return to naturalized
		ine nooded open pit.		EER	There is no measurable residual effect to communities or populations.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs infrequently	Effect is fully reversible				channels faster than modelled in the EA.
		In post-closure stage II the reconfiguration of the realignments will result in watersheds that more closely resemble baseline conditions, which will provide additional	-Time construction of water realignments to allow for vegetation growth for one or more growing seasons prior to commissioning of watercourse realignments or conduct planting of aquatic vegetation immediately	EA	-	_	-	-	-				Fewer realignment channels will require
Aquatic Biology	Loss of Aquatic Habitat	habitat. This phase will result in substantial increase in fish habitat.	following commissioning of channel realignments to promote the establishment of vegetation within the newly constructed habitats -Open pit edge will be sloped to support the development of productive habitat		-	_	_	-	_	_	_	_	decommissioning, allowing habitat to be established quicker once watercourses are reconnected
Land Use	Land Use Plans and	Once closure activities are completed, no more effects on land use plans and policies are expected.	Not applicable	EA	_	_	-	_	-	_	_	_	Not applicable
	Policies			EER	_	_	_	_	_				дриового

Changes in access to other claim areas or effects on the ability to exercise exploration activities within these claim areas during the post-closure phase.			Level II Level II The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities. The Project overlaps or	Level II Level II Effect extends into the local study area	Level III Level III The duration of the effect is beyond 15 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Effect is partially reversible				
Land Use Mineral Exploration ability to exercise exploration activities within these cla		EA	The Project overlaps or changes access to other mining claims but does not limit the ability to exercise exploration activities. The Project overlaps or	Effect extends into the	The duration of the effect is beyond 15	Effect occurs frequently	Effect is partially				
Land Use Mineral Exploration ability to exercise exploration activities within these cla			changes access to other mining claims but does not limit the ability to exercise exploration activities. The Project overlaps or		effect is beyond 15						
								Not Significant	No Change from EA	Likely	No Change from EA
		EER	changes access to other mining claims but does not limit the ability to exercise exploration activities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	reversible				
		EA	Level II	Level I	Level III	Level III	Level II				
		EER	Level II	Level I	Level III	Level III	Level II				
During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on forestry are expected to cease	Not applicable	EA	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		EER	The Project overlaps very small areas of forest management units but does not substantially limit forestry resources or the ability to conduct forestry activities.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
		EA	Level II	Level II	Level III	Level III	Level II				
		EER	Level II	Level II	Level III	Level III	Level II				
During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on hunting are expected to cease	Not applicable	EA	The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		EER	The Project overlaps with portions of hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level II	Level II	Level III	Level III	Level II				
				EER	Level II	Level II	Level III	Level III	Level II				
Land and Resource Use	Trapping	During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on trapping are expected to cease.	Not applicable	EA	The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	The Project overlaps with small portions of trapline areas and affects a few individual trappers and/or will not limit the ability to carry out trapping activities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
	Recreational and	Once closure activities are completed, no more effects on		EA	_	_	_	-	-				
Land and Resource Use	Commercial Fishing	recreational and commercial fishing are expected.	Not applicable	EER	-	_	_	-	_	_	_	_	Not applicable
Land and Resource Use	Cottages and Outfitters	Once closure activities are completed, no more effects on cottages and outfitters are expected.	Not applicable	EA	_	_	-	-	-	_	_	_	Not applicable
Lana ana Nossaiss 633	oskagos ana oakkors	contages and cannot are superior	на арриали	EER	_	_	_	-	_				постаррновые
				EA	Level II	Level I	Level III	Level III	Level I				
				EER	Level II	Level I	Level III	Level III	Level I				
Land and Resource Use	Navigable Waters	Due to the continued presence of the watercourse realignments and retention dams during post-closure phase I, use of canoe routes may be disturbed. Following the removal of retention dams and decommisioning of watercourse realignments, the effects on canoeing are	Not applicable	EA	The Project is proximal to canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect is restricted to the Project footprint	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
Land and Resource Use Navigable Waters	expected to cease.		EER	The Project is proximal to canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	F# - t is a set intent to the	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
Land and Resource Use	Other Recreational Uses	Once closure activities are completed, no more effects on other recreational uses are expected.	Not applicable	EA	_	_	_	_	_	_	_	_	Not applicable
Land and Resource use	Other Recreational Uses	uner recreational uses are expected.	імот арріісавіе	EER	_	_	_	_	_	_	_	_	ічи арріісаше
		Once closure activities are completed, no more effects on		EA	_	_	_	_	_				
Traditional Land Use	Plant Harvesting	plant harvesting are expected.	Not applicable	EER	_	_	_	_	=	_	_	_	Not applicable
				EA	Level II	Level II	Level III	Level III	Level II				
				EER	Level II	Level II	Level III	Level III	Level II				
Traditional Land Use	Traditional Hunting	During the post-closure phase, vegetation and therefore habitat will re-establish itself with time. As habitat re-establishes, effects on traditional hunting are expected to cease.	Not applicable	EA	The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	The Project overlaps with portions of traditional hunting areas but does not limit the ability to carry out hunting activities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
Traditional Land Use	Fishing	Once closure activities are completed, no more effects on fishing are expected.	Not applicable	EA	-	_	-	_	-			_	Not applicable
Traditional Early 036	rising	issing are expected.	пот аррисаме	EER	_	_	_	_	_	_	_		ног аррисаме
				EA	Level II	Level II	Level III	Level III	Level II				
Traditional Land Use	Canoeing	Due to the continued presence of the watercourse realignments and retention dams during post-closure phase I, use of canoe routes may be disturbed. Following the removal of retention dams and decommisioning of watercourse realignments, the effects on canoeing are	Not applicable	EA	The Project is proximal to traditional canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Canoeing phase I, use of canoe routes may be disturbed. Following the removal of retention dams and decommisioning of		EER	The Project is proximal to traditional canoe routes/waterways used for canoeing/portaging and does not limit the ability to use these navigable waters.	F(())	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible					

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
		Changes in ability of Aboriginal people to access sites that		EA EER	Level I Level I The Project does not overlap important cultural, spiritual or	Level II Level II Effect extends into the local study area	Level III Level III The duration of the effect is beyond 15 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Figure 1				
Traditional Land Use	Cultural, Spiritual and Ceremonial Sites	may be of cultural, spiritual, ceremonial value or may increase or decrease intrinsic values such as privacy, in using sites.	Not applicable	EER	The Project does not overlap important cultural, spiritual or ceremonial sites.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	/ Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EA	Level II	Level II	Level III	Level III	Level II				
Visual Aesthetics	Change in Landscape from Receptor Locations	stokpile) that could potentially be seen from receptor	-Continue to maintain the MRA and TMF revegetation program, as required	EA	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Level III Effect occurs frequently or continuously	Level II / Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		locations.		EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.	local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	/ Effect is partially reversible				
				EA EER	Level II Level II	Level II Level II	Level III Level III	Level III Level III	Level II Level II	-			
Visual Aesthetics	Change in Landscape from Non-Receptor Locations	Project components (TMF and MRA) that could potentially	-Continue to maintain the MRA and TMF revegetation program, as required	EA	Perceptible change in landscape, which does not affect enjoyment of the viewscape.		The duration of the effect is beyond 15 years	Effect occurs frequently or continuously		Not Significant	No Change from EA	Likely	No Change from EA
	·	Desired components (TME and MDA) that sould not entially -CONTINUE to Maint		EER	Perceptible change in landscape, which does not affect enjoyment of the viewscape.		The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	/ Effect is partially reversible				
			EA EER	Level I	Level II	Level III Level III	Level III	Level I					
Visual Aesthetics	Change in Landscape due to the Transmission Line	As the transmission line will be removed during the closure phase, no effects are anticipated during the post-	Not applicable	EA	No perceptible change in landscape.	Effect extends into the local study area	The duration of the	Level III Effect occurs frequently or continuously	Level I / Effect is fully reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
	Visual Aasthatics Change in Landscape due clasura pho	closure phase.		EER	No perceptible change in landscape.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	/ Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA	Level I	Level II	Level III	Level III	Level II				
Socio-Economic	Labour Market	Post-closure activities will be very limited, such that Project staffing and expenditures will be close to baseline	Not applicable	EER	Level I Effects are expected to occur and are within the normal range of variability.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Level III Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		conditions.		EER	Effects are expected to occur and are within the normal range of variability.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level I	Level II	Level III	Level III	Level II				
Socio-Economic	Business Opportunities	Post-closure activities will be very limited, such that Project staffing and expenditures will be close to baseline conditions.	Not applicable	EER	Effects are within the capabilities of existing businesses.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		SULTANIA.		EER	Effects are within the capabilities of existing businesses.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA EER	Level I Level I	Level III Level III	Level III Level III	Level III Level III	Level II Level II				
Socio-Economic	Government Finances	Post-closure Project contributions are not expected to be noticeable since they would only result from direct taxes	Not applicable	EA	Effects are expected to occur and are within the normal range of variability.		The duration of the effect is beyond 15 years	Effect occurs frequently or continuously		Not Significant	No Change from EA	Likely	No Change from EA
		on post-closure monitoring workers, for example.		EER	Effects are expected to occur and are within the normal range of variability.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
				EA	Level II	Level II	Level III	Level III	Level II				
Socio-Economic	Population and Demographics	The population is forecasted to decrease to baseline conditions due to very limited work opportunities during the post-closure phase.	Not applicable	EA	Effects are outside of the normal range of variability, although the changes are not substantive enough to result in a community or government response.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Socio Economic Population and cond			EER	Effects are outside of the normal range of variability, although the changes are not substantive enough to result in a community or government response.	local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
Socio-Economic	Community Health	During post-closure, the direct employment from the Project will be negligible. The associated decrease in employment may negatively affect how people perceive their health due to diminished financial security and	Not applicable	EA EER EA	Level I Level I Effects are within the normal range of variability.	Level II Level II Effect extends into the local study area	Level III Level III The duration of the effect is beyond 15 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Conditions	challenges associated to finding employment. Terminated employees may have to move or commute outside of the regional study area to find work which may increase stress on family and friend relations.		EER	Effects are within the normal range of variability.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	-	Ü	,	J
Socio-Economic	Housing and Temporary	With closure, the Project's contribution to the economy will gradually lessen, eventually returning the regional economy to pre-Project, baseline conditions. This would cause a negative effect on housing demand as workers leaving the area sell their homes, although some workers	Not applicable	EA EER EA	Level II Level II Effects may require investment to meet Project housing needs that are within the capabilities of communities /	Level II Level II Effect extends into the local study area	Level III Level III The duration of the effect is beyond 15 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
Socio Estricinio	Accommodation	may choose to commute to a different mine from the same home community, or may retire in the same home community, or may migrate to a new community in search of employment.	но аррисанс	EER	Effects may require investment to meet Project housing needs that are within the capabilities of communities / developers.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible	- Not Significant	No Grange num Ex	Lincoy	no onange non Er
Socio-Economic	Public Utilities	During the two year closure phase direct employment from the Project will diminish. Population trends indicate a decline in Timmins, Gogama and Mattagami First Nation reserve and relatively steady state for Sudbury. Reduced	Not applicable	EA EER	Level I Level I Effects are manageable within the existing capacities of public utilities.	Level II Level II Effect extends into the local study area	Level III Level III The duration of the effect is beyond 15 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
		population size will decrease demands on public utilities as use decreases.		EER	Effects are manageable within the existing capacities of public utilities.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				
Socio-Economic	Education	It is expected that there will be a decline in primary school enrolment, and an increase in demands for post-secondary training to transition workers to other	Not applicable	EA EER	Level I Level I Effects are manageable within the existing capacities of schools and/or education institutions.	Level III Level III Effect extends into the regional study area	Level III Level III The duration of the effect is beyond 15 years	Level III Level III Effect occurs frequently or continuously	Level II Level II Effect is partially reversible	Not Significant	No Change from EA	Likely	No Change from EA
	enrolm	employment.		EER	Effects are manageable within the existing capacities of schools and/or education institutions.	Effect extends into the regional study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is partially reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures		Magnitude	Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
				EA EER	Level I Level I	Level II Level II	Level III Level III	Level III Level III	Level I Level I				
Socio-Economic	Emergency Services	A decrease in employment and potential out-migration of workers to seek other job opportunities has the potential to create adverse social effects such as depression,	Not applicable	EA	Effects are manageable within the existing capacities of emergency service providers.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
		substance abuse, and domestic violence that would require emergency and/or police response.		EER	Effects are manageable within the existing capacities of emergency service providers.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	·			·
				EA	Level I	Level II	Level III	Level III	Level II				
Socio-Economic	Other Community Services	During post-closure, direct employment from the Project will be negligible. As a result of this and other factors included in population projections for the regional study area, populations are expected to continue to decline resulting in corresponding declines or, in some cases increases, in demands for other community services and infrastructure to pre-Project levels.	Not applicable	EA	Effects are manageable within the existing capacities of community service providers. Effects are manageable	Effect extends into the local study area	Level III The duration of the effect is beyond 15 years The duration of the	Effect occurs frequently or continuously	reversible	Not Significant	No Change from EA	Likely	No Change from EA
				EER	within the existing capacities of community service providers. Level I	Effect extends into the local study area	effect is beyond 15 years Level III	Effect occurs frequently or continuously Level III	Effect is partially reversible Level I				
				EER	Level I	Level II	Level III	Level III	Level I				
Socio-Economic		During the post-closure phase, highway traffic volumes are expected to return to pre-Project volumes.	Not applicable	EA	Effects are manageable within the existing capacities of highway service levels.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible	Not Significant	No Change from EA	Likely	No Change from EA
	Socio-Economic Transportation			EER	Effects are manageable within the existing capacities of highway service levels.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				

Discipline	Indicator	Effect	Mitigation/Effects Management Measures	Magnitude		Extent	Duration	Frequency	Reversibility	Residual Impact Significance (EA)	Residual Impact Significance (EER)	Likelihood	Comparison between EA and EER
Archaeology	Effect on Heritage Sites	Changes to physical or cultural heritage resources including structures, sites or things of historical, archaeological, paleontological or architectural importance that may be overprinted by Project components.	Not applicable	EA	Level I								
				EA	The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the Heritage Act.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Level III Effect is not reversible	Not Significant	No Change from EA	Not Likely	No Change from EA
				EER	The Project is not proximal to archaeological sites or the site has been assessed and cleared in accordance with the Heritage Act.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is not reversible				
Cultural Heritage Landscapes and Built Heritage Resources	Effect on Heritage Resources	Changes to cultural heritage resources including built heritage and/or cultural heritage landscapes, as regulated by the Ontario Heritage Act. Heritage resources could potentially be affected by the Project.	Not applicable	EA	Level I	Level II	Level III	Level III	Level I				
				EER	Level I	Level II	Level III	Level III	Level I	Not Significant	No Change from EA	Not Likely	No Change from EA
				EA	The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				
				EER	The Project is not proximal to cultural heritage resources or changes to viewscape and site context that does not affect the integrity of cultural heritage resources.	Effect extends into the local study area	The duration of the effect is beyond 15 years	Effect occurs frequently or continuously	Effect is fully reversible				