16.0 ENVIRONMENTAL MANAGEMENT

16.1 Background

As per the Federal Environmental Impact Statement (EIS) Guidelines (see Appendix B) and the Provincial Terms of Reference (ToR; see Appendix C), the EA for the Côté Gold Project (the Project) outlines conceptual or preliminary environmental management plans, including follow-up monitoring developed through the Federal EA process, for all phases of the Project.

IAMGOLD recognizes that monitoring details may be further defined through consultation with federal and provincial government agencies, Aboriginal groups and the public and other stakeholders through the environmental approvals and permitting processes that would follow EA approval. The framework takes into consideration comments raised by stakeholders and Aboriginal communities for the post-EA phase, to address all stages of the proposed undertaking (construction, operation, closure and post-closure).

16.2 Objectives and Context

The aim of environmental management plans is to ensure that measures implemented to mitigate social and environmental effects are successful, that benefits from the Project are enhanced, that the Project is carried out in compliance with existing legislation, and that it is consistent with Federal and Provincial guidelines and best practices, as well as in line with IAMGOLD's policies.

Monitoring programs apply to the construction, operation, closure and post-closure phases of the Project, as appropriate, allowing for compliance of activities with all environmental approvals and permits, while providing information to determine the effectiveness of mitigation measures. Follow-up monitoring is expected to provide for adaptive management should environmental effects vary from that predicted and mitigation measures prove less effective than anticipated, or as new information becomes available.

The principle of adaptive management will be applied to the Project's management plan. For the Project, this means that should monitoring results indicate that realized effects are different than predicted, mitigation strategies may be modified and monitoring requirements with regards to parameters, locations and frequency will be adapted appropriately.

The mitigation and monitoring measures included in the EA will be developed into more detailed stand-alone plans as the Project is designed further and moves into construction and operations. Note that an example conceptual emergency and spill response plan is provided in Appendix X.

16.3 Reporting

Monitoring programs will be under the supervision of IAMGOLD and the site environmental manager. Reporting of monitoring programs will be conducted as per applicable environmental

approval and permit conditions, and Federal and Provincial guidelines and mechanisms. Reports will be reviewed and monitored by relevant Federal and Provincial agencies and authorities.

Upon receiving approval of the monitoring reports by the respective Federal and Provincial agencies and authorities, monitoring results will be provided to identified Aboriginal groups and the public, as applicable.

16.4 Monitoring Measures and Plans

Monitoring measures and plans proposed for the Project are outlined for applicable disciplines under the physical, biological and human environments, as identified through effects prediction and mitigation measures in the present EA (see Chapters 9 and 10), and best practice environmental management.

The draft environmental monitoring program including the monitoring parameters, methods, applicable standards, frequencies and locations is summarized in Tables 16-1, 16-2 and 16-3 for the physical, biological and human environments respectively. Existing environmental baseline monitoring provides the basis for monitoring frameworks and monitoring networks may be modified to meet compliance and reporting requirements. The finalization of the detailed monitoring program will occur through consultation with federal and provincial government agencies, Aboriginal groups, the public and other stakeholders. This will occur after the EA but will be consistent with information presented in this section. Pertinent legislation, regulations, industry standards, documents and legislative guides will be used in the development of the detailed monitoring program. Note that is expected that some monitoring will likely occur post closure. However, the detailed monitoring parameter and activities will be developed towards the end of the closure phase.

In addition to the socio-economic monitoring measures presented in Table 16-3, IAMGOLD will develop monitoring programs in consultation with affected stakeholders for the parameters indicated below. Monitoring parameters, monitoring methods, frequency/timeframe and location will be determined and documented in a Socio-Economic/Community Management Plan.

- Community health conditions – monitoring program to be established in collaboration with local health service providers, local communities and other stakeholders as appropriate.
- Emergency services demands – monitoring program to be established in collaboration with local service providers such as the Cochrane District Social Services Administration Board (CDSSAB).
- Demands on other community services and infrastructure (and in particular child care so that parents may be able to access employment) – monitoring program to be established in collaboration with local health service providers, local communities and other stakeholders as appropriate.

- Traditional land uses – monitoring program to be established in collaboration with First Nations and Métis land users as appropriate.

Commitments made through this EA, particularly with regards to environmental management, are summarized in Appendix Y.

Table 16-1: Monitoring Measures – Physical Environment

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Air Quality	Total Suspended Particulates (TSP)	High Volume (hi-vol) samplers	Ontario Reg,419/05 air quality standard for TSP (24-hr averaging time).	Construction and operations phases One sample every 6 days.	Three locations (to be determined), triangulating the site to provide upwind/downwind assessment.
Air Quality	Metals	Analysis of hi-vol TSP samples collected (filter)	Ontario Reg,419/05 air quality standards for metals. The metals to be monitored will be identified in the Ambient Monitoring Plan that will be submitted to the Ministry of the Environment and Climate Change (MOECC) prior to initiating the monitoring program.	Construction and operations phases Select TSP filters (highest loading) to be analysed monthly.	Three locations (to be determined), triangulating the site to provide upwind/downwind assessment.
Air Quality	NOx/SO_2	Passive samplers	Screening Level to be established based upon Alberta's proposed Air Monitoring Directive and Ontario's AAQC for other averaging times.	Construction and operations phases Monthly samples.	Co-located with the hi-vol samplers.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Noise and Vibration	A-weighted decibels (dBA), construction noise	Noise Monitor	NPC-103	Construction to closure phases Noise to be monitored for a minimum period of 1 week at any receptor closer than 1 km from the construction activity. Noise monitor to record hourly sound levels, over 24/7 period, during the monitoring period.	When construction is within 1 km of any sensitive noise receptor defined within the regional study area. When a group of receptors fall within the 1 km range of construction activity, the closest receptor can be taken as the representative location for monitoring, if it is shown to have the highest exposure to construction noise for a group of receptors.
Noise and Vibration	A-weighted decibels (dBA), operations noise	Noise Monitor	NPC-103	Construction to closure phases Noise level to be monitored at the closest receptor location (<1 km) at least once per year between the initial operation period (Year 1) and mid-operation period (Year 7) to confirm NPC-300 criteria are not exceeded. Noise monitor to record hourly sound levels for a minimum period of 1 week	Specific sensitive receptors to be determined within the study area based on operations at that time. Typically, the closest sensitive receptor to the operational noise can be used to represent a group of receptors.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Noise and Vibration	Decibels (dBL), construction or operational blasting noise	Noise Monitor	NPC-103, NPC-119	Construction to closure phases Noise level to be monitored at the closest receptor location (<1 km) at least once per year during blasting operations. Noise monitor to be setup to record noise levels for each blast. Noise monitor to record instantaneous sound levels, during the blasting period.	Specific sensitive receptors to be determined within the study area based on blasting at that time. Typically, the closest sensitive receptor to the blast noise can be used to represent a group of receptors.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Noise and Vibration	Vibration Levels (PPV), construction or operational vibration	Vibration monitor	NPC-103, NPC-119	Construction and operations phases PPV to be monitored at the closest receptor location (<1 km) at least once in a year during blasting operations. Vibration monitors to be setup to record PPV for each blast. Vibration monitor to record instantaneous blast vibration levels during the blasting period.	Specific sensitive receptors to be determined within the study area based on blasting at that time. Typically, the closest sensitive receptor to the blast vibration can be used to represent a group of receptors.
Geochemistry	ABA and ICP metals scan – mine rock	Blast hole sampling	Mine Environmental Neutral Drainage (MEND) 2009. Prediction Manual for Drainage Chemistry from Sulphidic Geologic Materials. Natural Resources Canada.	Operations phase Selected composite blast hole cuttings. Details to be established based on mine plan and operations.	Selected cuttings from mine rock blast volumes.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Water Quality	Surface water quality samples will be analyzed for various general chemistry, metals, ions, nutrients, cyanide species, a radionuclide, organic parameters, and total and methyl mercury. The parameters suite may be reduced if it can be demonstrated that any of the tests are not applicable. Additional parameters may be considered depending on site-specific characteristics.	Surface water grab sample collection using in-field filtering and preservation, as required. Quality assurance /quality control samples such as blind duplicates, trip blanks, field blanks and filter blanks will be collected during each sampling event to represent a minimum of 10% of the samples.	Provincial Water Quality Objectives (PWQO) and Canadian Water Quality Guidelines (CWQG), with laboratory detection limits suitable for comparison to these guidelines. *Metal Mining Effluent Regulations* (MMER) and Ontario Regulation 560/94. Concentrations in mine-exposed areas will also be compared to baseline and reference area values.	Sampling events will be conducted during all Project phases at a frequency sufficient to detect changes in water quality; the frequency will depend on the station location and will aim to capture a range of flow conditions, as required. The frequency of effluent monitoring will meet federal and provincial effluent discharge requirements.	Project site components: open pit sump, Mine Rock Storage Ponds (MRSPs), Tailings Dam Seepage Ponds (TDSPs), mine water pond, reclaim pond, polishing pond and domestic sewage effluent outlets as appropriate to the mine phase. Surface water receivers: Chester Lake, Clam Lake, Three Duck Lakes (upper, middle and lower basins), Mollie River between Three Duck Lakes and Dividing Lake, Dividing Lake, Bagsverd Lake, Schist Lake, Unnamed Lake #1, Bagsverd Creek at locations before and after the treated effluent discharge point, Neville Lake, Mesomikenda Lake (upper and middle basins) and downstream from the local study area (downstream from Mesomikenda Lake and Dividing Lake. Samples will also be collected in appropriate reference areas.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Water Quality	Groundwater quality samples will be analyzed for various general chemistry, major ions, metals nutrients, cyanide species and organic parameters. A complete parameter list is attached below. The parameters suite may be reduced if it can be demonstrated that any of the tests are not applicable. Additional parameters may be considered depending on site-specific characteristics.	Groundwater sample collection using pumping techniques and in-field filtering and preservation, as required. Quality assurance /quality control samples such as blind duplicates, trip blanks, field blanks and filter blanks will be collected during each sampling round.	Ontario Drinking Water Standards (ODWS**),** PWQO and CWQG, with laboratory detection limits suitable for comparison to these guidelines. MMER and Ontario Regulation 560/94	Sampling events will be conducted during all Project phases at a frequency sufficient to detect changes in water quality; the frequency will therefore depend on the station location and will aim to capture a range of flow conditions, as required. The frequency of effluent monitoring will meet federal and provincial effluent discharge requirements.	Groundwater monitoring wells around the Mine Rock Area (MRA), low-grade stockpile, TMF, polishing pond and landfill (if constructed).

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Water Quality	Sediment quality samples will be analyzed for major ions, metals, nutrients (total nitrogen, total phosphorus), carbonate, organic carbon, sulphate, sulphide, particle size and total cyanide, total and methyl mercury. The parameters suite may be reduced if it can be demonstrated that any of the tests are not applicable. Additional parameters may be considered depending on site-specific characteristics	Sampling method will be consistent with that described for the aquatic monitoring program (i.e., grab or core sample).	Ontario's Provincial Sediment Quality Objectives (PSQO) and the Canadian Sediment Quality Guidelines (CSQG). Concentrations in mine-exposed areas will also be compared to baseline and reference area values	Sampling events will be conducted at a frequency sufficient to detect changes in sediment quality, and harmonized with Environmental Effects Monitoring (EEM) as practicable.	Lakes where changes to water quality are expected. Harmonized with EEM as practicable.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Hydrology and Climate	Surface water level (lakes and streams)	Automatic water level recorder (transducer) along with manual staff gauge measurements.	Good Industry Practice	Construction to closure phases Water level transducers will be set to record on a half-hourly basis. Manual staff gauge measurements will occur quarterly and will be surveyed to a geodetic datum annually.	Selected existing locations*, additional new stations in waterways and realignments surrounding the infrastructure footprint.
Hydrology and Climate	Streamflow (lake outflows and streams)	Standard velocity-area stream current methodology.	Environment Canada (1981) Hydrometric Field Manual – Measurement of Streamflow	Construction to closure phases Initially quarterly, frequency may be reduced as natural variability is addressed.	Selected existing locations*, additional new stations in waterways and realignments surrounding the infrastructure footprint.
Hydrology and Climate	Meteorological parameters including air temperature, relative humidity, wind speed, wind direction, solar radiation and total precipitation.	Meteorological sampling equipment located on 10 m tower.	Environment Canada (1992) Atmospheric Environment Service (AES) Guidelines for Co-operative Climatological Autostations	Construction to closure phases Parameters will be recorded on an hourly-time interval, data downloaded quarterly	Continue sampling at the current location

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Hydrology and Climate	In-stream Characteristics	Water samples for total suspended solids will be manually sampled and submitted for laboratory analysis. Measurement of stream cross sections for channel geometry. Installation of erosion pin in stream bank and disturbance rods in streambed for sediment erosion/accumulation. Aerial or photographic analysis to assess stream meander.	Good Industry Practice	Construction to closure phases Twice annually, during the spring melt and low flow conditions, to be initiated prior to realignment construction	Reach of Bagsverd Creek downstream of Un-named Lake #1 and upstream of Neville Lake
Hydrology and Climate	Water usage from freshwater sources	Flow meter capable of recording instantaneous and total daily volume.	Ontario *Water Resources Act* (Section 34)	Operations phase Daily	Mesomikenda Lake or other freshwater source
Hydrology and Climate	Discharge to the environment	Flow meter or calibrated flow conveyance feature capable of providing instantaneous and total daily volume.	Ontario *Water Resources Act* (Section 53)	Operations phase Daily	Polishing pond outlet
Hydrology and Climate	Water transfer	Flow meter capable of recording instantaneous and total daily volume.	Good Industry Practice	Operations phase Daily	MRA collection ponds, mine water pond, reclaim pond, polishing pond
Hydrology and Climate	Reservoir Water Levels	Manual staff gauges or automatic water level sensors.	Good Industry Practice	Operations phase Monthly	MRA collection ponds, mine water pond, reclaim pond, polishing pond

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Hydrology and Climate	Environment Canada Mollie River Streamflow station	Desktop review using available records from Environment Canada.	Good Industry Practice	Construction to closure phases Monthly review, annual summary	Mollie River Streamflow gauging station
Hydrology and Climate	Water Levels at Ontario Power Generation (OPG) Mesomikenda Lake Dam	Desktop review using available records from OPG.	Good Industry Practice	Construction to closure phases Annual review and summary	Mesomikenda Lake dam
Hydrogeology	Groundwater levels around the open pit	Monitoring wells instrumented with data loggers to obtain continuous records of groundwater levels along with quarterly manual depth to groundwater measurements.	Good Industry Practice	Construction to closure phases Water level transducers will be set to record on a half-hourly basis. Manual measurements will occur quarterly.	Deep groundwater monitoring well nests at select locations around the perimeter of the open pit
Hydrogeology	Groundwater levels around the MRA and TMF	Monitoring wells instrumented with data loggers to obtain continuous records of groundwater levels along with quarterly manual depth to groundwater measurements.	Good Industry Practice	Construction to closure phases Water level transducers will be set to record on a half-hourly basis. Manual measurements will occur quarterly.	Up to 15 existing well locations and up to 10 new well locations around the perimeter of the MRA and TMF.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Hydrogeology	Groundwater levels in vicinity of surface water features to assess interactions between groundwater and surface water	Monitoring wells instrumented with data loggers to obtain continuous records of groundwater levels along with quarterly manual depth to groundwater measurements.	Good Industry Practice	Construction to closure phases Water level transducers will be set to record on a half-hourly basis. Manual measurements will occur quarterly.	Monitoring well nests adjacent to select hydrological monitoring stations.

Notes:
* Existing locations may require upgrades or improvements for long term monitoring
ABA – acid base accounting. ICP – inductively coupled plasma.
BMP – Best Management Practice

Surface Water Parameter List:
Temperature, pH, alkalinity, acidity, conductivity, hardness, dissolved oxygen, oxygen-reduction potential (ORP), total suspended solids, total dissolved solids, dissolved organic carbon, total organic carbon, biological oxygen demand (BOD), chemical oxygen demand (COD), calcium, chloride, fluoride, magnesium, potassium, sodium, sulphate, aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, iron, lead, lithium, manganese, mercury, methyl mercury, molybdenum, nickel, selenium, silicon, silver, strontium, thallium, tin, titanium, tungsten, uranium, vanadium, zinc, zirconium, nitrate, nitrite, total ammonia, phosphate, phosphorus, cyanide species (total, free, weakly acid dissociable [WAD]) and radium-226. In addition, organic contaminants (i.e. oil and grease, phenols and polycyclic aromatic hydrocarbons) will be analyzed at select stations during select sampling rounds.

Groundwater Parameter List:
Temperature, pH, alkalinity, acidity, conductivity, hardness, dissolved oxygen, oxygen-reduction potential (ORP), total dissolved solids, dissolved organic carbon, total organic carbon, calcium, chloride, fluoride, magnesium, potassium, sodium, sulphate, aluminum, antimony, arsenic, barium, beryllium, bismuth, boron, cadmium, chromium, cobalt, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, selenium, silicon, silver, strontium, thallium, tin, titanium, tungsten, uranium, vanadium, zinc, zirconium, nitrate, nitrite, total ammonia, phosphate, phosphorus, and cyanide species (total, free, weakly acid dissociable [WAD]). In addition, analysis and organic contaminants (i.e. total petroleum hydrocarbons, phenols and polycyclic aromatic hydrocarbons) will be analyzed, if required, at select locations during select sampling rounds.

Table 16-2: Monitoring Measures – Biological Environment

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Aquatic Biology	Water- TSS and turbidity	Standard Methods and YSI meter	1 mg/L TSS and 1Nephelometric Turbidity Unit (NTU) as Method Detection Limits (MDLs)	Daily during construction	Downstream of active construction areas
Aquatic Biology	Water - metals, pH, nutrients, hardness, dissolved organic carbon, alkalinity. The parameters suite may be reduced if it can be demonstrated that any of the tests are not applicable. Additional parameters may be considered depending on site-specific characteristics.	Surface water grab sample collection using in-field filtering and preservation, as required. Inductively Coupled Plasma Mass Spectrometry (ICP-MS). Quality assurance /quality control samples such as blind duplicates, trip blanks, field blanks and filter blanks will be collected during each sampling event to represent a minimum of 10% of the samples.	(MDL< PWQO/CWQG standards). Concentrations in mine-exposed areas will also be compared to baseline and reference area values.	Sampling events will be conducted during all project phases at a frequency sufficient to detect changes in water quality; the frequency will therefore depend on the station location and will aim to capture a range of flow conditions, as required monitoring will be conducted until conditions are stable or less than guidelines for the protection of aquatic life.	Downstream of Project discharge and in all areas potentially affected by mine related discharges as well as in appropriate reference areas.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Aquatic Biology	Sediment-metals, total organic carbon, grain size, mercury and methyl mercury. The parameters suite may be reduced if it can be demonstrated that any of the tests are not applicable. Additional parameters may be considered depending on site-specific characteristics.	Surficial sediment collected from grab or core sample (top depositional layer). Method detection limits will be less than federal and provincial water quality guidelines.	Ontario's PSQO and the CSQG. Concentrations in mine-exposed areas will also be compared to baseline and reference area values.	Every 3 years during operations and twice following closure	Locations downstream of Project discharge and reference areas
Aquatic Biology	Benthic invertebrate community	Depositional sampling using petite Ponar, reduced to 500 micron and identified to lowest practical level.	EEM under MMER and COA requirements under OWRA	Every 3 years during operations and twice following closure	Locations downstream of Project discharge and reference areas

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Aquatic Biology	Fish community	Collect fish (small-bodied and large bodied) using standardized collection methods. Identify and enumerate and determine relative abundance	EEM under MMER and COA requirements under OWRA	Every 3 years during operations and twice following closure	Locations downstream of Project discharge and habitats affected by watercourse realignments.
Aquatic Biology	Fish health	Two sentinel species – either a non-destructive study design (i.e. 100 individuals for length, weight and age) or a lethal survey (40 males and 40 females for length, weight, age, liver weight, gonad weight, egg size and fecundity). Measures of abnormalities on all fish collected	EEM under MMER and COA requirements under OWRA	Every 3 years during operations and twice following closure	Locations downstream of Project discharge and reference areas
Aquatic Biology	Fish tissue	Non-lethal biopsy tissue sampling methods will be used to collect skinless, boneless muscle samples (5 g filit) from live individuals. Samples will be analyzed for total mercury. Samples will be weighed and acid digested prior to analysis using a variant of "EPA Method 1631- mercury in water by oxidation, purge and trap, and cold vapour atomic fluorescence spectrometry". Using this technique, low method detection limits of approximately 1 ng Hg/g wet tissue weight can be achieved.	Health Canada and MOECC consumption benchmarks	Every 3 years during operations and twice following closure or until mercury concentrations in fish are stable or equal to reference areas	In areas affected by stream realignments and reference areas.

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Terrestrial Biology	Wildlife-Project interactions (incidents[1])	Site surveillance monitoring to identify the species, number, and location of wildlife incidents and risks to wildlife. The information provides direct feedback for adaptive management of Project operations, Project designs and effectiveness of mitigation.	n/a	Frequency of interactions will be recorded as they occur throughout the construction, operations and closure phases	Project Site.
Terrestrial Biology	Wildlife observations	Record incidental observations of Common Nighthawk and Bank Swallow on wildlife logs.	n/a	Continuous throughout the construction, operations and closures phases	Project Site.

Note:
[1]Incident is defined as any wildlife interaction that requires a response from Project personnel (i.e., removal or deterrent actions, injury, and mortality).

Table 16-3: Monitoring Measures – Human Environment

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Archaeology	Protection of existing archaeological resources (Stage 1-2 completed in 2012)	Ensure that 20 m "No Work Boundary" and 50 m "Monitoring Buffer" around archaeological site are in effect	Stage 2 Ministry Tourism, Culture and Sport (MTCS) Regulations	Construction to closure phases Periodic visual inspections regarding possible erosion	Makwa Point, Clam Lake (CjHl-3) Clam Lake Gold Mining Company, Clam Lake (CjHl-18) Bagsverd Creek 1, Bagsverd Creek (CjHl-27) West Portage Landing Site, Bagsverd Creek (CjHl-29)
Archaeology	Protection of existing archaeological resources (Stage 1-2 completed in 2012)	Ensure that 20 m "No Work Boundary" and 50 m "Monitoring Buffer" around archaeological site are in effect	Stage 2 MTCS Regulations	Construction to closure phases Monitoring, as required, regarding secondary impacts	Table Point Site, Bagsverd Lake (CjHl-17) Gosselin Mining Site, Three Duck Lake (CjHl-20) Weeduck Cabin Site, Weeduck Lake (CjHl-24) Cryderman Site, Three Duck Lake (CjHl-26)

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Archaeology	Protection of existing archaeological resources (Stage 1-3 completed in 2012)	Ensure that 10 m "No Work Boundary" and 50 m "Monitoring Buffer" around archaeological site are in effect	Stage 3 MTCS Regulations	Construction to closure phases Monitoring, as required, regarding secondary impacts	Sheppard Mining Site, Three Duck Lake (CjHl-21)
Archaeology	Marine Archaeological resources/values	Surface check of newly exposed shorelines	n/a (as requested by the MOECC and agreed to by the MTCS)	Construction phase Weekly by on-site environmental staff and monthly, or more frequently as needed, by a licensed archaeologist	All water bodies affected by lowered water levels
Socio-Economic	Number, skill sets and positions held by local, First Nation and Métis persons and contractors at the Project site (direct employment with IAMGOLD as well as contract employment)	Database system maintained by IAMGOLD Human Resources or others as required.	n/a	Construction to closure phases Annually for the life of the Project	n/a
Socio-Economic	Number of employees moving into regional study area communities from outside of the region.	Database system maintained by IAMGOLD Human Resources or others as required.	n/a	Construction to closure phases Annually for life of the Project	n/a
Socio-Economic	Number of employees taking cultural awareness training as part of their on-boarding procedure.	Database system maintained by IAMGOLD Human Resources or others as required.	n/a	Construction to closure phases Annually for life of the Project	n/a

Discipline	Parameter	Monitoring Method	Standard	Frequency / Timeframe	Location
Socio-Economic	Number of local employees or local applicants obtaining IAMGOLD-funded training to access Project employment.	Database system maintained by IAMGOLD Human Resources or others as required.	n/a	Construction to closure phases Annually for life of the Project	n/a
Socio-Economic	Number of local employees obtaining upgrade training to access higher-paid positions with IAMGOLD.	Database system maintained by IAMGOLD Human Resources or others as required.	n/a	Construction to closure phases Annually for life of the Project	n/a
Socio-Economic	Number of local employees making successful transition to new work after closure	Database system maintained by IAMGOLD Human Resources or others as required.	n/a	Starting towards the end of the operations phase as production levels decline until completion of the closure phase	n/a
Socio-Economic	Number of local or First Nation and Métis companies hired for decommissioning and closure contracts	Database system maintained by IAMGOLD Human Resources or others as required.	n/a	Closure phase	n/a