



## **Appendix M ENDM Comment Tracking Table**

Government Reviewers Comments							
Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
ENDM-1	AS	Section 1.0 Letter of transmittal	<p>Should be addressed to: Brian McMahon Director of Mine Rehabilitation Ministry of Energy Northern, Development and Mines 933 Ramsey Lake Road, 6<sup>th</sup> Floor, Sudbury, Ontario, P3E 6B5</p> <p>Authorised agents should be named on letter of transmittal also.</p>	Make changes to the letter, send with original signature to Sudbury and send electronic version to Timmins office.	No	The letter of transmittal has been updated by IAMGOLD as requested by ENDM.	Ok <b>PROPONENT RESPONSE:</b> N/A
ENDM-2	AS	Section 2.1 Certification	<p>The CP states “The proponent has carried out reasonable and good faith consultations with appropriate representatives of all aboriginal peoples affected by the Project; and”</p> <p>O.Reg 240/00, s.12 (2) requires the statement to be: <i>the proponent has complied with any written direction regarding Aboriginal consultation provided by the Director pursuant to subsection 8.1 (2);</i></p>	Adjust wording in document	No	<p>The statement in Section 2.1 has been updated with the wording provided by ENDM:</p> <p><i>the proponent has complied with any written direction regarding Aboriginal consultation provided by the Director pursuant to subsection 8.1 (2);</i></p>	Ok <b>PROPONENT RESPONSE:</b> N/A
ENDM-3	AS	Figure 3-2 and 3- 3A	The Closure Plan (CP) requires the land tenure map to include a Closure Plan Boundary according to the ENDM Closure Plan Boundary Guideline.	<p>Draw the Closure Plan Boundary with a separate linetype, identified in the Legend of both figures.</p> <p>State in the text of the CP that the linetype in the figures satisfies the Closure Plan Boundary</p>	No	<p>The closure plan boundary is the “Project Boundary” identified in the legend of Figure 3- 2 (shown as a yellow line) and 3-3A (shown as a red line).</p> <p>The text (Section 3.2) has been updated as suggested by ENDM:</p> <p>“The linetype in the figures satisfies the</p>	Ok <b>PROPONENT RESPONSE:</b> N/A

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				Guideline.		Closure Plan Boundary Guideline".	
ENDM-4	AS	Section 9	Typically, Section 9 describes the site activities to close the site after the end of mine operations.	Revise Section 9 header from "closed out" to "closing out" to match O. Reg. 240 Section 24.	No	The header is Section 9 has been updated as suggested by ENDM:  "Closing Out"	OK  <b>PROPONENT RESPONSE:</b> N/A
ENDM-5	GR	Table 12-1 Summary Life of Mine Cost Estimates, Table 13-4 Summary Financial Assurance Phase 1	The FA tables do not have enough detail for each individual task. For example Tailings Management Facility: \$21,204,000. It makes it difficult to determine if sufficient amount of FA has been allocated for each closure activity.  Examples for Table 13-4 would be \$936,000 for Open Pit Mine Infrastructure. The Detail cost estimate table that was provided with the Draft CP had a detail breakdown for Open Pit Mine Infrastructure that showed that \$157,408 was assigned for Boulder Fence and \$60,000 for Stability Assessment...	Provide a detail breakdown of all the tasks in the FA tables and show how much FA is assigned to perform each task. As was provided with the Draft CP.	No	Table 12-1 and 13-4 contain summary information. The additional detail (which has already been provided to ENDM), has been included in an appendices in the Closure Plan.  As requested by ENDM (call of November 29 2018) additional tables have also been included in Section 13 that provide the FA for each phase (these tables have been provided below – see supporting information for ENDM- 5).	OK  <b>PROPONENT RESPONSE:</b> N/A
ENDM-6	GR	9.5.1 Pipelines and power lines	This section states that <i>"Where practicable, buried pipelines will be purged, if needed, dismantled and disposed of in the on-site demolition waste landfill"</i>	Removal of all pipelines (above and below ground) and provide appropriate FA, as per O.Reg 240/00 S.24(2.5) says that all "All buildings, power transmission lines, pipelines, waterlines, railways, airstrips and other structures shall be dismantled and removed from the site to an extent that is consistent with the specified future use of the land".	increase	FA has been provided for the removal of all pipelines (above and below ground) as part of site closure. This work is included in the estimated cost of final grading for general site areas prior to placement of growth medium. Additional monies are provided for removal of specific utilities such as seepage water and fresh water pipelines, overhead and underground power distribution both onsite and	It currently states in section 9.5.1 that "Where practicable, buried pipelines will be purged, if needed, dismantled and disposed of in on -site demolition waste landfill"  IAMGold must commit in Section 9.5.1 to remove all pipeline at time of closure. Remove "where practicable"

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						offsite.	and "if needed". IamGold must also specify the distance of buried pipeline(s).  The FA table must have a specific line item associated with the removal of those buried pipeline(s).  <b>PROPONENT RESPONSE:</b> The closure plan (Section 9.5.1) has been updated as follows: <i>"buried pipelines will be purged, dismantled and disposed of in the on-site demolition waste landfill"</i>
ENDM-7	GR	9.14.1 Mine rock area	<p>The CP indicates that approximately 25% of the total MRA surface area (i.e. the flat areas) of the MRA will be covered with 0.2 m of growth medium and re-vegetated... The intent of the 25% re-vegetation criterion is that planting "islands" will encourage infilling between islands, or natural re-vegetation, to return the area to a more natural state over time</p> <p>IAMGOLD replied that "planting islands on the MRA" remains consistent with the approved EA. The MRA will comprise of a mixture of rock sizes, including some fine grained material that should allow natural re- generation to occur. The success of progressive-revegetation will be monitored during the operations phase and adaptive management measures, (such as additional granular material or the</p>	<p>O. Reg 240/00 s.24(2) 19. States that <i>"All disturbed sites shall be revegetated"</i></p> <p>O. Reg 240/00 s.4 <i>"disturbance of the ground" means the excavation or movement of rock, overburden or other material that creates a hazard to public safety or the environment because of the nature of the material or the fact that it is being excavated or moved."</i></p> <p>O. Reg 240/00 s.70</p> <p>O.Reg 240/00, Schedule 2 Item 9(xviii) requires <i>"details of measures to ensure that the revegetation of all disturbed areas will be self-sustaining, integrated with the surrounding ecosystem and consistent with the specified land uses of the site in accordance with the Code."</i></p> <p>O. Reg 240/00 s.71(2) <i>"The application of soil to a depth sufficient to maintain root growth and nutrient requirements."</i></p>	increase	<p>The FA aligns with the Project as presented in the approved EA and carried forward in the Closure Plan.</p> <p>The FA provided to ENDM also includes a contingency allowance.</p> <p>As stated in pervious responses, progressive re-vegetation will be undertaken during the operations phase. Should adaptive management measure be required in order to achieve self-sustaining vegetation the FA will be reviewed and potentially updated accordingly. This will be addressed in the Closure Plan Amendment (CPA) process.</p>	<p>Comment ENDM-7 still stands. O. Reg 240/00 s.24(2) 19. States that <i>"All disturbed sites shall be revegetated"</i></p> <p>O.Reg 240/00 S.21 states that <i>"The Director is hereby authorized to exempt a proponent from complying with any standard, procedure or requirement in this Regulation, including the Code, if the Director determines that the closure plan meets or exceeds the objectives of the provision in which the standard, procedure or requirement is set out"</i>.</p> <p>Section 2.0 of the Closure Plan states:  <i>"The attached Closure Plan complies in all respects with the Mining Act and Ontario Regulation 240/00 (amended to O.Reg. 282/03), including the Mine Rehabilitation</i></p>

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			<p>addition of biosolids) will be considered. The purpose of re-vegetation is to promote sustainable plant growth.</p>	<p>IAMGOLD comment's states that "The MRA will comprise of a mixture of rock sizes, including some fine grained material that should allow natural re-generation to occur" until IAMGOLD can demonstrate that self-sustainable vegetation has established, ENDM will need to hold FA to revegetate the entire stockpile to ensure there is sufficient soil depth to maintain root growth and nutrient requirements.</p>		<p><i>Code of Ontario (Code);"</i></p> <p>and</p> <p><i>"The amount of financial assurance provided for in the attached Closure Plan is adequate and sufficient to cover the cost of the rehabilitation work required in order to comply with the Mining Act and the Regulation, including the Code;</i></p> <p><i>The revegetation measures proposed in the Closure Plan do not meet or exceed the Code."</i></p> <p>The financial assurance provided to cover the cost of the rehabilitation work required in order to comply with the Mining Act and the Regulation, including the Code is insufficient.</p> <p><b>PROPONENT RESPONSE:</b> Please refer to the "Supplementary Response: ENDM-7" provided below the table</p>
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ENDM-8	RM	Section 4.8.1; Section 9.4; FA tables	Section 4.8.1 discusses the underground workings associated with the former Young Shannon Gold mine. However, there is no discussion of the potential crown pillars associated with these workings.	<p>A crown pillar stability study will need to be completed by a qualified professional(s) as per Section 30 - 33 of Part 3, Schedule 1 of O.Reg. 240/00 to determine the long-term stability of any crown pillars that will remain on site. Any crown pillars that are found to not be long-term stable must be rehabilitated appropriately.</p> <p>FA tables must be updated to include the third-party costs associated with addressing these items and should be clearly broken out as a separate line item(s) for clarity. Section 9.4 (Stabilization of Surface and Subsurface Mine</p>	Yes	<p>A crown pillar stability study will be performed by qualified professional(s) during the final design phase for the ore stockpile and appropriate mitigation measures will be incorporated into the Project should an issue be identified.</p> <p>In the event these measures change the closure cost estimate these changes will be reflected in the next Closure Plan Amendment (CPA).</p>	<p>Ok. Follow up will be in the next CPA</p> <p><b>PROONENT RESPONSE:</b> N/A</p>

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				Workings) of the main text must be updated to discuss these items.			
ENDM-9	RM	Section 4.8.2; Section 7.2; Section 8.2; Section 9.3	Sections 4.8.2, 7.2, 8.2, and 9.3 discuss having the ore stockpile footprint extend over the pre-existing Young Shannon shaft cap thereby increasing the loading on the cap. Section 4.8.2 discusses reinforcing the cap to accommodate the additional load, possibly through backfilling. Section 7.2 and 8.2 (for states of temporary suspension and inactivity, respectively) asserts that the pre-existing cap will not be inspected to ensure that it still meets Code unless it remains uncovered by the ore stockpile footprint.	If the integrity of the pre-existing cap will not be inspected and certified prior to states of temporary suspension or inactivity, the reinforcement of the cap will need to be engineered and certified by a qualified person(s) to accommodate the additional loading to ensure that the cap will not fail. Text should be updated to clarify this this.  There is no discussion of how the cap will be ventilated will covered. Text must be updated to clarify this.	No	As stated in the Closure Plan, Section 4.8.2 “The historic Young Shannon shaft has already been capped and vented at surface”.  The shaft will be overprinted by the ore stockpile during operations”. Section 5.7.3 “The historic Young-Shannon shaft cap will be inspected and reinforced prior to placement of ore.  Engineering of the cap reinforcement will occur prior to placement of the ore stockpile and will be conducted by a qualified engineer.  Sections 7.2 and 8.2 state that “Inspection of the cap will continue (during temporary suspension or state of inactivity), if not overprinted by the ore stockpile”.  Section 9.3 states “... Inspection of the cap will occur upon removal of the ore stockpile”.	Ok. Follow up will be in the next CPA  <b>PROPONENT RESPONSE:</b> N/A
ENDM-10	RM	Section 9.3; FA Tables	Section 9.3 discusses inspecting the Young Shannon cap after the ore stockpile has been removed to ensure that it still meets Code (s. 3, P 1, Schedule 1, O.Reg. 240/00).	If the inspection at final closure finds that the additional loading has damaged the cap repair or replacement costs will be incurred. The FA tables must be updated to include third-party costs to design, construct, and certify the replacement cap as per Code. This item should be broken out in the FA tables for clarity.	Yes	There is no reason to believe that the Young Shannon cap will be damaged and will require repair or replacement. The FA estimate provides over \$1 million to regrade the Ore Stockpile area prior to placement of the growth medium and an additional \$150,000 in contingency on this amount. It is considered that these funds will be more than sufficient to satisfactorily complete the work.  The FA estimate covers the scope of the work and includes sufficient contingency to cover variations in either the quantity or cost of the closure work. It is not appropriate or customary to include in the estimate all events that have	Ok. Follow up will be in the next CPA  <b>PROPONENT RESPONSE:</b> N/A



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						any probability of occurrence above zero.	
ENDM-11	RM	Section 9.4; FA Tables	Section 9.4 Discusses establishing a boulder fence around the pit. However, there is no clear discussion of what setback is being used to place this fence. The length and cost of establishing the perimeter does not appear to be clearly defined.	The text must be updated to discuss what setback distance is being used for the establishment of the boulder fencing. Without a geotechnical study, the criteria outlined in s. 24 (c) (Part 2, Schedule 1, O.Reg. 240/00) must be met. The text should be updated to include the expected length of boulder fencing required. The FA tables must include the costs of having a third-party construct the boulder fence to satisfy the required length and specifications. This cost should be broken out in the FA table for clarity.	Potentially depending on response.	<p>As stated in Section 9.4.1, "At the time of closure, the final condition of the pit walls in the open pit will be reviewed by a professional engineer in compliance with the Code".</p> <p>The FA estimate has been prepared in consideration of s.24(c) (Part 2, Schedule 1, O.Reg 240/00). The estimate includes a boulder fence approximately 5000 meters in length. The estimate assumes this fence is made up of 4,600 boulders ranging in size from 5 to 10 metric tonnes. This work is assumed to be completed by the mine forces. It is recommended this fence be installed as the pit reaches its maximum footprint and not wait until mining is complete which could be years later. Setback for the boulder fence for estimating purposes was assumed as 10 meters (from the pit rim) but may vary based upon terrain in the area of the pit rim.</p> <p>The final design of the mine and infrastructure will comply with applicable regulations. The Closure Plan Amendment process provides for periodic updates to the estimate as the project progresses which will take into account the actual design and subsequent closure costs.</p>	<p>Ok. Follow up will be in the next CPA</p> <p><b>PROPONENT RESPONSE:</b> N/A</p>
ENDM-12	DD	Section 5.7.2	For the waste rock stockpile, the CP describes the foundation preparation by excavating the peat and unsuitable soils along the toe perimeter slopes.	In the next Closure Plan Amendment (CPA), provide a drawing showing the as-built limits of the excavation and depths. Include the original ground surface	No	Comment noted – this will be provided in the next Closure Plan Amendment (CPA).	<p>Acceptable Response.</p> <p><b>PROPONENT RESPONSE:</b> N/A</p>



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				contours that blend into the excavation contours within the entire area to be covered by the waste rock stockpile.			
ENDM-13	DD	Section 6.13 and various references in the CP.	Overburden Stockpile as a source of growth medium during closure.	<p>In the next CPA, provide a drawing showing the original ground contours beneath the overburden stockpile that will be used to calculate the volume of overburden materials.</p> <p>Observations during the development of stockpile should be provided in the next CPA with respect to the percentage of the total volume that will be considered reusable as a growth medium. Compare this volume to the estimated coverage, as per O. Reg. 240 (see revisions from ENDM Inspector Comment), to determine the volume of growth medium that may be required to import to the site.</p>	Potentially for next CPA.	Comment noted – this will be provided in the next Closure Plan Amendment (CPA).	Acceptable Response.  <b>PROPONENT RESPONSE:</b> N/A
ENDM-14	DD	Section 9; CDA 2014 Mining Dams Bulletin	The Canadian Dam Association (CDA) defines the Engineer of Record (EOR) for all mining dams and containment structures within the Closure Plan Boundary, according to the 2014 CDA Technical Bulletin: Application of Dam Safety Guidelines to Mining Dams.	Type the name(s) and company(s) of the EOR in the text of the CPA in Section 9.	No	Text in Section 9 has been updated to include the name and company of the Engineer of Record (EOR):  "The Engineer of Record will be Bing Wang of Wood Group plc".	Acceptable Response.  <b>PROPONENT RESPONSE:</b> N/A
ENDM-15	DD	Section 5.6.1; CDA 2014 Mining Dams Bulletin	For the TMF dams, the dam classification is expressed in the CP by the definitions in the MNRF LRIA. The	Provide a table showing the second set of TMF dam classifications based	No	The EOR confirms that the TMF dam classification is high (but designed for very high) based on the CDA 2014 Mining Dams	Provide the requested table from the original comment in the as-built

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			forthcoming ENDM Guidelines for Tailings Dams and Containment Structures will reference the dam classifications based on CDA Mining Dams Bulletin.	on the most current CDA definitions, as determined by the EOR.		Bulletin.	report for the Starter Dam, then enter this table in the text in the next CPA.  <b>PROPONENT RESPONSE:</b> Comment noted – this will be provided in the next Closure Plan Amendment (CPA).
ENDM-16	DD	Section 10.1; CDA 2014 Mining Dams Bulletin; FA Table 12-1 Item 9000	Table 12-1 and Section 10.1 are missing the schedule of the Dam Safety Inspections and Dam Safety Reviews (DSI / DSR).	Insert a new line item in the Monitoring section of the FA Table for the cost of the field reviews and the EOR reports on the DSI / DSR. Select the frequencies of the DSI / DSR for the tailings dams and all other containment structures (dykes and dams), as determined by the CDA dam classification.	Yes	The DSI frequency is annual and DSR frequency is every 5 years.  The FA estimate includes Geotechnical Monitoring and Dam Safety Inspection from the start of closure and throughout the post-closure Phase I and Phase II periods. The estimate provides for two inspections per year during the 2-year closure period and one inspection per year for the 40-year post-closure period. Overall the FA estimate includes almost \$750,000 for inspections and report preparation over the 42-year closure period provided in the FA estimate.	Thank you for including the DSI and DSR in the FA Table 12-1 lump sum. In the next CPA, provide a breakdown of all the inspections for the \$750,000 lump sum to indicate the DSI and DSR in a separate line item, as originally requested.  <b>PROPONENT RESPONSE:</b> Comment noted – this will be provided in the next Closure Plan Amendment (CPA).
ENDM-17	DD	Figure 5-3 and 5-4; Section 5.6	The Starter Dam for the Tailings Management Facility (TMF) that will be submitted to the Ministry of Natural Resources and Forestry (MNR) for the Lakes and Rivers Improvement Act (LRIA) Permit will correspond to a defined storage time period before the next dam raise is planned.	Describe in the text of the CP, the Starter Dam in terms of the time period of storage. Include a proposed year representing the start of construction for the next dam raise.  Show the toe trace of the starter dam on a plan view figure together with the toe trace of the ultimate dam.	No	Text in Section 5.3 has been updated as follows:  Tentatively, the starter dam will start storage of water starting in mid to late 2020 and tailings in July of 2021. The construction of the next dam raise will start immediately following completion of the starter dam in 2021.  Figure 5-3 will be updated as requested by ENDM.	Acceptable Response for the text insertion in Section 5.6.1. Please provide the requested drawing described in the original comment as an additional drawing in the forthcoming as-built report for the Starter Dam (shown as Stage 1 in Figure 5-4). Include the toe trace of the ultimate dam in this figure.

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							<b>PROPONENT RESPONSE:</b> Comment noted – this will be provided in the next Closure Plan Amendment (CPA).
ENDM-18	DD	Section 9.13; FA Table 12-1 Item 4200	Closure of the TMF starts with lowering the pond elevation and treating the discharged water over a set time period. The movement of equipment and placement of growth materials requires low ground pressure dozers and movement of delivery trucks and	Provide a cost breakdown and time schedule for this work. Provide a reasonable time period and associated FA estimated costs based on the unknowns and	Yes	As discussed in Section 6.1.2 “The tailings beach will be progressively revegetated with native species where practicable. Test plots will be carried out prior to closure to determine optimum seed mixture and fertilizers required to promote sustainable plant growth. Pending results of the test plots alternative measures	Thank you for Progressive Rehab description in the CP document. In the next CPA, the EOR should provide a separate document that breaks

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			<p>tilling machines across soft ground conditions.</p> <p>The 0.2m thick layer of growth medium appears too thin based on the anticipated loss of material into the soft ground.</p>	<p>constructability issues.</p> <p>Consider a thicker allowance for the growth medium over the soft ground conditions and adjust the FA estimated costs accordingly.</p>		<p>may be taken into consideration to establish successful sustainable vegetation.</p> <p>A two-year period is considered for the closure rehabilitation works. The tailings mass will be partially drained (by the permeable perimeter dams) during operations, so this two-year period is considered to be adequate to complete the work.</p> <p>Intrusion of the growth medium into the tailings beach during placement is not expected to be significant and would not be detrimental to the objective of supporting vegetation. The average planned thickness of 0.2 m is considered to be reasonable as the beach should be drained.</p> <p>FA will be reviewed and may be updated accordingly following progressive rehabilitation. Any updates will be address through the Closure Plan Amendment (CPA) process.</p>	<p>down the sequence further. Include examples of similar projects under the supervision of the EOR where such placement has occurred over pond areas that were drained after the end of operations. Provide the cost breakdown in this same document and a time schedule applied to your facility.</p> <p><b>PROONENT RESPONSE:</b> Comment noted – this will be provided in the next Closure Plan Amendment (CPA).</p>
ENDM-19	DD	Figures 9-1 and 9-2	<p>Both figures do not show the location of the single-spillway for closure, which is shown on other figures facing eastward. Eastward-facing spillways are traditionally slow in thawing in the spring.</p> <p>Both figures have shading for “Exposed Rock Slopes” that do not follow the ENDM Inspector Comment from GR for O. Reg. 240 revegetation.</p>	<p>Consider a second emergency spillway with a better sun exposure to thaw quickly for spring thaw conditions to prevent ice build-up problems.</p> <p>For both figures, draw arrows representing the flow of water off the TMF surface via armoured swales, through the spillway, and onwards to the natural environment.</p> <p>Write a note on the Drawing 9-1 about the</p>	Yes	<p>IAMGOLD will consider the suggestion for a second emergency spillway with better sun exposure during ongoing design of the TMF.</p> <p>Flow paths have been added to Figures 9-1 and 9-2.</p> <p>Notes have been added to Figures 9-1 and 9-2 as requested by ENDM.</p>	<p>Thank you for the commitment to observe the thawing of the staged spillway during operations.</p> <p>In the next CPA, provide a document written by the EOR that comments on the various spring thaws observed to date.</p> <p>In the next CPA, provide FA for construction of the second spillway, then apply at a later CPA submission for a</p>

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				<p>upgrading of the permanent open channels to conform to the design criteria of safe conveyance of the peak flow rate from the design storm for closure.</p> <p>Write a note on both figures that responds to the text changes in the CP as a result of the Proponent's Response to the revegetation Comment from GR.</p>			<p>reduction of this FA.</p> <p>The two figures require shading modifications subject to ENDM's comment to the proponent's response on revegetation.</p> <p><b>PROPONENT RESPONSE:</b> Comment noted – this will be provided in the next Closure Plan Amendment (CPA).</p>
ENDM-20	DD	Figures 9-1 and 9-2	Active and Passive closure care drawings should also show the locations of geotechnical instrumentation that will be monitored for each respective Phase.	For the next CPA, update the figures for the as-built installed geotechnical instrumentation, as identified by the EOR.	No	Comment noted – this will be provided in the next Closure Plan Amendment (CPA).	<p>Acceptable response.</p> <p><b>PROPONENT RESPONSE:</b> N/A</p>
ENDM-21	DD	Section 11.2 FA Table 12-1 Item 4100	The TMF represents a high landform feature after closure. The orientation of the TMF may experience wind erosional forces at key locations.	<p>Provide an allowance in the FA table as a separate line item for erosion-protection features at key locations around the TMF for the dominant wind direction. Provide a wind rose in future CPA submissions based on the measured wind data collected during operations.</p> <p>Include a maintenance allowance, as a separate line item in the FA Table, for erosion repairs during the monitoring time period.</p>	Yes	<p>The dams are rockfill and therefore not susceptible to wind erosion.</p> <p>The FA estimate provides for personnel, equipment and materials to perform site care and maintenance during the 40-year post-closure period. The care and maintenance estimate also assumes a gradual reduction in these requirements over time as the site stabilizes. There is not a line item in the estimate for wind erosion but rather an estimated amount of money to maintain the site over the 40-year period. Year one of the 40-year period is estimated to cost about \$497,000 while year 40 is estimated at about \$41,000. Given the nature of the tailings, the cover over the tailings and the fact that the surface will be vegetated we do not anticipate wind erosion.</p>	<p>In the next CPA, provide wind direction data summarized to suit the originally-requested comment. Include a document, written by the EOR, on the key locations around the TMF.</p> <p><b>PROPONENT RESPONSE:</b> Comment noted – this will be provided in the next Closure Plan Amendment (CPA).</p>



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ENDM-22	DD	Table 13-4	Table 13-4, representing the end of site development, seems to have Item 4000 for the TMF to represent only the Starter Dam.	For clarity, write “starter dam” in the text of the appropriate line items in Table 13-4.	No	Table 13-4 represents the estimated cost to close the site at a point in time before any tailings are deposited in the TMF. At this point the “starter dam” would be in place which is then graded out and the disturbed areas revegetated.	Thank You for clarification. Acceptable Response.  <b>PROONENT RESPONSE:</b> N/A
ENDM-23	ND	(Section 4.4) Surface Water	<p>Baseline surface water quality data is reported to have been collected at various locations during 2011 through 2017. The data is not discussed in detail in Section 4.4.2 of the CP; however, the document references statistical summaries provided in Appendix C “for the surface water monitoring locations proposed at closure”. This comprises a summary of data collected during 2011 to 2013 at only 8 of over 30 baseline sampling locations, making the presentation of baseline data incomplete and inadequate to define pre- operational conditions in the local surface water bodies for the purposes of the CP.</p> <p>Details of the baseline monitoring programs are required to be included in the CP as per Schedule 2 of O. Reg. 240/00, item 4(iii) which requires:</p> <p><i>details of the surface waters on or flowing through the site and any surface waters receiving flow from the site, including an assessment of the quality and quantity of such waters that indicates whether and to what extent they will be affected by the project and shall be consistent with the monitoring requirements specified in the Code and a plan of legible scale showing the</i></p>	<p>– Section 4.4.2 should include a comprehensive list of all baseline surface water monitoring locations along with a description of their purpose (i.e., to assess future impacts, represent reference conditions throughout the project etc.) and should also indicate when baseline monitoring data was collected.</p> <p>– The water quality summaries provided in Appendix C should be presented for all baseline data collected and include 75th percentile concentrations, which is the standard statistic used for comparison with water quality objectives (as per MECP protocols). These summaries should include comparison with PWQOs, interim PWQOs and Canadian Water Quality Guidelines (CWQGs) and indicate when 75th percentile concentrations exceed these standards.</p>	Yes	<p>The Closure Plan has been updated as follows:</p> <p>A new table has been attached in Appendix C that provides the 75<sup>th</sup> percentile concentrations for all stations. This table provides information on the monitoring stations, including the type of station, rationale for sampling (purpose), and dates on sampling duration. The table also compares the 75<sup>th</sup> percentile concentrations to PWQOs, interim PWQOs, and CWQGs, and concentrations that are greater than these guidelines are indicated in the table using special formatting. In addition, edits have been made to Section 4.4.2 to clarify the surface water baseline conditions with reference to specific water bodies and to provide further context regarding concentrations that were observed to be greater than surface water quality guidelines.</p> <p>Section 4.4.2 now has a more detailed discussion with regards to the 75<sup>th</sup> percentile concentrations compared to PWQOs, iPWQOs, and CWQGs. Where there are concentrations greater than the water quality guidelines, the location specifics have been added to provide the necessary context. This will also be clear in the new table added to Appendix C.</p> <p>Original baseline report is now referenced in Section 4.4.2.</p>	<p>New summary describing stations and 75<sup>th</sup> percentile concentrations appears comprehensive.</p> <p>Original data summary table of 2011 – 2013 background data in Appendix C should be expanded to include all locations where data was collected, particularly since Water Quality benchmarks established for the EA (and referenced in Section 11.3 of the CP) appear to have been compared to this data (i.e. 95<sup>th</sup> percentiles).</p> <p>Discussion in Section 4.4.2 is improved and appears adequate.</p> <p>The original baseline report (Golder, 2013) is referenced in Section 4.4.2 but has not been included in Appendix C as indicated in the text. This report should be appended to the CP with the other aquatic baseline reports in Appendix G. The report should also be included in the CP references list</p>

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									in Section 14. Also, as additional data was collected in 2014 through 2017, are there additional baseline reports? If so these should be included in the CP.
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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
			<p><i>current location of all such waters and their watershed boundaries.</i></p> <p>Given the paucity of baseline data presented in the CP, baseline surface water conditions and the adequacy of data collected could not be confirmed as part of this review.</p>	<ul style="list-style-type: none"> <li>- The discussion of water quality results in Section 4.4.2 requires significantly more detail with regard to baseline water quality in specific water bodies, particularly in terms of exceedances of PWQOs/interim PWQOs as these relate to required conditions upon close-out of the site. Statements such as “Concentrations of total phosphorous, iron, zinc, copper and dissolved aluminium occasionally or consistently exceeds regulatory guidelines (i.e., PWQO and CWQG)” are too general without reference to specific water bodies.</li> <li>- The original baseline study reports should be referenced in Section 4.4.2 and included as appendices to the CP document.</li> <li>- Reports referenced in Section 4.4.3 pertaining to water balance modelling (Golder, 2018a) and water quality effects predictions (Golder, 2018b) should be included as appendices to the CP.</li> </ul>		<p>Reports referenced in Section 4.4.3 pertaining to water balance modelling (Golder, 2018a) and water quality effects predictions (Golder, 2018b) are now included as appendices to the Closure Plan.</p> <p>Edits have been made to Section 4.4.3 to incorporate operations phase as part of the discussion of potential changes to surface water flow and quality.</p>	<p>These reports (Golder, 2018a and 2018b) have been included in Appendix D as unsigned draft reports which are not appropriate for inclusion in a final CP. Final copies signed/certified by the consultant should be provided in the CP.</p> <p>Ok</p> <p>It should be noted that future closure plan amendments will require that Section 4.4 include a summary of current monitoring programs being conducted under MECP ECAs, internal audits, stormwater monitoring, EEM requirements etc. Along with statistical summaries of data being collected during operations, future CPAs should include a discussion of spatial and temporal trends in water quality, supported by time-series graphs for contaminants of potential concern.</p> <p><b>PROONENT RESPONSE:</b> The Closure Plan has</p>

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							<p>been updated. Regarding the data summary provided in Appendix C – in addition to a table with the 75<sup>th</sup> percentile concentrations compared to water quality guidelines, Appendix C now includes tables that provide full statistics for all stations. The data in these tables was collected within the period from 2013 to 2017.</p> <p>The original water quality baseline report is now appended in Appendix C and referenced in Section 14.0. Note that there are no additional baseline reports.</p> <p>Finalized copies of the reports referenced in Section 4.4.3 pertaining to water balance modelling (Golder, 2018a) and water quality effects predictions (Golder, 2018b) are now included in the appendices of the Closure Plan.</p> <p>Regarding monitoring program details in future CPAs, in particular the details of programs being conducted under MECP ECAs, internal audits, stormwater monitoring, EEM requirements etc – this is noted and will be provided as part of future CPAs.</p>
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Government Reviewers Comments							
Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
				<p>– The discussion of potential changes to surface water flow and quality in Section 4.4.3 should not be limited to closure, as this assessment is supposed to identify to what extent water quality and flows will be affected by the project.</p>			
ENDM-24	ND	(Section 4.7) Aquatic Environment	The discussion of the baseline aquatic environment in Section 4.7 requires significantly more detail.	<p>Specific water bodies should be identified along with the timing that aquatic surveys were undertaken. The original baseline reports should be referenced and included as appendices to the CP. This section should also include a discussion of baseline sediment quality.</p>	No	<p>Specific water bodies and timing of surveys is provided below. This information has been included in Section 4.7 of the Closure Plan. The baseline reports have been referenced and have been appended to the Closure plan.</p> <p>Minnow (Minnow Environmental Inc.). 2014. Côté Gold Aquatic Baseline Report. Prepared for IAMGOLD Corporation, Gogama, ON. March. Project # 2496 Years – 2012 and 2013:</p> <p><b>Fish Habitat and Community:</b> Bagsverd Creek, Lower Bagsverd Creek, Unnamed Stream to Bagsverd Creek, Bagsverd Lake, Bagsverd Lake (East Arm), Bagsverd Lake (South Arm), Unnamed Inlet from West Beaver Pond, Unnamed Inlet from Bagsverd Pond, Bagsverd Pond, Beaver Pond, Chester Lake, Unnamed Lake, Unnamed Inlet to Chester Lake, Clam Lake, Côté Lake, Delaney Lake, East Beaver Pond, Little Clam Lake, Lower Three Duck Lake, Mesomikenda Lake, Middle Three Duck Lake, Mollie River and Clam Creek, Neville Lake, North Beaver Pond, Schist Lake, Unnamed Lake #1, Unnamed Inlet from Unnamed Lake #2, Unnamed Lake #2, Unnamed Lake #3, Unnamed Inlet to</p>	<p>The timing of the surveys was actually 2013 and 2016. This should be corrected in Section 4.7.</p> <p>The subsequent reports prepared by Minnow Environmental Inc. dated 2014 and 2017 have been included in Appendix G of the CP. These reports should be referenced in Section 4.7 of the CP and listed as references in Section 14.</p> <p>Additional detail/clarity is needed in Sections 4.7.1 and 4.7.2 regarding which survey the reported results relate to. A brief summary of results/conclusions of both baseline surveys should be provided.</p> <p>Also, provision of a discussion of baseline sediment quality remains outstanding.</p>

Government Reviewers Comments							
Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
						<p>Unnamed Lake #3, Unnamed Pond, Upper Three Duck Lake, Weeduck Lake, West Beaver Pond,</p> <p><b>Water Quality:</b> Bagsverd Creek, Bagsverd Lake, Bagsverd Lake (East Arm), Bagsverd Lake (South Arm), Bagsverd Pond, Chester Lake, Clam Lake, Côté Lake, Delaney Lake, East Beaver Pond, Errington Creek, Little Clam Lake, Lower Three Duck Lake, Mesomikenda, Middle Three Duck Lake, Mollie River, Neville Lake, North Beaver Pond, Schist Lake, Unnamed Lake #1, Unnamed Lake #2, Unnamed Pond, Upper Three Duck Lake, Weeduck Lake,</p> <p><b>Sediment Coring:</b> Bagsverd Lake, Chester Lake, Clam Lake, Delaney Lake, Lower Three Duck Lake, Mesomikenda Lake, Middle Three Duck Lake, Neville Lake, Unnamed Lake #1, Unnamed Lake #2, Unnamed Lake #3, Upper Three Duck Lake, Weeduck Lake,</p> <p><b>Sediment Chemistry/Benthic Invertebrates:</b> Chester Lake, Clam Lake, Weeduck Lake, Upper Three Duck Lake, Middle Three Duck Lake, Lower Three Duck Lake, Unnamed Lake #3, Delaney Lake, Schist Lake, Bagsverd Lake, Bagsverd Lake (South Arm), Unnamed Lake #2, Unname Lake #1, Neville Lake, Bagsverd Creek, Errington Creek, Minnow (Minnow Environmental Inc.). 2017. . Côté 2016 Aquatic Baseline Data Report. Prepared for IAMGOLD Corporation, Gogama, ON. January. Project #167202.0065</p> <p>Year – 2016</p> <p><b>Fish Habitat, Community:</b> Attach Lake, Chain Lake, Upper Chester Lake, Chester Pond, Dividing Lake, Upper Mollie River, Lower</p>	<p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated to reference the reports in Section 4.7 and Section 14.</p> <p>The Closure Plan (Section 4.7) has been updated to include a summary of the baseline results/conclusion.</p> <p>The Closure Plan has been updated to include a discussion of baseline sediment quality.</p>

Government Reviewers Comments							
Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
						<p>Three Duck Pond, Lower Mollie River, Moore Lake, Unnamed Inlet to Moore Lake, Sawpeter Lake (North Complex), Sawpeter Lake, Sawpeter Lake Outlet, Unnamed Lake #3 Outlet, Unnamed Lake #4, Unnamed Lake #5, Unnamed Lake #6, Bagsverd Creek, Unnamed Water Bodies off Bagsverd Creek, Watershed West of West Beaver Pond, Unnamed Water Body #1, Unnamed Water Body #2, Unnamed Water Body #3, Unnamed Water Body #4, Unnamed Water Body #5,</p> <p><b>Water Quality:</b> Moore Lake, Chain Lake, Attach Lake, Upper Chester Lake, Sawpeter Lake, Lower Three Duck Pond, Dividing Lake, Lower Mollie River, Bagsverd Creek</p> <p><b>Water Quality (in situ):</b> Attach Lake, Chain Lake, Chester Pond, Upper Chester Lake, Dividing Lake (Inlet), Dividing Lake, Lower Three Duck Pond, Mollie River (Upstream of Dividing Lake), Mollie River (Downstream of Dividing Lake), Moore Lake, Sawpeter Lake (North Complex), Sawpeter Lake, Sawpeter Lake (South Outlet), Unnamed Lake #3 Outlet, Unnamed Lake #4, Unnamed Lake #5, Unnamed Lake #6, Unnamed Water Bodies Outlet, Bagsverd Creek, Unnamed Water Body #1, Unnamed Water Body #2, Unnamed Water Body #4.</p>	
ENDM-25	ND	(Section 8.6) Monitoring, Maintenance and Rehabilitation of Tailings Impoundment Areas	Information in Section 8.6 indicates that the water management features of the TMF, including spillway and seepage controls, "will continue to be operated as required by the ECA" ... and that "Discharge will be treated, as necessary". These statements appear inconsistent as the ECA would authorize the closed loop system and a discharge from the TMF would not be	<p>Clarification is required.</p> <p>Also, some discussion of how the discharge is intended to be treated should be included as this could impact FA costs.</p>	Yes	<p>As discussed in Section 5.9.6 "Tailings supernatant and runoff will discharge by gravity or seep through the dams and report to the Reclaim Pond. Seepage collection ditches, ponds and pumps will be installed along the TMF perimeters.</p> <p>The reference to the "operated as required by the ECA" refers to the effluent guidelines, monitoring requirements, etc. If required, the</p>	<p>Ok (This is more an ECA issue.)</p> <p><b>PROONENT RESPONSE:</b> N/A</p>

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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
			authorized.			discharge would be treated, or a passive overflow from the reclaim pond to the open pit.	
ENDM-26	ND	(Section 8.6) Monitoring, Maintenance and Rehabilitation of Tailings Impoundment Areas	Another statement is made that the “TMF spillway will be maintained during a state of inactivity and allowed to overflow passively” (to Bagsverd Lake) or “if required by water quality, a passive overflow from the reclaim pond to the open pit will be established”.	Further clarification is required as it is not likely that the ECA will allow a discharge to the environment for a closed loop system.	No	<p>During a state of inactivity the TMF spillway will be maintained and will passively overflow to the reclaim pond (as shown on Figure 5-3).</p> <p>If the water is deemed to be dischargeable per the ECA guidelines it will be allowed to overflow from the Reclaim Pond to Bagsverd Lake passively.</p> <p>If the water is not dischargeable to the environment it will be diverted to the open pit. (by gravity, given the elevation drop).</p> <p>There is an allowance in the FA for contingency, for example water may be directed to the open pit if water quality did not meet discharge criteria to the natural environment....Item 4500 in Table 12-1 include provisions for decommissioning the Reclaim Pond, and contingency.</p>	<p>Ok</p> <p>For clarity, the information provided in the proponent’s next two responses should be included in the CP (Section 8.6)</p> <p>Noted</p> <p><b>PROPONENT RESPONSE:</b> Comment noted. This information is already presented in the closure plan in the section referenced in the responses below.</p>
ENDM-27	ND	(Section 8.10) Stabilization of Tailings, Water and Impoundment Structures	Information in Section 8.10 indicates that the “TMF pond, polishing pond and the reclaim pond will have emergency overflow spillways for discharge volumes exceeding design capacity ... The TMF pond and reclaim pond would discharge to Bagsverd Lake and the polishing pond would discharge to Three Duck Lake (Upper)”. From this statement, it is unclear whether seepage collection from the stockpiles (i.e., mine rock, ore, overburden and TMF) is proposed to continue to be pumped to the Minewater Pond and	Clarification is required.	No	As discussed in Section 8.9 “Runoff and seepage, if any, will be collected in their respective seepage collection ponds. Water quality will be monitored in the seepage collection ponds. Seepage collection ponds may discharge to the environment, if water quality meets discharge criteria”.	<p>This statement in Section 8.10 should be expanded to indicate where this water would go if it does not meet discharge criteria.</p> <p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The following clarification has been made in Section 8.10:</p>

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			treated in the polishing pond prior to discharge.							<p>"If the water quality of the seepage collection ponds is not deemed suitable for direct discharge to the environment, pumping of this water into the mine water pond (and then pit) would continue. Water would be pumped to the pit directly, if required, once the mine water pond has been decommissioned.</p>
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Government Reviewers Comments							
Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
ENDM-28	ND	(Section 9.4) Stabilization of Surface and Subsurface Mine Workings	According to information in Section 9.4.1 (Open Pit), active filling of the pits has been predicted to take 25–30 years.	Models used to predict pit filling should be referenced in this section and supporting documents/reports should be include as appendices to the CP.	No	Pit inflows are summarized in the Surface Water Hydrology Modelling Report (Golder 2018). This report has been appended to the Closure Plan.	For clarity, the information provided in the proponent's response should be included in the CP (Section 9.4) and the appendix (D) should be identified.  <b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The information provided in the original response has been included Section 9.4
ENDM-29	ND	(Section 9.4) Stabilization of Surface and Subsurface Mine Workings	Information in Section 9.4.1 also indicates that "Issues with regards to the chemistry of the flooded open pit water are not anticipated ... However, a contingency for treatment will be provided if pit lake water quality is not as predicted".	The proposed contingency for treatment requires further description, as well as discussion of what water quality triggers are being proposed for initiation of treatment.	yes	Once the open pit is flooded and starts discharging to the surface water receiver, it is expected that the outflow will meet water quality guidelines (PWQOs and CWQGs). As a contingency measure, IAMGOLD is committed to treating surface water outflow from the open pit, if required. Water quality monitoring will be ongoing during operations and closure, and contingency water treatment options would be evaluated based on an adaptive management approach; that is, treatment needs would be based on water quality data collected during the operations phase and during the 30 years (approx.) when the pit is flooding.  If treatment is required the FA would be updated accordingly in the Closure Plan Amendment (CPA) process.	The information provided in the proponent's response should be included in the CP (Section 9.4) for clarity regarding how the need for treatment will be considered.  As closure approaches, a contingency plan for treatment will need to be developed with appropriate water quality triggers.  Noted.  <b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The information provided in the original response has been included in Section

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							9.4.
ENDM-30	ND	(Section 9.4) Stabilization of Surface and Subsurface Mine Workings	A statement is made in Section 9.4.1 that the “watercourse re-alignment channels will be left in place for as long as required, which will ensure flows could bypass the open pit and continue to Three Duck Lake (Upper)”.	Further explanation is needed as the origin of this flow which would bypass the pit.	No	As stated earlier in Section 9, “Issues with regards to the chemistry of the flooded open pit water are not anticipated. However, a contingency for treatment will be provided if pit lake water quality is not as predicted.” In this event, the channel realignment system could be maintained as a contingency, thus avoiding the potential need to discharge pit lake water not meeting criteria. In other words, there is flexibility in terms of how the Mollie River system can be managed so to ensure continued ecological integrity.	The information provided in the latter part of the proponent’s response should be included in the CP (Section 9.4) for clarity.  <b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The information provided in the original response has been included in Section 9.4
ENDM-31	ND	(Section 9.13) Stabilization of	Information in this section indicates that “During initial closure TMF runoff will	The proposed method of transferring water from	yes	The FA assumes pumping. Siphoning or Gravity drainage would be operational	Ok  <b>PROPONENT RESPONSE:</b> N/A

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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
		Tailings	continue to report to the reclaim pond” and “Excess water during this period is expected to be directed to the open pit to enhance flooding by <u>siphoning or gravity drainage</u> ”. These statements appear contradictory to information which later states that “If the water quality is deemed suitable for discharge to the environment, <u>pumping</u> from the reclaim pond to the pit would cease”.	the reclaim pond to the open pit during active closure requires clarification.		enhancements, however for the purpose of the FA pumping has been carried as a conservative approach.	
ENDM-32	ND	(Section 9.13) Stabilization of Tailings	Monitoring of the reclaim pond is proposed to be “ongoing during open pit filling	Indicate frequency and duration of monitoring of the reclaim pond.	No	During the active closure phase monitoring would continue in accordance with ECA requirements.	The information provided in the proponent’s response should be included in the CP (Section 9.13) for clarity.  <b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The information provided in the original response has been included in Section 9.13.
ENDM-33	ND	(Section 9.13) Stabilization of Tailings	Once the reclaim pond dams are breached and the area is vegetated, the CP indicates that runoff would “naturally” drain to Bagsverd Lake.	Additional information is required as to how water is to be conveyed (i.e., construction of a channel?).	Yes	For Closure the spillway to the Reclaim Pond is maintained and the dams can be breached and graded such that water drains towards Bagsverd Lake. This aligns with the natural drainage of the area.	Ok  <b>PROPONENT RESPONSE:</b> N/A
ENDM-34	ND	(Section 9.14.1) Mine Rock Area	Information in this section indicates that “Once the open pit is fully flooded or pumping from the MRA seepage ponds has ceased, the water quality of the MRA seepage ponds will be monitored”. Monitoring of the quality of this seepage should be conducted during filling of the pit to inform decisions about this water quality and proposed contingencies. Also, monitoring at this location is not identified in Section 10.2 of the CP.	Monitoring of the quality of this seepage should be conducted during filling of the pit to inform decisions about this water quality and proposed contingencies.  Identify monitoring at this location in Section 10.2 of the CP.	Yes	During the active closure phase monitoring would continue in accordance with ECA requirements.	Please see further comments provided in ENDM-42. Notwithstanding monitoring programs being conducted under an ECA, Section 47(1) of the Code requires that monitoring locations during all stages of closure include: (1) discharge or seepage

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							<p>exiting on-site sources, (2) discharge or seepage exiting the property boundary, (3) on-site water bodies and water bodies downstream from the site, and (4) background reference sites.</p> <p><b>PROPONENT RESPONSE:</b> See response to ENDM-42. Tables that present lists of the monitoring stations for surface water and groundwater quality are now presented in Section 10.2.</p>
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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
ENDM-35	ND	(Section 9.14.1) Mine Rock Area	<p>Information in this section also states that, should MRA seepage quality not be as predicted, a contingency for treatment will be provided if required".</p> <p>Once the MRA seepage ponds are drained and dams are breached, the "area around the seepage water collection ponds would be revegetated and the water would naturally drain to the environment".</p>	<p>The proposed contingency for treatment requires further description, as well as discussion of what water quality triggers are being proposed for initiation of treatment.</p> <p>The flow path and the receiving water body for this runoff/seepage should be identified.</p>	No	<p>As stated in Section 5.9 "Water around the open pit and MRA will be collected in a series of ponds, sumps and / or ditches and pumped to the mine water Pond or polishing pond for treatment (i.e. sediment control) prior to discharge in to Three Duck Lake (Upper)".</p> <p>As stated in Section 5.9.7.3 "Excess water will be discharged to the environment via the polishing pond to the Three Duck Lake (Upper) discharge location (see Site Plan, Figure 3-3A), in compliance with applicable effluent quality criteria. The polishing pond will provide sufficient retention and holding capacity to allow for water quality levels suitable for discharge in accordance with applicable regulations (MMER SOR/2002 222 and O.Reg. 560/94), and the final effluent concentrations set by the MOECP to protect the receiving water(s).</p> <p>If required, water may be treated prior to release to Three Duck Lake (Upper) by means of an effluent treatment plant, although this is not expected to be needed based on water quality modelling".</p> <p>Flow paths have been added onto Figures 9-1 and 9-2.</p>	<p>Please refer to further comments provided in ENDM-29.</p> <p><b>PROPONENT RESPONSE:</b> N/A (refer to response to ENDM-29)</p>
ENDM-36	ND	(Section 9.14.1) Mine Rock Area	<p>The statement that "If the water quality of the MRA seepage collection ponds is not deemed suitable for direct discharge to the environment, pumping of this water into the pit would continue" is somewhat contradictory to the above statement in point 2 (See Comment ENDM-35) regarding a contingency for treatment of this water.</p>	Clarification is required.	No	<p>The following clarification has been made in Section 9.14.1:</p> <p>"If the water quality of the MRA seepage collection ponds is not deemed suitable for direct discharge to the environment, pumping of this water into the mine water pond would continue. Alternatively the water could be pumped to the pit to accelerate flooding (Table</p>	<p>Section 9.14.1 now contains contradictory statements as the last paragraph indicates that water from the MRA would be pumped to the pit. This statement should be removed for clarity.</p> <p><b>PROPONENT RESPONSE:</b> The Closure Plan has</p>

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								been updated to clarify that water would be pumped to the pit directly, if required, once the mine water pond has been decommissioned
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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
			Also, is it proposed to continue adding this water to the pit once it's flooded?			9-1)".	
ENDM-37	ND	(Section 9.14.2) Medium and Low-Grade Ore Stockpiles	This section states that all stockpiled medium and low-grade ROM ore will be processed during the Operations phase and, thus, rehabilitation of these stockpiles is not expected. Based on ENDM experience at other sites, contingencies should be included in the closure plan for rehabilitation of these stockpiles and continued management of seepage and runoff from these areas.	Provide additional information in the document which details contingencies for rehabilitation of these stockpiles and continued management of seepage and runoff from these areas.	Yes	The Cote Gold Project LOM plan as presented in the recently released Feasibility Study includes processing of this material. As such, it should not be assumed by ENDM that these stockpiles will be abandoned and required additional contingencies. The FA estimate provides over \$1 million to regrade the area prior to placement of the growth medium and an additional \$150,000 in contingency on this amount.  IAMGOLD is of the view that this amount is a sufficient provision for the asset retirement obligation associated to this domain.	Inadequate response.  Please refer to further comments provided in ENDM-53.  <b>PROPONENT RESPONSE:</b> The FA estimate for Phase 1, 2 and 3 assumes there will be ore remaining in the ore stockpile area. The mine plan indicates 4.8 million tonnes at Phase 1 closure, 20.5 million tonnes at end of year 3 and 22.1 million tonnes at the end of year 8. Grading and revegetation are included in the estimate. The cost of excavating a channel through the ore stockpile, (should it remain) is also included.
ENDM-38	ND	(Section 9.14.3) Overburden Stockpile	The dams creating the runoff collection ponds are proposed to be breached and runoff either directed to the open pit to assist with flooding or discharged to the environment.	In the case of discharge to the environment, the flow path and the receiving water body for this runoff/seepage should be identified.	No	Drainage would be per the pre-existing drainage pattern, flow paths have been added onto Figures 9-1 and 9-2.	Ok  <b>PROPONENT RESPONSE:</b> N/A
ENDM-39	ND	Section 9.15 Stabilization of Tailings, Water and Other Impoundment Structures	Some discussion should be provided in Section 9.15 as to proposed rehabilitation of the Mine water pond, as this appears to be missing from the CP.  The direction of site drainage and	Details required in document.	Yes	The mine water pond is shown on Figure 3-3B. The cost to close and fill the pond is shown under code 4300 on Table 12-4 and revegetation of this area is then included with code 2100.  The following text will be included within section 9.15 of the Closure Plan:	Ok  <b>PROPONENT RESPONSE:</b> N/A



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			surface water flow should be identified with arrows on Figures 9-1 and 9-2.			"water will be pumped from the mine water pond to the pit and the liner will be removed and disposed. The area will be graded as part of the plant site rehabilitation".	
ENDM-40	ND	(Section 9.15.1) Polishing Pond	Information in this section of the CP indicates that the polishing pond area	Additional details should be provided as to	yes	The polishing pond area will be regraded and vegetated to prevent erosion and promote the	

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			will be contoured, vegetated and allowed to flood to the level of the Three Duck Lake (Upper) and be connected to the lake by breaching of the east dam. Once the pit is flooded, the dam on the west side of the polishing pond will be removed and drainage from the pit lake will flow through the former polishing pond towards Three Duck Lake (Upper).	whether a channel is proposed to be developed from the pit, how erosion will be controlled etc.		re-establishment of baseline habitat in the area. Re-grading will include promoting natural flooding of the area, reconnecting the flooded open pit to flow in to Three Duck Lake (Upper). This aligns with the natural drainage of the area.  The outlet channel/elevation is discussed in Section 9.4.1. The channel is shown on Figure 9-2.  Sediment and erosion control measures will be identified as the Project progressed and detailed engineering is complete.  Section 8.4 also states "Pit Overflow will be via a constructed channel between the ore stockpiles to the polishing pond".	The last statement in the proponent's response should be added to Section 9.15.1 for clarity.  <b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The information provided in the original response has been included in Section 9.15.2.
ENDM-41	ND	Monitoring (Section 10.0)	Section 10.0 indicates that a written report detailing the results of physical, chemical and biological monitoring will be submitted to the director of ENDM on an annual basis "according to the procedures described in O.Reg. 560/94".	These procedures should be described as this is not ENDM legislation. Further a commitment should be included in the CP that chemical stability monitoring reports will comprise data summaries, interpretation of the data and analysis of trends in water quality, supported by historical data and time-series graphs.	No	Annual routine reviews of monitoring data will be conducted to consider new regulatory requirements and program relevance and or revisions. Data sets will be screened against applicable regulatory objectives and historical data for comparison/rationalization purposes.  The following commitment has been included in Section 10:  "Chemical stability monitoring reports will comprise data summaries, interpretation of the data and analysis of trends in water quality, supported by historical data and time-series graphs".	Ok  <b>PROPONENT RESPONSE:</b> N/A
ENDM-42	ND	(Section 10.2) Chemical Stability Monitoring	Proposed effluent and surface water monitoring programs to be conducted during the stages of closure lack sufficient detail, particularly during State of Inactivity (Section 10.2.2) and Permanent Closure (Section 10.2.3) when changes to water management	A list of proposed monitoring stations should be provided for the various stages of closure which clearly identifies the location, relationship and purpose of each station,	yes	Monitoring stations are shown on Figures 10-1 and 10-2. The post-closure monitoring locations are a subset of the operating monitoring locations. These locations are generally applicable to all stages of closure, however monitoring locations will be modified to account for the cessation of pumping during	Inadequate response. Details regarding proposed monitoring programs are still unclear and this Section, as currently presented, does not meet the requirements of O. Reg. 240/00.

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			<p>systems are proposed.</p> <p>In accordance with Schedule 2, item 10(ii) of O. Reg. 240/00 this section of the CP should provide:</p> <p><i>details of the monitoring programs and procedures in accordance with the Code to ensure that the chemical stability of tailings, waste rock, ore stockpiles, concentrate stockpiles, overburden and other stockpiles, and surface and subsurface effluents provide the level of protection required for each stage of closure, including the locations, methods and frequency of sampling, the parameters to be analyzed, the analytical methods to be used and how the results of the monitoring will be recorded and reported to the Director.</i></p>	<p>as well as a detailed description. Analytical parameters and the proposed monitoring frequency for each location should also be clearly identified.</p> <p>Monitoring programs should be developed in accordance with Section 47(1) of the Code, which requires that monitoring locations during all stages of closure include: (1) <u>discharge or seepage exiting on-site sources.</u> (2) <u>discharge or seepage exiting the property boundary.</u> (3) <u>on-site water bodies and water bodies downstream from the site.</u> and (4) <u>background reference sites.</u></p>		<p>a state of inactivity. Locations will be reviewed once the ECA has been finalized and will be updated in the next Closure Plan Amendment (CPA).</p> <p>The closure plan has been updated to include the parameters and sampling frequencies (referenced in Section 10.2.1) in Section 10.2.2 and Section 10.2.3.</p>	<p>It is reiterated that proposed monitoring stations for the various stages of closure should be <u>listed</u> and described in terms of their purpose. Simply identifying them on a figure is not adequate.</p> <p>Further, notwithstanding monitoring programs being conducted under an ECA, Section 47(1) of the Code requires that monitoring locations during all stages of closure include: (1) discharge or seepage exiting on-site sources, (2) discharge or seepage exiting the property boundary, (3) on-site water bodies and water bodies downstream from the site, and (4) background reference sites. Details of proposed monitoring locations need to be provided to support that this requirement will be met during closure.</p> <p>Also, it is reiterated that details of proposed surface water monitoring programs, including the locations, methods and frequency of sampling, the parameters to be analyzed etc. are</p>

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							<p>required to be presented in this Section of the CP in accordance with Schedule 2, item 10(ii) of O. Reg. 240/00.</p> <p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. Tables have been included in Section 10.2 that list the surface water and groundwater quality monitoring locations, and provide details on the purpose of each station – these stations will be monitored during all stages of closure. The frequency of sampling is discussed in the text..</p>
ENDM-43	ND	(Section 10.2.1) Temporary Suspension	<p>Proposed surface quality water monitoring during temporary suspension comprises “quality of the discharge to Three Duck Lake (Upper) ... in accordance with the ECA and other applicable regulations” as well as monthly sampling for the parameters indicated in Part 5 of the Code.</p>	<p>This section should be revised to indicate that surface water quality will be monitored in accordance with the ECA, which is likely to include other surface water stations in addition to the polishing pond discharge.</p> <p>A proposed monitoring program which includes surface water stations should be provided in this section of the CP which</p>	No	<p>We acknowledge the comment from ENDM, however, the need for this revision is unclear as the text clearly states ... “the mine facilities will continue to operate in accordance with ECA requirements”.</p> <p>The monitoring locations shown on Figures 10-1 and 10-2 would apply to this closure phase.</p>	<p>Operating as per the ECA is not synonymous with monitoring as per the ECA. Clarification should be provided.</p> <p>Please see further comments provided above in ENDM-42.</p> <p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. Text in Section 10.2.1 has been edited to state that “...the mine facilities will continue to operate in accordance with ECA requirements, including continuing to carry out the monitoring commitments. Furthermore, please see response to ENDM-42 that addresses the monitoring locations that will be sampled during all stages of closure,</p>

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							including Temporary Suspension.
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				can be revised in future CPs once an ECA is issued.			
ENDM-44	ND	(Section 10.2.2) State of Inactivity	This section states that monitoring will be the same as for Temporary Suspension; however, this is unclear as many changes to water management systems are proposed during a State of Inactivity.	As discussed above significantly more detail is required to describe proposed monitoring programs and when they will be initiated.	No	Please see response to ENDM-42.	Please see further comments provided in ENDM-42.  <b>PROPONENT RESPONSE:</b> N/A (refer to response to ENDM-42).
ENDM-45	ND	(Section 10.2.3) Permanent Closure	Information in this section indicates that post-closure monitoring of the TMF overflow will be completed on a weekly basis for the first year of discharge through the spillway to Bagsverd Lake and quarterly thereafter until two years after revegetation is complete. Information in section 9.13 indicates that routine monitoring of the reclaim pond is proposed to be "ongoing during open pit filling". This should be included in the proposed monitoring program.  Also, a monitoring location at the discharge from the open pit should be identified on Figure 10-1.	Include information in monitoring program and identify monitoring location on Figure 10-1	No	The monitoring program presented in Section 10 is for the post-closure phase. Monitoring during active closure (which includes the filling of the open pit) would continue as per ECA requirements.  Water quality monitoring locations will be reviewed/verified following completion of the ECA process. A station at the outlet of the open pit will be considered for future Closure Plan amendments.	Please see further comments provided in ENDM-42.  <b>PROPONENT RESPONSE:</b> N/A (refer to response to ENDM-42).
ENDM-46	ND	(Section 10.3) Biological Monitoring	Only monitoring of revegetation efforts is currently included in this section of the CP. In accordance with Schedule 2, item 10(iii) of O. Reg. 240/00 this section of the CP should provide:  <i>details of any biological monitoring programs and procedures to assess the effects of the project on any biological communities. These details shall include the locations, nature, methods and frequency of monitoring, the biological communities to be monitored and how the results of the monitoring will be recorded and</i>	Commitments to undertake this work should be included in this Section of the closure plan with details regarding proposed monitoring programs.	Yes	The following information will be include in Section 10.3:  A monitoring program was developed for the Aquatic Biology component of the EA based to the mine plan through construction, operations and the two phases of post-closure. The monitoring plan addressed the potential impacts to the aquatic environment identified within the Environmental Assessment. While the footprint of the optimized mine plan and the associated effects are less than those associated with the EA, monitoring of the aquatic environment will continue to be required to demonstrate that conditions within	Lots of detail has been provided but it appears to be associated with operations. Clarification should be provided as to whether these biological monitoring programs are proposed to continue at closure and at what frequency.  <b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. Additional information on closure monitoring has been

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						included in Section 10.3.
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			<p><i>reported to the Director.</i></p> <p>Aquatic surveys will be required during operation and post-closure to assess effects on aquatic biota and the success of rehabilitation efforts. These surveys should include water and sediment quality, benthic and fish community, and fish habitat. Presumably these assessments would also be required as part of the compensatory fish habitat and offset agreements associated with channel realignments.</p>			<p>the aquatic habitats are consistent with predictions. Monitoring will be required by DFO and Environment and Climate Change Canada (ECCC) as a conditions of the approved offsetting plan under Sections 35 and 36 (Schedule 2 amendment) of the <i>Fisheries Act</i>. However, this monitoring is not included in the recommended monitoring described herein.</p> <p>During operations the mine will be required to undertake monitoring for a number of permits and approvals as well as monitoring required under the Metal and Diamond Mining Effluent Regulations (MDMER). These monitoring requirements should be addressed through a single comprehensive monitoring program undertaken during operations. This program will be reviewed at regular intervals and will be modified to reflect conditions in the aquatic environment and/or changes in mine operations (i.e., a change in ore characteristics can cause changes in effluent chemistry).</p> <p>The operational monitoring program will include:</p> <ul style="list-style-type: none"> <li>• A receiving water quality monitoring program will be implemented. The scope of this program will be reviewed to ensure: <ul style="list-style-type: none"> <li>○ Sampling locations are representative of potential mine related sources.</li> <li>○ Reference locations are included that are representative of similar habitat conditions to mine-exposed locations (i.e., flow, depth, watershed area) but are upstream of potential mine influence.</li> </ul> </li> </ul>	

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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
						<ul style="list-style-type: none"> <li>○ Monitoring frequencies are adequate to detect change.</li> <li>○ The analytes monitored represent expected mine related substances as well as total and methyl mercury and measures to support the interpretation (i.e., hardness, DOC, alkalinity, pH).</li> <li>○ Method detection limits should be well below applicable guidelines for fish and aquatic life and method detection limits for total phosphorus and zinc should be reviewed.</li> <li>• A sediment monitoring program should be implemented every three years, consistent with the national Environmental Effects Monitoring (EEM) program requirements under MMER. Sediment should be collected in all lakes and streams downstream of mine source loadings (including drainage, direct discharge and groundwater seepage). Sediment samples should be collected concurrent with benthic invertebrate samples to allow for assessment of the benthic community relative to sediment conditions. Sediment core samples (top 1 cm) should be collected in the deepest location in key lakes downstream of mine discharges (Chester Lake, Upper Three Duck Lake, Middle Three Duck Lake Lower Three Duck Lake and Bagsverd Lake). Sediment samples should be analyzed for TOC, grain size<sup>1</sup>, nutrients (TKN, total phosphorus), mercury (total and methyl) and metals</li> </ul>	

<sup>1</sup> Grain sized should not be analyzed in the sediment core.

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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
						<p>(full ICP-MS scan).</p> <ul style="list-style-type: none"> <li>• A benthic invertebrate monitoring program should be implemented every three years, consistent with EEM. The program should focus on lakes and streams receiving mine discharges, and should incorporate reference lakes and streams as well. Five stations should be located in each mine-exposed area and multiple reference locations should be sampled if comparable habitats can be found. Sampling stations should be located in depositional areas with care taken to locate stations above the thermocline and in areas of comparable habitat conditions (i.e., depth, substrate, flow, stream gradient).</li> <li>• Fish monitoring should focus on the functioning of created fish habitat and on fish health downstream of mine sources (e.g., effluent discharge). <ul style="list-style-type: none"> <li>○ The constructed habitat and habitat compensation/offsetting areas should be assessed annually for the first three years and then every three years until conditions can be demonstrated to be stable.</li> <li>○ Fish tissue monitoring for mercury should also be conducted on all lakes where water levels are going to increase as a result of watercourse realignments.</li> </ul> </li> <li>• Fish health monitoring should be conducted every three years in accordance with the EEM, following standard EEM guidance (EC 2011).</li> <li>• Routine inspection of fish screens on water intake structures.</li> </ul>	

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						Table 1 (provided below – see supporting information for ENDM-46) provides the monitoring measures applicable to the EER and indicates if the scope of the monitoring requirements that have changed or stayed the same from the EA. Instances where monitoring is no longer applicable have been identified and similarly where additional monitoring is required has also been identified.	
ENDM-47	ND	(Section 11.3) Local Surface Waters and Receiving Waters	<p>Information in the CP (Section 5.11.3) indicates that “Water quality expected to meet background conditions or PWQO guidelines during the passive Closure phase”. Information in Section 11.3 states that “For closure (Stage II), the water quality modelling predictions for the watersheds suggest that the monthly average concentrations of all parameters are expected to be less than the Water Quality Guidelines at all locations in the surface water receiving environment”.</p> <p>This section of the CP requires additional clarity regarding how the requirements of Section 38(2) of the Code will be met at closure. Surface water quality (including drainages) from a closed out site are required to meet either PWQOs or background conditions in cases where the proponent: (i) establishes that it is not practicable to meet PWQOs and (ii) demonstrates scientifically what background water quality conditions are. If water quality objectives are to be based on background conditions rather than PWQOs for specific parameters, then numeric values must be scientifically established based on sufficient monitoring data and should consider all contaminants of concern.</p>	<p>Clarification is required as to what “Water Quality Guidelines” are being referenced, and how they are proposed to be met in light that information presented in Section 4.4.2 regarding baseline surface water quality indicated that “Concentrations of total phosphorous, iron, zinc, copper and dissolved aluminum occasionally or consistently exceeds regulatory guidelines (i.e., PWQO and CWQG)”.</p> <p>This section of the CP requires additional clarity regarding how the requirements of Section 38(2) of the Code will be met at closure.</p> <p>To support statements made regarding water quality predictions, detailed information relating to water quality</p>	No	<p>For the purposes of the EA and EER, a single set of “Water Quality Guidelines” were developed for the purposes of the water quality effect assessment. The Water Quality Guidelines are a compilation of the most recent of the PWQOs and CWQGs for each parameter, and for parameters where a guideline value does not exist, the British Columbia Water Quality Guidelines (BCWQGs) were considered.</p> <p>The text in the CP regarding surface water baseline “<i>Concentrations of total phosphorous, iron, zinc, copper and dissolved aluminum occasionally or consistently exceeds regulatory guidelines (i.e., PWQO and CWQG)</i>” is admittedly vague and can be easily taken out of context. As indicated in response to ENDM-23, additional context regarding comparisons to PWQOs and CWQGs has been provided in Section 4.4.2.</p> <p>The report on the water quality modelling and effects predictions (Golder, 2018b) has been appended to the Closure Plan.</p>	<p>No changes have been made to this Section of the CP.</p> <p>The information in the proponent’s response regarding the origin of established “Water Quality Guidelines” should be added to Section 11.3 for clarity. Also, specific numeric guidelines which were established through the EA/EER should be listed. Confirmation should be provided that the requirements of Section 38(2) of the Code will be met at closure.</p> <p>The discussion of water quality at closure is limited to receiving waters. Predictions regarding the quality of site drainages/seepage should also be discussed.</p> <p>The report (Golder, 2018b) should be referenced in Section 11.3 and a short</p>

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			<p>Also, as per MECP protocols, assessment of surface water quality should be based on 75th percentile concentrations rather than averages. The quality of effluent discharges and drainages should be evaluated based on 95th percentile concentrations.</p>	<p>models used should be included in the CP and referenced in this section. Predicted water quality for parameters of potential concern should also be summarized in this section of the CP.</p>			<p>discussion of the models and inputs used should be provided.</p> <p><b>PROPONENT RESPONSE:</b>  The Closure Plan has been updated. A discussion on the origin of the Water Quality Guidelines and how this set of criteria were derived has been provided in Section 11.3. The specific numeric Water Quality Guidelines can be found in the report on the water quality modelling and effects predictions (Golder, 2018b), which has been appended to the Closure Plan.</p> <p>See response to MNRF-1 for information on how requirements of Section 38(2) of the Code will be met at closure, including potential mitigation measures, as needed.</p> <p>The report on the water quality modelling and effects predictions (Golder, 2018b) is referenced in Section 11.3; please see this document for a discussion of the model and inputs.</p>
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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
ENDM-48	RP	Section 4.5 Ground water	<p>Section 4.5.3 Ground water quality- indicates that groundwater sampling occurred in 2012 in 37 locations. No other data appears to have been considered.</p> <p>Section 4.5.1 Ground water well installation- indicates that, in 2016, an additional 16 boreholes were advanced and completed with monitoring wells within the footprint of the TMF. There appears to be no discussion of groundwater baseline chemistry associated with the groundwater wells installed in the TMF footprint.</p> <p>It is very hard to justify the establishment of a baseline groundwater condition on three rounds of sampling conducted in a single year. Time series data which are critical to separating development related impacts from seasonal and/or other long term trends has not been presented. It is disappointing that, since groundwater wells were established in the area of the TMF that this work was not tied in to the existing data and a more comprehensive picture of the groundwater chemistry developed. From a compliance perspective, it will be difficult for ENDM to determine if the TMF is having an impact on groundwater chemistry in the apparent absence baseline data.</p> <p>Section 4.5.4 Groundwater Quality provides a rather brief summary of the water chemistry based only on the 2012 sampling results. Interestingly, there appears to be “a small number of samples” which “showed exceedances</p>	<p>1. Develop a site groundwater monitoring plan with specific locations, frequency and analytical parameters for consideration by ENDM to ensure that appropriate trend analyses can be presented and firm conclusions drawn as to the nature and significance of groundwater impacts going forward. This monitoring plan should include provisions for additional pre-development monitoring, monitoring during operations and monitoring for all stages of closure.</p> <p>2. Further expand the consideration and discussion of groundwater chemistry to include the potential for historic or legacy issues related to previous mining</p>	yes	<p>Proposed groundwater monitoring stations are presented in Figure 10-2. These include locations for water quality monitoring while other locations will only be monitored for groundwater elevations. Prior to and during operations, groundwater quality and water levels at these locations will be monitored 3 times annually. Proposed GW monitoring locations for the Project have been appended to the Closure Plan (and will be confirmed during the ECA process).</p> <p>Cyanide was only detected at very few monitoring well locations and only during one monitoring event – prior and follow-up sampling rounds showed cyanide concentrations below the method detection limits. Similarly, un-ionized ammonia was detectable at a single monitoring well for one event. As such, these occurrences are currently interpreted to be anomalous, due to either laboratory or sampling error. Groundwater sampling continues going at the project site and concentrations of cyanide and un-ionized ammonia will be measured along with other parameters. Edits have been provided in Section 4.5.4 to clarify.</p> <p>The baseline groundwater quality data does not infer that there are historic or legacy issues, and therefore a discussion on such is not warranted.</p> <p>#3 – Please see response to ENDM -8.</p>	<p>Inadequate response. The groundwater monitoring program needs to be described in more detail to make further assessment.</p> <p>The proponent has not presented sufficient information to support their position that the elevated ammonia and cyanide are anomalous, nor is there sufficient information to support establishment of baseline conditions and the locations of these exceedances has not been provided. With only one year of sampling, it is premature to conclude that this is representative of a baseline condition.</p> <p>ECA approvals are unlikely to include monitoring for the MRA. Figure 10-2 shows that there is only one GW well to be monitored which is located between the MRA and Lower Three Duck Lake. This is inadequate for a mine hazard that extends almost 2km parallel to and only ~25 from the shoreline of the nearest surface water body.</p> <p>The map showing</p>



			<p>for free cyanide and un-ionized ammonia. These locations are not clearly identified in the site plans or in the appendices and they cannot be evaluated in a spatial sense with each other or to former mining activities.</p> <p>The narrative continues with the conclusion that “all elevated parameter concentrations detected during baseline monitoring for surface and groundwater represent background conditions”.</p> <p>It is rare to have naturally-generated cyanide in groundwater and that, in conjunction with the reported elevated un-ionized ammonia concentrations co-located with the elevated cyanide, suggest that groundwater may have been impacted by the historical mining and milling activities noted in Section 4.8.1 Mine History. It is appreciated that records of these activities have not been easy to locate, however, the potential for un-quantified risks to groundwater due to legacy mine hazard on the site should be more clearly explored and defined. This calls into question the conclusion presented in Section 4.8.3 Current Contamination. There may indeed be contamination on the site due to legacy mine hazards and it may be premature, given the current level of understanding of the groundwater chemistry as presented in the Closure Plan and appendices, to conclude that “there is no known contamination on site.”</p>	<p>activities on the site and consider the location of the elevated cyanide and un-ionized ammonia in the context of topography, groundwater flow patterns and historic mining/milling activities</p> <p>3. It is noted that the ore stockpile will be situated over the former Young Shannon shaft and cap. Provide an engineering assessment of the stability of the crown pillar and the shaft cap under loaded conditions generated by the ore stockpile.</p>			<p>borehole and monitoring well locations included with the Golder report in Figure 5b in Appendix E (labelled “draft”) shows additional monitoring wells, were installed, but it appears that these wells were not sampled. It is unclear why these have not been included in the monitoring program. It is also unclear why significant components of this CP are still in “draft”.</p> <p><b>PROPOSER RESPONSE:</b> The Closure plan has been updated (Section 4.5.4) to clarify that no previous milling activities have occurred at the Site, and as such, elevated concentrations of cyanide and ammonia would not be expected. The elevated cyanide and ammonia were only observed during one monitoring event. As described below, further groundwater monitoring will be re-instated in 2019, and sampling parameters will include cyanide and ammonia.</p> <p>Several new monitoring wells have been installed at the Site in the past two years, and an updated groundwater monitoring program is being initiated in 2019 as further described in Section 10.2. Given the project timelines, additional baseline groundwater quality results will be obtained prior to the</p>
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										deposition of tailings and waste rock. This data, in conjunction with the previously obtained groundwater quality will form the basis of establishing baseline conditions and will be used to confirm whether the cyanide and ammonia concentrations observed during the one sampling event are anomalous or whether additional investigation is warranted.
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ENDM-49	RP	Section 5.1 Project Summary	This section indicates that the waste rock piles will have a final slope of 2.6H:1V.	Provide an engineering opinion that this slope will be stable through all the stages of closure.	No	A stability analysis of the mine rock area was conducted during the feasibility study and determined that a slope of 2.6H:1V is adequate for long term stability of the MRA.	<p>Inadequate. Where is the supporting information for stable side slopes – this needs to be included with the CP and considered in the context of the proposed closure measures for the WR pile as it has a bearing on the long term physical and chemical stability of the WRA</p> <p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated to include a reference to the stability analysis in Section 5.1 and the report has been appended to the Closure Plan. (This new appendix is Appendix H).</p>
ENDM-50	RP	Section 5.2.3.4	The presentation of the data (Appendix E) in the graphs with multiple cells presented on a graph for single parameter on a log-normal scale makes it difficult to determine if the	The data should be presented as clear time series graphs for each cell	No	Requested changes to the graphs have been made (and provided below – see supporting information for ENDM-50) and have been appended to the Closure Plan. Increases in laboratory MDLs over time for some elements have now also been identified for clarity. The following paragraph will also be added to the closure plan for clarity:	<p>There is no trend analysis.</p> <p><b>PROPONENT RESPONSE:</b> A trend line has been added to plots where applicable (those with sufficient data above MDL). Revised plots have been incorporated</p>

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		Field Cell Data	described decreasing trends for some metals do in fact exist. There is little to no narrative or discussion of these data.	and a statistically valid trend analysis included with the discussion.		<p>"In general, field cells reported low concentrations of measured parameters, the majority of which decreased throughout testing. Low and decreasing sulphate concentrations indicate low rates of sulphide oxidation which corresponds to the observed low and decreasing metals concentrations. Based on the field cell data collected between 2013 and 2017 and static testing data collected for the EA (shake flask extraction),</p>	into Appendix I-2. (formerly Appendix H-2)
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						mine rock is expected to have a generally low potential for neutral metal leaching (Appendix E). Uranium concentrations in some field cells were above the interim PWQO	
ENDM-51	RP	Section 5.2.3.4 Field Cell Data	It does not appear that the proponent has presented any bench or field scale trials on tailings material.	While it is appreciated that the proponent is not in operations and that tailings samples are limited to that material produced during test milling, the proponent should commit to development of field scale trials for determining the leachate chemistry of the tailings.	No	Bench scale tailings testing was completed for the EA and was referenced in the Closure Plan. These geochemical studies completed for the EA have been appended to the Closure Plan for completeness. Static testing as well as kinetic testing in the form of bench scale ageing tests and humidity cells confirmed a low potential for ARD and generally low concern from metal leaching for the tailings. Ageing test results met O.Reg 560/94. Al, Cu, Co and Mo were above PWQO screening values, but all except Mo exhibited declining concentrations over the 60 day tests. Geochemical assessment is an on-going process and confirmatory monitoring of initial tailings production is appropriate to ensure conformity with bench scale testing.	Insufficient response. Tailings need to be characterized over the life of mine to ensure that the assumptions made regarding geochemical characteristics at the planning stages are valid throughout the life of mine. There could be closure and/or post closure implications if these characteristics are not monitored over the LoM.  <b>PROPONENT RESPONSE:</b> To clarify, further on-going static geochemical testing of tailings will be completed over the life of mine. Monthly sampling of end-spill tailings for the first year and then quarterly sampling on an annual basis is proposed.
ENDM-52	RP	Section 5.2.3.5 Summary of Waste Rock Characterization	Table 5-2 indicates that up to 6% of the waste rock has a Neutralization Potential Ratio less than 2, thereby classifying the material as Potentially Acid Generating (PAG). The CP includes a draft "Mine Rock Adaptive Management Proposal" in draft as Appendix F.	Provide more details on the Metal Leaching and Acid Rock Drainage characterization and proposed management/mitigation of these materials to support the closure plan:  Trend analyses must be performed on the field cell data and a consistent	Yes	The geochemical studies conducted for the EA and referenced in the Closure Plan directly addressed these concerns. These studies have been appended to the Closure Plan for completeness.  1. Please see response to	In Section 5.2.3.5, the proponent indicates that "additional testing and block model refinement will be used to update the Mine Rock Management as needed". In order to meet this commitment in the CP, an ARD block model is required.

			<p>There is always a concern that PAG material will be encountered and placed in the waste rock pile at a location and in conditions where the neutralization capacity of the Non-Potentially Acid Generating material could be overwhelmed. It is therefore important to have all rock materials characterized and a detailed block model constructed in advance of mining. This combined with field testing/confirmation can ensure that appropriate decisions are made during operations to ensure that this does not occur.</p> <p>The proponent proposes to use Leco C and S1 analysis as a proxy to estimate NP and MPA. The Leco analyses are fast and relatively inexpensive. However, the CP and appendices do not appear to provide any information on the relationship between total carbon and NPR or total sulphur and MPA. It is very important to understand these relationships before using the Leco surrogate method, especially when iron carbonates are present (as noted in this section of the CP</p> <p>The Mine Rock Adaptive Management Plan included as Appendix F is a draft and has not been implemented. It is critical to ensure that the physical and spatial location of PAG materials is defined prior to operations to assist with management of the material. The draft Proposal indicates that PAG material has “no geological basis” and that planning for segregation was not considered feasible”. The studies to support these statements (or equivalent technical justification) needs to be presented in the CP</p>	<p>monitoring program developed going forward.</p> <p>Develop and implement a characterization program for the mine tailings.</p> <p>Provide a more detailed description of the physical and spatial relationships between the rock units as well as the spatial relationships between PAG and NPAG materials in the CP. This can be performed by developing and presented a block model based on the geochemistry and geological units. The information will assist the proponent in handling PAG materials by determining when they will be encountered in the mining sequence and help determine where best to place them in the waste rock pile so as to avoid the onset of acid generating conditions. It is noted that the draft proposal cites a Geochemical Characterization Report – this should be appended to the CP in support of the statements regarding the geochemical characterization of the waste rock and the draft proposal.</p> <p>Waste rock management is presented only as a draft proposal. This aspect will need to be refined and finalized before filing the CP so that the measures described therein are in place prior to production.</p>		<p>ENDM-50</p> <ol style="list-style-type: none"> <li>2. Please see response to ENDM-51</li> <li>3. Previous studies have identified the low content of PAG waste rock materials as noted by ENDM as well as a large excess of NP to AP overall in geochemical testing. The risk of ARD due to localized content of PAG as suggested by ENDM is low; however,</li> </ol>	<p>The geological model for the Open Pit identifies that there are some clusters of PAG material, but the narrative does not substantially describe when these areas will be encountered in the mining sequence and what measures will be put in place to ensure sufficient blending of PAG and NPAG material. It is much easier to plan and deal with this as an operational issue than be faced with a problem post-closure.</p> <p>The proponent has not committed to finalizing the waste rock management proposal. This must be finalized to the satisfaction of ENDM before filing the CP and executing the program.</p> <p>Additionally, while the proponent proposes to use LECO total carbon and total Sulphur as surrogates for ABA accounting procedures, they need to present the work performed to establish the relationship between total carbon and carbonate and the relationship between total Sulphur and sulphide in order to do so</p> <p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The Closure Plan includes discussion of a block model however this refers to mine resource planning and geological model development for the project. To avoid confusion</p>
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							<p>this text has been revised for clarity.</p> <p>Text within Section 5.2.3.5 has revised as follows:</p> <p>“A mine rock management plan including adaptive management considerations is appended. Results of additional testing and geological interpretation and observation during Life of Mine will be used to update Mine Rock Management as needed.</p> <p>The final sentence of this paragraph has been replaced by:</p> <p>“Mine rock will be adaptively managed and may include ARD spatial assessments, geological observation, ABA screening for verification, analysis of blast hole cuttings and covering and / or submerging identified ML / PAG rock. Provisions will be made to track any PAG rock placed in the MRA to avoid co-locating isolated occurrences of PAG rock should they be encountered.”</p> <p>Updates to the Mine Rock Management Plan have also been made to address the above comments and the plan is being finalized for acceptance by MNDM.</p> <p>The revised plan includes the following additions:</p> <p>1) A discussion on suitability of Leco C and S for proxy analysis of NP and AP, and</p>
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								2) A commitment to not co-locate isolated occurrences of PAG rock within the MRA.
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Government Reviewers Comments							
Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
			<p>If indeed the distribution of PAG rock is random, care must be taken to identify the locations of this material so that it can be distributed in the waste rock pile in a manner that will not allow development of acidic conditions that could locally overwhelm the capacity of NPAG material to neutralize it.</p>			<p>the "Mine Rock Adaptive Management Proposal" attached to the Closure Plan is a commitment to further assess this risk at a high level of detail. This assessment can consider the current geological model for the Open Pit; however, considering the low content of PAG material and identified excess of NP overall an ARD block model is not appropriate for this project.</p> <p>4. The continuity assessment as described in the Mine Rock Adaptive Management Proposal is planned to be executed in the first half of 2019.</p>	

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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
ENDM-53	RP	Section 5.3 - Mining	The CP indicates that the ore stockpile will be depleted by closure, however, this does not anticipate a sudden or unexpected shutdown	The CP should identify a maximum storage volume for the ore stockpile and present at least conceptual plans for closure of this mine hazard along with appropriate Financial Assurance.	Yes	<p>A sudden or unexpected shutdown is addressed under Temporary Suspension (Section 7.5) and State of Inactivity (Section 8.9).</p> <p>The FA estimate provides over \$1 million to regrade the Ore Stockpile area prior to placement of the growth medium and an additional \$150,000 in contingency on this amount.</p>	<p>This response is inadequate.</p> <p>A sudden or unexpected shutdown with the proponent leaving the scene will see a potentially substantial stockpile of ore left unprocessed. ENDM will not be positioned to process this material if the proponent is unwilling or unable to do so.</p> <p>The proponent has not identified a maximum volume of material for the ore stockpile and it is unclear if the FA estimate will be sufficient to deal with a stockpile left due to an unexpected shutdown.</p> <p>Closure measures provided for temporary suspension and state of inactivity are silent with respect to the ore stockpile volume.</p> <p><b>PROPONENT RESPONSE:</b> As stated in Section 5.7.3 “The ore stockpile area has been designed to accommodate a maximum quantity of 30 Mt”.</p> <p>The maximum volume in the ore stockpiles is anticipated at the end of year 7 at about 24 million tonnes. The FA estimate already includes funds to close the stockpiles in place. It has been assumed that the piles will be graded to drain and growth medium applied and then revegetated. The FA includes different amounts for the closure (depending on the FA phase) from over \$1.0 million to almost \$3</p>



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							million.
ENDM-54	RP	Section 5.6 Tailings Management	While some information has been presented regarding the field cells, the manner in which the field cell data has been presented makes it difficult to determine if the downward trends cited in the CP truly exist and there appear to be no trend analyses to support these statements. Additionally, there appears to be no information presented to support the statement that the ML potential of the tailings is low. This is of particular concern as there appears to be near-market copper values in the ore and the proponent indicates that a copper circuit could be added to the milling process in the future.	The proponent must provide more detailed technical justification to support the statements regarding the potential for both ML and ARD from the tailings.	Yes	Please see response to ENDM-51	See response to response to ENDM-51  <b>PROPONENT RESPONSE:</b> N/A (refer to response to ENDM-51).
ENDM-55	RP	Section 9.5.1 Pipelines and Power Lines	The CP does not indicate if the mine will be a Hydro One customer or a IESO Market Participant. The designation of either a Class A or Class B IESO market participant included significant costs as a mine enters closure and it is important for ENDM to have a clear understanding of the electricity costs associated with the site.	The proponent must be directed to provide, as a minimum, the following:  1. Will the mine site be registered as an IESO Market Participant? 2. If so what Class are they (Class A or B)? 3. The proponent should provide a summary of their electrical needs and associated costs for all stages of closure (and any transitional periods in between): Operations State of Inactivity Temporary Suspension Closed Out	Yes	The mine site will be registered as an IESO market participant (Class A).  Average power consumption during operations is estimated to be approximately 456,000 MWh/year during operations, 26,280 MWh/year during inactivity or temporary suspension, and 5,250 MWh/year at closure  The FA includes the power cost and maintenance of the electrical equipment and pumps during closure and filling of the pit. The power cost included in the estimate for power from the main incoming powerline is \$75 per MWh.	Inadequate response.  What is the basis for the cost estimate of \$75/MWh? IESO charges are market based. A breakdown or rationale for this unit pricing needs to be provided so ENDM can determine if the IESO market based charges have been adequately considered.  <b>PROPONENT RESPONSE:</b> The assumed rate is IESO-forecasted Hydro One Energy pricing for the relevant period less reductions provided through the ICI. ICI is the program which enables industrial consumers the ability to avoid Global Adjustment charges (which are admin costs for the electricity sector, ~80% of our estimated power cost) if they can avoid peak hours. Ontario measures the 5 peak consumption hours every year - the 5CP - if those are avoided, you are not subject to the GA. Reductions are proportionate to your avoidance - avoid 50% of the peak hours, you

Tracking Info:

							<p>get a 50% reduction in your GA for the year.</p> <p>Also IAMGOLD is assuming in power rate costing that the Cote Gold Project will participate in the NIER which is a \$20 per MW rebate program for northern mines run by ENDM.</p> <p>IAMGOLD is of the view that the price assumptions provided are conservative for this stage of the mine life and it is likely that given reduced power demands at closure, further reduction in rates are possible.</p>
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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
ENDM-56	RP	Section 10.0 – Monitoring	<p>This section indicates that “monitoring programs will be implemented to meet the requirements of Schedule 1 of O. Reg. 240/00”, but no details are provided.</p> <p>It is noted that there are no existing or proposed ground water monitoring wells downgradient of the waste rock area and Lower Three Duck Lake. This does not allow for any potential groundwater impacts from the WRA to Lower Three Duck Lake to be monitored.</p>	<p>Prepare and submit for the Director’s consideration a monitoring plan for surface and groundwater in addition to monitoring of the physical hazards and rehabilitation efforts as part of the CP.</p> <p>Additional groundwater monitoring wells must be established in advance of development of the waste rock area to establish an appropriate baseline groundwater condition in that area.</p>	Yes	<p>Please refer to response ENDM-42 and ENDM-48.</p> <p>Surface Water and Groundwater monitoring is discussed in Section 10.2 of the Closure Plan and shown on Figures 10-1 and 10-2.</p> <p>There are existing wells downgradient of the mine rock area (these have been identified on the proposed monitoring figure that has been included as an appendix to the Closure Plan). There are 4 in total that we are proposing to be monitored starting in 2019. As the Project develops additional wells may be installed.</p>	<p>Figure 10-2 shows that there is only one GW well located between the MRA and Lower Three Duck Lake slated for monitoring. This is inadequate for a mine hazard that extends almost 2km parallel to and only ~25 m from the shoreline of the nearest surface water body.</p> <p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. The proposed updated groundwater monitoring plan is provided in Section 10.2 and includes a total of 4 groundwater monitoring stations, including two monitoring well nests along the eastern portion of the MRA, between the MRA and Three Duck Lakes (Lower).</p> <p>Locations will be reviewed once the ECA has been finalized and will be updated in the next Closure Plan Amendment (CPA)</p>

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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
ENDM-57	AS	Appendix A- Land Tenure Information	The status of the land tenure must be compatible with the proposed activity (e.g. unpatented mining claims should not be included within mine production closure plan boundaries).	Tenure identified in the closure plan must be updated.	No potential impact	<p>Updated in Final Closure Plan Submission (Section 3.2) as follows:</p> <p>The Project is located within a connecting block of patented claims, leases and licenses of occupation and a series of cell and boundary claims held by IAMGOLD. Land tenure is shown on Figure 3-2 with additional information provided in Appendix A. IAMGOLD has submitted mining lease applications for all of the cell and boundary claims that cover the Project. The applications were delivered to ENDM in two phases. The first phase shown in blue on Figure 3.2 has had initial Draft Survey Instruction issued with Final Survey Instructions to be issued in the coming days. The second phase shown in grey on Figure 3.2 is awaiting Draft Survey Instruction which is likely to take a month or</p>	<p>Ok with the inclusion of this wording in the CP. (Note that this comment was brought over from the review of the draft CP)</p> <p>Please be advised that the status of underlying tenure does impact the scope of work that can be undertaken. Mine production cannot be undertaken prior to the issuance of mining leases. Once the mining leases have been issued, an administrative amendment to the closure plan to reflect the new tenure status would be required prior to commencing activities associated with mine development.</p>

## Government Reviewers Comments

Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
						more. Currently, IAMGOLD has let the surveying contract for both phases and preliminary work has begun in the field. The Project components will be located within the project boundary, shown on Figure 3-3A. Power provided to the Project, by way of a transmission line alignment (TLA) from Shining Tree, will remain on Crown Land and IAMGOLD will hold a right of way.	<b>PROPONENT RESPONSE:</b> N/A
ENDM-58	AS	Section 13.1 Form and amount of financial assurance	<p>Table 13.1 Financial assurance phases: More clarity is needed to determine the start of a new phase which inevitably ties in to when financial assurance should be expected and how much.</p> <p>This section also states that “Financial assurance and commercial information required to support the financial assurance will be provided to ENDM in confidence under a separate cover.”</p> <p>Closure plan is a public document and as such the financial assurance details are also public.</p>	<p>Identify in an additional column on the table key mine features that will be constructed at each phase and milestones that will signify the start of each phase. Include in an additional column closure estimate associated with each phase, such that top-up amounts are clearly defined in the proposal described within the table.</p> <p>Remove the statement that “..... the financial assurance being provided in confidence.....” This statement is not applicable and is misleading.</p>	No potential increase	<p><b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. Additional clarity has been included in Table 13-1. The statement that ...“..... the financial assurance being provided in confidence..... has been removed from the CP.</p>	-
ENDM- 59	AS	Section 12.3	<p>Text within this section state “ First, early revegetation will provide proof-of-concept for the planned methods and add to the time period available to establishment of self-sustaining and stable conditions while the full contingent of staff and equipment are available on of the site.”</p> <p>Additionally it states .....It is anticipated that personnel located in either Timmins or Sudbury or</p>	<p>Confirm that the cost estimates meet the requirements of O.Reg 240/00 which requires that the closure plan be certified that the rehabilitation cost represent market value cost as indicated in the statement below. “The cost estimates of the rehabilitation work described in the attached Closure Plan are based on the market value cost of the goods and services required by the work;”</p>	Potential increase	<p><b>PROPONENT RESPONSE:</b> The closure plan will be updated to include the following statement (Section 12.3) “IAMGOLD confirms that the cost estimate meets the requirements of O.Reg 240/00. The cost estimates are based on the market value costs of the goods and services required by the work”.</p> <p>The following is a brief description for the rates and overhead costs provided in the estimate:</p>	-

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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
			<p>both will make regular visits to the site as needed to check pump operation and maintain the pumps and pipelines.”</p> <p>These statement suggest that cost associated with rehabilitation is estimated based on if it is carried out by the proponent as opposed to the cost to Ontario should the site be returned prematurely and Ontario may have to outsource this work altogether.</p>	<p>Confirmation of market value will require a statement to be added to those sections underscoring the basis for the estimates or have the misleading statements related to staff or personnel removed from the text altogether.</p>		<ul style="list-style-type: none"> <li>• The buildup of the estimate started with the labor and equipment rates. Labor rates include the base wage plus all benefits and required payroll burdens and premium wage cost for a 60 hour work week and 20% was then added to the total to provide for contractors overhead and profit.</li> <li>• Equipment rates were developed using equipment rates from OPSS 127 schedule of rental rates, Equipment rates developed from CostMine estimating with data escalated to 2018 and Rates developed from current California equipment pricing. The rate used was an average of the three and then 15% was added for contractors overhead and profit. All equipment rates include amortization of the capital cost based upon industry standard operating hour life</li> <li>• The estimate includes monies for Site Services and Indirect costs during closure construction including:                         <ul style="list-style-type: none"> <li>○ Contractors Mobilization, Demobilization and Final Cleanup</li> <li>○ Construction Management</li> <li>○ Temporary Facilities (Assumes Rental/Lease)</li> <li>○ Field Expenses</li> <li>○ Utilities</li> <li>○ Camp operation and Maintenance</li> </ul> </li> <li>• The estimate includes monies for Management and Coordination of the closure construction and the post-closure OM&amp;M</li> </ul>	

## Government Reviewers Comments

Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
MNRF-1	KW	<i>Section 9.17: Stability and integration of watercourses and drainage channels (pg. 96)</i>	MNRF does have some concern about the environmental impact of the draining of flow from the open pit towards Three Duck Lake (Upper).	MNRF suggests that the closure plan provide greater detail or clarification about the quality of runoff at closure, and what mitigation techniques will be used to ensure that there will be no contamination of waterbodies.	No potential increase	<b>PROPONENT RESPONSE:</b> The water quality predictions indicate that the surface water receivers will meet water quality guidelines during post-closure. However, an adaptive management approach will be used to evaluate the need for additional mitigation measures. During post-closure stage I (while the open pit is flooding), the effluent on the site will be collected and pumped to the open pit – this includes capturing seepage/runoff and pumping water from the seepage collection ponds. The site drainage will continue to be captured and pumped to the pit until the site drainage meets water quality regulatory criteria and is determined to be suitable for release to the environment. If the pit lake water is determined to be not suitable for release to the environment (once the pit is flooded; start of post-closure stage II), then IAMGOLD has committed to treat the pit lake outflow on an as needed basis.	-
MNRF-2	KW	<i>Section 10.3: Biological monitoring (pg. 105)</i>	Please add MNRF as an agency to be contacted by IAMGOLD if a potential relaxation of the monitoring period is desired.	Add text to closure plan	No potential increase	<b>PROPONENT RESPONSE:</b> The Closure Plan has been updated. MNRF has been included in Section 10.3 with regard to an agency to be contacted by IAMGOLD if a potential relaxation of the monitoring period is desired.	-
DFO-1	MV	Section 7.6 Stabilization of Tailings, Water and Impoundment Structures	<i>The CP document states that “The TMF pond, polishing pond and the reclaim pond will have emergency overflow spillways for discharge volumes exceeding design capacity. The TMF pond and reclaim pond would discharge to Bagsverd Lake and the polishing pond would discharge to Three Duck Lake (Upper).”</i>	Please note that DFO will be involved with the determination of Schedule 2 listing via MDMER as well as the Section 35 Fisheries Act authorization as identified in Table 5-9.  Flagged: May be a point of discussion for the Fisheries Offset Plan	No potential increase	<b>PROPONENT RESPONSE:</b> Comment noted	-



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Reference #	Reviewer Name	Reference to Closure Plan	Summary of Comment/ Rationale	Proposed Action	Impact to Financial Assurance	Proponent Response	ENDM Follow-Up and Proponent Response
			The risk of contamination of Bagsverd Lake and Three Duck Lake (Upper) if overflow occurs is a concern. The holding ponds should be designed for extreme flooding events.				
DFO-2	MV	9.17 Stability and Integration of Watercourses and Drainage Channels:	<p><i>The CP document states "The dam between New Lake and the open pit lake will be removed or lowered to restore the Mollie River system and will be directed to the open pit with low flows maintained to the realignment channel to support fisheries. This will fully integrate the pit lake it into the Mollie River subwatershed."</i></p> <p>There are concerns with connecting the open pit lake to the Mollie River subwatershed. However, ECCC and the province will need to advise on water quality concerns.</p>	<p>Please note that DFO will be involved with the determination of Schedule 2 listing via MDMER as well as the Section 35 Fisheries Act authorization as identified in Table 5-9.</p> <p>Flagged: May be a point of discussion for the Fisheries Offset Plan</p>	No potential increase	<b>PROPONENT RESPONSE:</b> Comment noted	-
DFO-3	MV	11.6 Aquatic Plant and Animal Life Communities:	<p><i>The CP states that "The objective of habitat compensation / offsetting measures associated with the Project will be to create habitat which achieves the biotic and abiotic habitat requirements of the resident fish species (northern pike, yellow perch, walleye, smallmouth bass and whitefish) and minimizes the risk of adverse effects to the environment (i.e., flooding and sedimentation). The overarching goal will be to provide "like for like" habitat to maintain the fish communities within, and the functionality of, the affected watersheds."</i></p>	<p>In agreement with the goal of the Fisheries offset plan.</p> <p>Please note that DFO will be involved with the determination of Schedule 2 listing via MDMER as well as the Section 35 Fisheries Act authorization as identified in Table 5-9.</p>	No potential increase	<b>PROPONENT RESPONSE:</b> Comment noted	-



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**Supplementary Response: ENDM-7**

**IAMGOLD Response:**

The Closure Plan submitted by IAMGOLD is true to the objective of revegetating the entire area:

- Reclaimed plant site areas will be fully covered by soils and revegetated.
- Since there is limited overburden and topsoil relative to the mine rock areas, full covering by topsoil and overburden and active planting is not practicable. Therefore, IAMGOLD elected to focus on the high visibility areas (for aesthetic and long term water quality reasons). Natural revegetation will continue.
- Site monitoring and maintenance extends decades after active closure. There is contingency budget allocated to address potential additional work in deficient areas.

In addition, the Closure Plan is fully compliant with the objectives of the Mine Rehabilitation Code of Ontario:

**PART 9  
REVEGETATION**

**Objective:**

68. (1) The objectives of this Part are to,

- (a) stabilize surface materials and provide protection from wind and water erosion;
- (b) improve the appearance and aesthetics of the site;
- (c) enhance natural vegetation growth and establish self-sustainable vegetation growth; and
- (d) support the designated end use of the site.

(2) A site shall not be considered to be closed out until sufficient vegetative growth, where specified in the closure plan, has been achieved to meet the objectives stated in subsection (1).

(4) Evidence of excessive vegetation stress or poorly established areas require reassessment of the revegetation program and implementation of additional measures to ensure successful revegetation.

78. Once vegetation has been established, annual inspection shall be conducted to determine any necessary repairs, and to review the progress toward development of a self-sustaining ecosystem.

79. (1) The vegetation on the site must support the end land use which has been established in the closure plan document.

(2) Once a self-sustaining cover has been established and the objectives under section 68 have been attained, the monitoring and inspection program may be discontinued.

The vegetation plan for the MRA meets the objects as set out in Section 68(1):

- (a) stabilize surface materials and provide protection from wind and water erosion – the mine rock in the MRA will not be susceptible to erosion;
- (b) improve the appearance and aesthetics of the site – the appearance will be improved, the most visible areas of the MRA are being revegetated progressively;
- (c) enhance natural vegetation growth and establish self-sustainable vegetation growth – the natural vegetation will be enhanced by the partial vegetation of the MRA. The success of progressive-revegetation will be monitored during the operations phase and adaptive management measures, (such as additional granular material or the addition of biosolids) will be considered. The purpose of re-vegetation is to promote sustainable plant growth. Biological monitoring will be undertaken until a self-sustaining vegetation cover is established; and
- (d) support the designated end use of the site – the end use of the MRA will not change whether it is partially or fully vegetated.

IAMGOLD is of the opinion that the Closure Plan fully satisfies Clause 79 (1) understands and respects the responsibilities for monitoring and inspection per Clause 79(2). The primary objective of the Closure Plan is to rehabilitate the Project site area to promote endemic flora and fauna, and aquatic habitat that supports healthy fish populations. Once the open pit is flooded the open pit lake will be incorporated into the exiting watershed. Access will be maintained or re-established for traditional and non-traditional land users.

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### Existing Vegetation/Soil

As discussed in Section 4.2 of the Closure Plan, the Project is characterized by bedrock outcrops and glacial till and is typical of the Canadian Shield. The glaciated country has a gently rolling topography that seldom exceeds 50 m. The higher ground usually has a veneer of glacial soil over bedrock, with thicker overburden present in the low-lying areas between the hills. The existing topography is shown on Figure 4-2.

As discussed in Section 4.6, there is a history of forestry and fire in the general area and this is reflected in the vegetation structure. Soils throughout the Project area consist of a thin organic layer overlying silt and / or sand with occasional till overlying bedrock. Soils are predominantly dry and rapidly drained, though low land and wetland areas have poorly drained fibric peat or sand and silty clays. Bedrock is at, or near the surface over most of the study areas, with soil and overburden at a neutral pH range and with greater soil depth in low lying areas (ranging from 0 m to 18 m).

### Site Re-Vegetation Approach

Iamgold is committed to revegetating the site, in full compliance with O. Reg. 240/00. It is estimated that 2.46 Mm<sup>3</sup> of topsoil and 1,84 Mm<sup>3</sup> of overburden will be available for closure. The topsoil is considered the more suitable growth medium. Overburden will be used to cover granular areas or for regrading. Portions of the topsoil and overburden will be used during progressive reclamation to cover the more visible slopes of the MRA (facing Three Duck Lake) as well as other parts of the Project Site that will no longer be used during operations (e.g., construction laydown areas). At closure the remaining topsoil will be used to cover disturbed areas as efficiently as possible. The following table provides a summary of the topsoil volumes to be used for closure at the various Project facilities:

Project Facility	Topsoil Volume	Notes
MRA	90,000 m <sup>3</sup>	25% of total MRA surface area, i.e., 180 ha, covered with 0.2 m of topsoil, overburden to be placed underneath topsoil
TMF	1,042,400 m <sup>3</sup>	Covered with 0.2 m of topsoil (augmented with biosolids as needed) , with some overburden
Stockpiles	384,200 m <sup>3</sup>	Overburden and Ore, covered with 0.2m of topsoil, overburden to be placed underneath topsoil
All Other Areas	818,000 m <sup>3</sup>	Infrastructure, covered with 0.2 m of topsoil
<b>Total Required</b>	<b>2,334,600 m<sup>3</sup></b>	
Available Topsoil	2,464,000 m <sup>3</sup>	Total stripped less 0.2 m left at topsoil stockpile
Remaining Topsoil	129,400 m <sup>3</sup>	Available less total required

Note: if available, remaining topsoil will be added to the MRA

Note also that IAMGOLD will actively manage topsoil and overburden during the operations phase to ensure that the stockpiled overburden will be available and suitable for revegetation upon closure. Covering the MRA, on average, with 25% overburden will allow the establishment of vegetated islands. These will over time work as clusters for contiguous plant coverage of the entire MRA surface. The success of revegetation will be monitored during the post-closure phase and adaptive management measures will be considered, as required.

Revegetation is anticipated to result in the following habitat types (Closure Stage II, Figure 9-2):

- Successional grassland = 325 ha;
- successional forest = 280 ha;
- wetland = 20 ha;
- mixed exposed rock slope and successional forest = 200 ha; and
- the remainder will comprise exposed rock slopes and New Lake.

### Contingency Clarification

IAMGOLD and SLR hereby confirm that the cost estimate used to calculate the financial assurance provides sufficient funds to re-vegetate 100% of the MRA, should sufficient soils be available or developed on the mine site. As such, no additional contingency amounts are deemed necessary.

### Continuity and Consultation

Lastly IAMGOLD would like to point out the closure concept described and costed in the Closure Plan is fully consistent with the concepts described in the EA and the EER. This concept has been consulted on with stakeholders in various levels of detail since 2013.