RioTinto | Diavik

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Mason Mantla, Chair
Wek'èezhìı Land and Water Board (WLWB)
PO Box 32 Wekweètì, NT X0E 1W0 Canada

May 7, 2024

Dear Mr. Mantla,

Subject: Updated Surface Water Action Level Framework (SWALF)

Diavik Diamond Mines (2012) Inc. (DDMI) is pleased to submit its updated SWALF in accordance with Part J, Condition 9 and Schedule 5, Condition 11 of DDMI's newly amended Type A Water Licence W2015L2-0001[1].

The decommissioning of Ponds 2 & 7 is scheduled to commence in August 2024 with work planned in accordance with W2015L2-0001. DDMI wishes to highlight that it remains critical that this pond decommissioning work starts on schedule if DDMI is to complete the work in 2024. DDMI notes that the W2015L2-0001 Part J, Condition 9 requirement for Board approval of the SWALF prior to decommissioning is on the critical path of planned work and requests the WLWB prioritize this review. In addition, early review and approval of the SWALF may allow DDMI to initiate decommissioning ahead of schedule and de-risk any further project delays into 2025.

Completing the Pond 2 & 7 decommissioning activities in 2024 will result in the first year of performance assessment results in 2025. DDMI anticipates that by 2026 there will be enough information available to inform additional engagement about post-closure water quality acceptability.

DDMI would also like to notify the WLWB that in order to enable the scheduled completion of Pond decommissioning DDMI is beginning early works at Ponds 2 & 7 in preparation for final decommissioning activities. During this period of time the diversion, collection, and disposal of surface runoff in the North Inlet will continue as described in the Water Management Plan.

Please do not hesitate to contact the undersigned or Kyla Gray (kyla.gray@riotinto.com; 867-445-4922) should you have any questions regarding this submission.

Sincerely,

Sean Sinclair
Manager of Closure

Cc: Meghan Schnurr, WLWB
Marie-Eve Cyr, WLWB

[1] WLWB Issuance of Type A Water Licence - Amendment - Decommissioning

Attachment A

Diavik Surface Water Action Level Framework (SWALF)

V2 2024-05-07

Table 1. SWALF – Once Prior to Decommissioning

Prior to reconnection – Collection Pond	Response
• Water chemistry < EQC[1] • Turbidity < 38 NTU[2] • No acute lethality based on the test methods referenced in the Surveillance Network Program in Annex 1	• Submit to Inspector for approval to proceed with reconnection

[1] Includes pH range per W2015L2-0001 Part G, Condition 37
[2] Based on TSS EQC and TSS-Turbidity Pond Specific Relationship (Figure 1)

Table 2. SWALF – Wildlife, Human Health, & Aquatic Life, during and following Decommissioning[1,2]

Action Level 1 (AL1) Triggers – Runoff SNP Location	Level 1 Response
• Runoff SNP water chemistry > 80% of EQC[3] OR • Runoff SNP turbidity > 29 NTU[4]	• Resample immediately[5] to confirm. If trigger confirmed: • Immediately investigate cause – desktop review • Within 30 days identify rapid mitigation options
Action Level 2 (AL2) Triggers – Runoff SNP Location & Lake Mixing Location	**Level 2 Response**
• Runoff SNP water chemistry > EQC OR • Runoff SNP turbidity > 38 NTU[4] OR • Mixing Zone Boundary SNP water chemistry > AEMP Benchmarks	• Runoff: Report unauthorized discharge in accordance with Part H Condition 3 • Runoff: Resample immediately[5] to confirm; Include paired acute and chronic toxicity based on the test methods referenced in the Surveillance Network Program in Annex 1 • Mixing Zone: Within 7 days[5] collect off cycle mixing zone boundary SNP sample; Include paired *C. dubia* IC50 test If trigger confirmed: • Immediately investigate cause – field review • Immediately implement rapid mitigations • Within 90 days investigate long-term mitigation options • If non-toxic mixing zone boundary result, consider revising AEMP benchmarks to reflect site specific conditions as supported by additional testing
Action Level 3 (AL3) Triggers – Lake Mixing Location	**Level 3 Response**
• *C. dubia* IC50 < 100% in two consecutive sampling events[6]	• Re-establish temporary seepage and runoff collection • Within 30 days confirm cause and effect • Within 30 days confirm long-term mitigation options • Within 90 days initiate Environmental Trade-off-Study to consider *in perpetuity* water treatment • Within 1 year implement long-term mitigation options

[1] Notification of triggers provided to Inspector and WLWB within 30 days
[2] Response reports will be provided to Inspector and WLWB within 90 days of response implementation
[3] Includes pH range per W2015L2-0001 Part G, Condition 37
[4] Based on TSS EQC and TSS-Turbidity Pond Specific Relationship (Figure 1)
[5] Sample timing subject to resolution of HSE matters
[6] Consecutive events are either monthly as per Annex 1 sampling frequency or within 7 days if in response to AL2

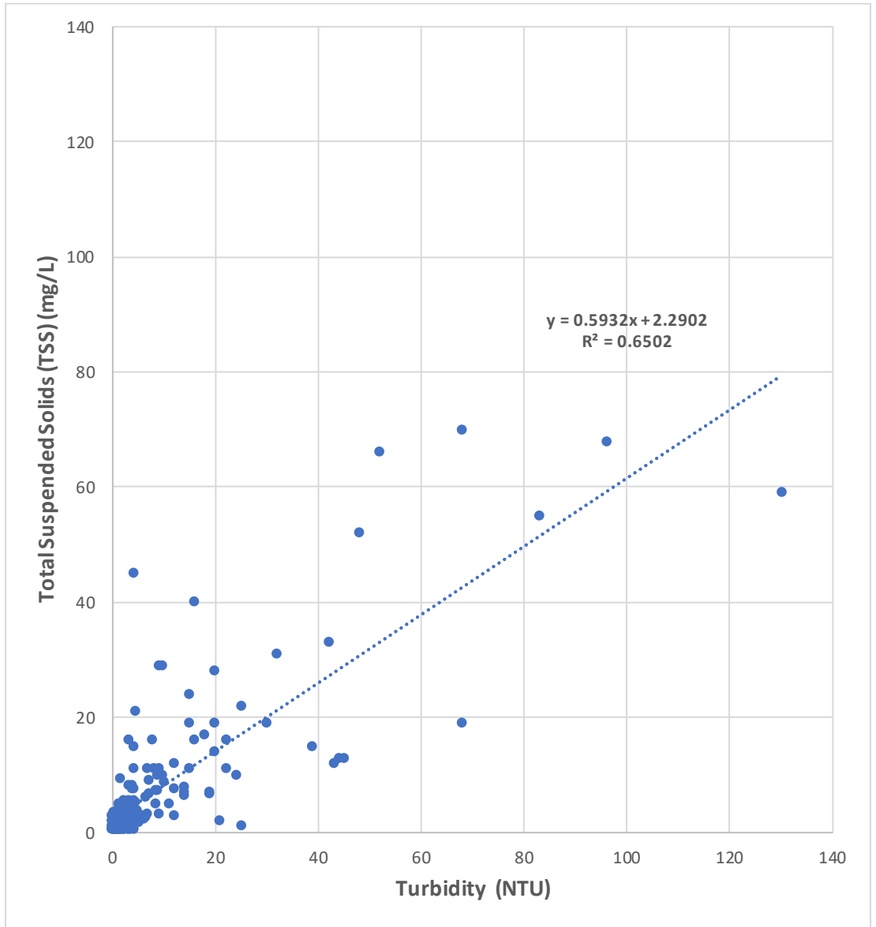

Figure 1 TSS-Turbidity Diavik Pond Specific Relationship

Conformance Table with W2015L2-0001 Schedule 5, Condition 11: Surface Water Action Level Framework

*"The **Surface Water Action Level Framework*** referred to in Part G, Condition 42 of this Licence shall include, but not be limited to the following information:"		
	Condition	**Location and supporting information**
a.	Criteria to be met prior to Decommissioning;	SWALF Table 1
b.	Action Levels and responses during Decommissioning, including turbidity thresholds and supporting site-specific TSS-turbidity curve;	SWALF Table 2 ALs are linked to EQC to ensure mitigation takes place prior to an exceedance. Turbidity triggers will ensure that quick action is taken in response to a TSS event.
c.	Action Levels and responses following Decommissioning for wildlife, human health, and aquatic life, both at the point of Discharge and edge of mixing zone;	Table 2 EQC as per W2015L2-0001 Part G, Condition 34 consider wildlife, human health, and aquatic life. Action levels are applied to point of discharge and edge of mixing zone.
d.	Rationale associated with each Action Level;	AL1: Set at 80% of EQC in surface runoff to provide early notification and identify rapid mitigation options prior to any potential breach of EQC. AL2: Set at 100% of EQC in surface runoff to link implementation of rapid mitigation options and immediate investigation of long-term mitigation options to approved EQC. AL3: Toxicity based at Mixing Zone Boundary to link re-establishment of temporary water collection and assessment of in-perpetuity water treatment. Trigger significance commensurate with mitigation significance to avoid frequent implementation of L3 mitigations without a corresponding environmental risk.
e.	Timeframes associated with the notification to the Board of any exceedance;	Table 2 footnotes
f.	Timeframes associated with each action responses;	Identified throughout Table 2
g.	Timeframes associated with the Surface Water Action Level Framework Response Report;	Table 2 footnotes
h.	Sampling methods for water quality and toxicological tests;	All water quality and toxicological tests carried out under the SWALF will adhere to the requirements of W2015L2-0001 Annex 1: Surveillance Network Program, Part C.
i.	Linkages to applicable monitoring requirements;	The SWALF is linked to SNP monitoring at stations 1645-44, 1645-44-MZ, 1645-68/68B, and 1645-68MZ.
j.	Consideration of linkages to applicable closure criteria;	At this time there are no approved closure criteria in place; when closure criteria are approved, the SWALF may be updated to evaluate closure performance if deemed valuable.
k.	Description of process, and timeframe for re-establishment of components of the Collection Pond System, and associated Action Level trigger and timeframe; and	DDMI maintains inventories of pumps and associated equipment onsite and can deploy temporary pumping systems to provide water management capacity as required. Re-establishment of temporary water management as per AL3 would commence immediately upon confirmation of AL trigger. Re-establishment of additional system components such as berms and sumps to enhance collection capacity would be evaluated based on initial system capacity, anticipated flowrates and field conditions.
l.	Any additional information required by the Board.	N/A

Conformance Table with W2015L2-0001 Decommissioning Amendment Reasons for Decision, Decision 9

RFD Decision 9: "To require DDMI to discuss how it considered in the next version of the SWALF the items discussed in section 6.7.8 under 'Consideration of Parties Recommendations for the Next Version of the SWALF"	
Item as per RFD s6.7.8	**Discussion on how the item has been considered by DDMI**
Protectiveness of Action Level 1	AL1 is set at 80% of EQC in surface runoff to provide early notification and identify rapid mitigation options prior to any potential breach of EQC, with an associated turbidity trigger based on TSS EQC and TSS-Turbidity Pond Specific Relationship (Figure 1) to allow for rapid detection of and response to a TSS event. Comments and recommendations related to the formerly proposed AL1 based on 10x AEMP benchmarks are no longer relevant to the revised SWALF. This level was also recommended by the GNWT as an appropriate level of protectiveness.
Toxicity testing at Action Level 3	Additional toxicity testing beyond *C. dubia* IC50 is not proposed at the mixing zone. Additional toxicity testing will occur at the point of discharge per Annex 1. DDMI may elect to conduct testing in the mixing zone if a non-toxic *C. dubia* IC50 mixing zone boundary result was found. This information could be considered as part of the AL2 response in revising AEMP benchmarks to reflect site specific conditions as supported by additional testing.
Sampling limitations	DDMI is in agreement with the WLWB decision and final Annex 1 schedule of sampling requirements. DDMI does not support expanding the base SNP sampling requirements with alternative and/or additional sample locations. DDMI notes that AL2 response includes a field investigation which would include additional sampling beyond identified SNP stations and that this response step may address reviewer concerns and would occur only after appropriately triggered at AL2.
Association between Action Levels, and water quality predictions and objectives	DDMI has added meeting AEMP Benchmarks at the edge of the mixing zone as an AL2 trigger. This would indicate a potential divergence from model predictions justifying the AL2 responses.
Alignment with sampling requirements	Base level paired toxicity and water chemistry testing is not being proposed beyond the frequency already required under Annex 1 and as supplemented with additional paired tests as an AL2 response. Triggers related to EQC and turbidity are sequential between AL1 and AL2. AL2 therefore cannot be triggered without surpassing the numeric limits of AL1. Remaining triggers (AL2 Mixing Zone Boundary SNP water chemistry > AEMP Benchmarks, and AL3 *C. dubia* IC50 < 100% in two consecutive sampling events) will still trigger their respective ALs even if EQC and turbidity triggers of previous ALs are not occurring. Although this is not expected as EQC are set to protective of the environment and identify runoff conditions that may result in toxic mixing zone boundary conditions, AL trigger exceedances without EQC exceedances would follow all the response actions of the SWALF, with the breakdown in expected relationship investigated as part of required cause and effect review.
Trigger adjustment as a response	Unlike the formerly proposed SWALF the revised proposed SWALF does not propose any trigger adjustments related to runoff chemistry. AL1 and AL2 are related to runoff EQC that are set to be protective of the environment and consideration of adjustment of those triggers is not a proposed element of the SWALF. The only trigger adjustment in the revised SWALF relates to the AEMP benchmarks AL2 trigger in the event that field data shows that the AEMP benchmarks do not correlate to toxic mixing zone boundary conditions. The AL2 conditions related to EQC and turbidity would remain unchanged. Adjustment of AEMP Benchmarks is not automatic in the event of an AL2 and would only be considered after confirmation of trigger and investigation of cause and would not preclude implementation of rapid mitigations and investigation of long-term mitigation options.