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Whale Tail Pit Expansion Project

Presentation to the Nunavut Water Board

by Environment and Climate Change Canada

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2AM-WTP1826 / 2AM-MEA1526 / 2BB-MEA1828 - Public Hearing/

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February 12 to 13, 2020 - 8942 12-13-12 2020

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Coordinator

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Lead - Water Quality
Expert Support

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- The preservation and enhancement of the quality of the natural environment, including water, air and soil quality, and the coordination of the relevant policies and programs of the Government of Canada
- Renewable resources, including migratory birds and other non-domestic flora and fauna
- Meteorology
- The enforcement of rules and regulations



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- Department of the Environment Act
- Canadian Environmental Protection Act
- Fisheries Act – Pollution Prevention Provisions
- Migratory Birds Convention Act
- Species at Risk Act



Technical Comments

Current status of ECCC Technical Comments

<u>Comment</u>	<u>Topic</u>	<u>Status</u>
ECCC- TC1	Flooded Pit Reconnection	Partly resolved (ECCC FC 1)
ECCC-TC2	Closure of Groundwater Storage Ponds	Resolved with commitment
ECCC-TC3	Removal of Seepage from Model Inputs	Resolved
ECCC-TC4	Wet Climate Years – Water Management Plan	Partly Resolved (ECCC FC 12)
ECCC-TC5	Landfarm Management Plan	Resolved
ECCC-TC6	Landfarm Acceptance Criteria	Resolved
ECCC -TC7	Active Layer Depths	Resolved
ECCC-TC8	Water Quality Monitoring and Management Plan for Dike Construction and Dewatering (Errata)	Resolved



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Final Comments (FC)

- On December 20, 2019, ECCC received additional information and documents from the proponent related to the technical meeting commitment list.
- Given the short time to review and discuss this updated information with the proponent, ECCC has provided final review comments which incorporate our review of the new information.



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Final Comments (FC)

- FC-1 to FC-11 relate to the Interim Closure & Reclamation Plan;
- FC-12 pertains to the Technical Memorandum Effects of Wet Year Scenarios on Water Management
- FC-13 relates to the Technical Memorandum Mixing zone boundaries in Mammoth Lake and Whale Tail Lake (South Basin);
- FC-14 & FC-15 refer to the Draft Water Licence



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ECCC FC1 – Flooded Pit Reconnection

ECCC recommends that the Interim Closure and Reclamation Plan:

- include commitments made by the proponent
- specify closure water quality objectives representative of baseline conditions or national water quality objectives or site-specific water quality objectives
- include a map showing post-closure drainage conditions, with connectivity between surface waters and water management structures identified, including potential for fish passage



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ECCC FC2 – Flooded Pit Lake Closure Objective

ECCC recommends

- The proponent revise the second water closure objective in Table 5.2-2: Closure Objectives and Criteria as outlined in ECCC's January 23, 2020 final written submission to the Nunavut Water Board



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ECCC FC3 – Containment of Water in Closed Underground Mine

ECCC recommends

- The proponent confirm all underground workings and surface openings will be sealed off and minewater will not daylight and reach surface waters.
- The interim closure and reclamation plan should include a contingency plan and water quality monitoring if there could potentially be surface flows of groundwater.



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ECCC FC4 – Closure Objective for Attenuation Pond

ECCC recommends:

- The proponent add the new water closure objective to Table 5.2-2: Closure Objectives and Criteria – Open Pits Workings as outlined in ECCC's January 23, 2020 final written submission to the Nunavut Water Board.

ECCC FC5 – Waste Rock Storage Facility Closure Criteria

ECCC recommends:

- The proponent include revisions to Table 5.2-3 Closure Objectives and Criteria – Waste Rock Storage Facility as outlined in ECCC's January 23, 2020 final written submission to the Nunavut Water Board

ECCC FC6 – Waste Rock Storage Facilities - Contingencies

ECCC recommends that:

- the proponent identify contingencies to address the possibility that the waste rock storage facility cover(s) does not perform as expected.

ECCC FC 7 – Transportation Routes – Closure Objectives and Criteria

ECCC recommends adding to Table 5.2-5

- Add a closure objective to prevent degradation of surface waters;
- Identify appropriate closure criteria and actions/measurements to support the above-recommended closure objective;
- Identify methods to prevent potentially acid generating bedrock from becoming exposed along the corridor of the Project haul road; and,
- Identify erosion prevention methods.

ECCC FC 7 – Transportation Routes – Closure Objectives and Criteria

ECCC recommends adding to Section 5.2.7.5:

- Erosion prevention with respect to any in-stream work



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ECCC FC 8 – Transportation Routes – Acid Rock Drainage Prevention

ECCC recommends that the Interim Closure and Reclamation Plan provide the following additional information:

- identify how the haul road corridor and surface waters will be monitored;
- describe how impacts would be assessed; and
- identify mitigation and contingency options.



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ECCC FC 9 – Water Management Facilities – Closure Objectives and Criteria

ECCC recommends:

- revision to Table 5.2-7 Closure Objectives and Criteria – Water Management Facilities as outlined in ECCC's January 23, 2020 final written submission to the Nunavut Water Board



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ECCC FC 10 – Water Management Facilities - Contingencies

ECCC recommends that the interim closure and reclamation plan:

- include a discussion of whether and how in-situ treatment of the flooded pit lake would be feasible, and how long in-situ treatment could be provided.
- identify and describe alternative water management contingency options in the event monitoring indicates water in the flooded area is not suitable for direct discharge/reconnection to surface waters.



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ECCC FC 11 – Post-Closure Monitoring

ECCC recommends that:

- the post-closure monitoring period be open-ended, defined by conditions rather than a pre-set time period.



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ECCC FC 12 – Potential Water Management Exceedance (Freshet June 2020)

ECCC recommends that:

- the proponent provide details on managing potential excess flows at Quarry 1 during June 2020, and
- discuss whether Quarry 1 would provide sufficient retention time to allow storage of potential excess flows, pending treatment at the Water Treatment Plant.



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ECCC FC 13 – Mitigating Potential Water Quality Exceedances

ECCC recommends that the proponent identify and discuss:

- opportunities to improve source control; and
- options to improve the Water Treatment Plant effluent quality, to minimize the risk of potentially exceeding Canadian water quality guidelines and/or site specific water quality objectives in June in Mammoth Lake and Whale Tail Lake.



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ECCC FC 13 – Mitigating Potential Water Quality Exceedances

ECCC recommends that:

- the proponent increases water quality monitoring in the receiver and downstream during months of high-flow discharge and in the month following the end of high-flow discharge (i.e., during June and July).



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ECCC FC 14 – Licence Term

ECCC recommends that:

- the proponent provide a rationale for the requested licence time frame, and discuss other milestones in the life of project which may be more appropriate timing for the licence renewal.



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ECCC - FC 15 – Comments on the Draft Water Licence

ECCC has provided recommendations on the draft water licence in our January 23, 2020 final written submission submitted to the Nunavut Water Board.



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