

Q208-083

**Yukon Environmental & Socio-economic Assessment Act
Decision Document**

This document meets the Yukon government's requirements as a Decision Body as set out in the *Yukon Environmental & Socio-economic Assessment Act*

Decision Document Issued By:

YG Decision Body:	EMR – Mineral Resources
Federal Decision Body(ies):	<i>[where applicable]</i>
First Nation Decision Body(ies):	

Project

Project Name :	Installation of an Adit Plug and Associated Workings at the Tom Valley Property	YESAA File Number 2008-0242
Proponent Name:	Hudson Bay Mining and Smelting Co., Limited	

Project Scope

The principal activity of this project is the installation of an adit plug and related activities to manage the discharge of wastewater from the adit into Sekie Creek and the South Macmillan River. The project occurs on the Tom Valley property, located at the northern extent of the North Canal highway, and will occur over an estimated 12 week period during summer.

Principal activities include:

- Installation of an adit plug and pressure relief drift to facilitate flooding of the underground workings;
- Installation of a partial waste rock cover;
- Construction of a lined discharge channel and temporary sludge containment pond;
- On-going monitoring.

Accessory activities include:

- Temporary camp and associated activities (maximum capacity of 10 people);
- Rehabilitation of existing on-site road and re-contouring of waste rock dump surface;
- Use of water from South Macmillan River (approx. 300m³/day) for non-potable water and adit plug construction;
- Use of aggregate from a YG gravel pit (approx. 250m³) for adit plug construction;
- Use of fuel (approx. 4000 L stored in drums at Macmillan pass airstrip) and explosives (approx. 680kg). Please refer to the map package for detailed information on the location of this project.

Other Decision Bodies

Other Decision Body Consultation:	<i>[list decision bodies consulted where applicable]</i>
Consolidated Decision Document:	<input type="checkbox"/> N/A <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes <i>[list decision bodies consolidated with where applicable]</i>

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Non-Self Governing First Nations

Non-self governing First Nation Consultation:	Liard First Nation Ross River Dena Council
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Decision

Pursuant to ss. 75, 76 and 80, the Yukon government has considered the YESAA Assessment and:	
<input type="checkbox"/>	<p>a) <i>Accepts the following recommendation(s)</i></p> <ul style="list-style-type: none"> • <i>[List specific reasons]</i> •
<input type="checkbox"/>	<p>b) <i>Rejects the following recommendation(s) for the following reason(s):</i></p> <ul style="list-style-type: none"> • <i>[List specific reasons]</i> •
<input checked="" type="checkbox"/>	<p>c) <i>Varies the following recommendation(s) as follows for the reason(s) specified:</i></p> <p><u>GY accepts the following: (GY also notes that the suggestions for the project have been reviewed and will be considered as additional information for this assessment)</u></p> <p>Water Resources</p> <p>2. Monitoring of head behind the adit plug is planned; continuous recording of head is recommended to facilitate estimation of volumes and ascertain whether bedrock fractures are collecting a large proportion of the adit inflow.</p> <p>3. Seepage flow rates should be measured whenever and as often as logistically feasible to establish a baseline against which future flow rates (after flooding has been completed) can be compared. This would enable one to develop reasonably accurate estimates of the seep flow rates as a baseline to help evaluate whether the proposed project will affect them.</p> <p>4. Remediate all drill and bore holes on the Tom property that have flow. Remediation should be designed to stop this flow (e.g. appropriate plug techniques). Emphasis should be on those holes that are below the predicted flood elevation for the adit workings.</p> <p>Aquatic Resources</p> <p>5. All water withdrawals from stream reaches designated as fish streams must be screened to prevent the entrainment and/or entrapment of fish.</p>

6. A contingency plan will be developed to handle any volumes of sludge and water above design capacity, including the capability to easily increase facility dimensions.
8. A shake test, similar to that carried out on the adit rock wall samples, will be conducted with representative sludge samples to determine the effect on adit drainage water chemistry and ultimately on the three effect pathways in the adjacent watercourses.
9. Periodic observations and sampling of seeps (if present) at the base of the waste rock pile.
10. Adaptive Management Plan will include a plan for addressing the presence of seeps and water affected by ARD/ML.
11. The surrounding terrain will be graded to redirect flow into the lined discharge channel.
12. Monitor the conditions and size of the waste rock cover. Develop a plan to maintain and repair the cover in relation to long-term degradation or short-term exceptional events (i.e., flooding, debris flows, avalanches).
13. Adaptive Management Plan will include provisions to increase cap area and minimize or eliminate runoff into the pile slopes.
14. Work that will disturb soils will be stopped during periods of high precipitation.
15. Appropriate erosion and sediment control BMP will be developed and followed.
16. Adaptive Management Plan will include periodic observations and monitoring of appropriate parameters, followed by continued assessment to address any unforeseen or low probability events (i.e. hillslope failures, avalanches, debris flows).
19. Fish tissue testing and analysis will be conducted where possible downstream of adit drainage in the South Macmillan River to qualify current levels of metal bioaccumulation.
20. During construction and flooding/flushing phase of this project the following monitoring will be conducted:
 - Sample sites: W2, W3A, W6, T4, S2, T5, W8 and W5, if flowing;
 - Weekly monitoring of water quality prior to adit discharge to characterize baseline conditions. Monitoring frequency will consider inclement

weather conditions and site accessibility.

- Sediment and benthic invertebrate sampling to provide baseline data. Sampling to be done prior to adit discharge and during the first week post plug installation.
- Periodic observations of the integrity of the Lined Discharge Facility, Waste Rock Cover and other Water Management/Facilities.

21. Over the long term (i.e. 3 years or termination of water licence) the following monitoring will be conducted:

- Sample sites: W2, W3A, W5, W6, T4, S2, T5 and W8);
- Seasonal monitoring of water quality and sediment and benthic invertebrate sampling to evaluate trends.

22. Proponent shall prepare an Adaptive Management Plan and submit it to the Decision Body for approval. The plan will incorporate the approach detailed in the proposal and as follows:

1. Establish trigger thresholds for the following based on the predictive modeling results and the anticipated response of the system to the installation of the plug:
 - a. Surface water quality in the receiving environment;
 - b. Adit discharge water quality and quantity;
 - c. Presence of seepage;
 - d. Groundwater levels; and
 - e. Temporary sludge containment pond and sludge.
 - f. Waste rock cover and lined channel.
2. Routine review of results from the monitoring program and comparison to the thresholds.
3. In the event that the monitoring data is above a trigger threshold, the following steps will be carried out:
 - a. Determine likely cause trigger and assessment of the impacts to the receiving environment;
 - b. Develop an appropriate response plan to address problem;
 - c. Seek regulatory approval for proposed actions in the event that a change to the Water Licence and a review under YESAA is required;
 - d. Implement the response plan as approved.

Wildlife and Wildlife Habitat

23. Proponent shall keep all garbage, including kitchen waste, in a container that prevents access by bears and other wildlife, until properly disposed of in accordance with the Solid Waste Regulation.

24. When burning kitchen waste on site, it must be burned regularly to reduce

odors that might attract wildlife and be burned to ash by forced air or fuel fired incineration.

26. If wildlife becomes a nuisance or problem the proponent shall install a portable electric fence around the perimeter of the camp.

27. All nuisances or problems with wildlife shall be reported to the local conservation officer immediately for assistance in effective means of reducing wildlife mortality.

28. Proponent shall enforce a no-hunting policy.

29. Proponent shall avoid wildlife whenever possible.

30. Proponent shall encourage employees to fill out a wildlife log to document wildlife occurrences at all project locations.

Health and Safety

31. Proponent shall ensure that all solid waste from project activities is transported to and deposited at an approved solid waste disposal facility.

32. Staff preparing meals for others shall be trained in proper food handling techniques so as to prevent food borne illnesses among camp population.

33. The health related parameters of the Guidelines for Canadian Drinking Water Quality must be met for all water used for drinking and general camp use.

34. Proponent shall meet with representatives of the Yukon Workers' Compensation Health & Safety Board to discuss their project at least 30 days prior to commencement. The purpose of these discussions will be to ensure satisfactory compliance with relevant provisions of the *Occupational Health and Safety Act* and associated regulations. At a minimum the following topics shall be discussed:

- Health and safety risks associated with this project and relevant health and safety plans to mitigate these risks;
- Injury reporting and return to work plan;
- Mine plans, drawings and engineering reports; and
- Policy and procedure specific to aboveground and underground operations.

GY varies the following by removing:

1. Complete adit construction early enough in year to allow for monitoring to begin during ice-free season, and to accommodate slow or rapid filling periods.

Justification: *There are circumstances outside the proponent's control which may influence the start date of the project.*

GY varies the following by removing:

7. Due to the uncertainties in discharge water quality, a basic water treatment system should be developed and be ready to install to intercept the adit discharge and ensure that water quality entering Sekie #2 meets the background water quality targets.

18. It is recommended that a basic water treatment system be installed to intercept the adit discharge and ensure that water quality entering Sekie Creek #2 meets the background water quality targets.

Justification: *These two recommendations are essentially identical. The background water quality targets will be established by the Water Board. These targets may not require any water treatment system. A water treatment system would be difficult to operate year round at a site that is isolated during winter, with avalanche dangers and other hazards. The options for dealing with uncertainties in water quality discharge can be addressed through the adaptive management plan recommendations.*

GY varies the following:

17. The company will submit a plan to deal with unexpected spikes in metal concentrations that occur in the short term, and sustained concentrations above accepted values over the long term. One option would be short-term water treatment during this flushing phase, followed by decisions as part of the adaptive management plan to continue treatment to meet background water quality targets.

Justification: *The adaptive management plan already includes requirements to consider thresholds and actions for adit discharge water quality and quantity. The Water Board could determine at which stage of the project this plan should be in place.*

Replaced with:

17. The company will include in the adaptive management plan consideration of unexpected spikes in metal concentrations that occur in the short term, and sustained concentrations above accepted values over the long term.

GY varies the following by removing:

25. The camp compound will be fenced and gated.

Justification: *The camp is to accommodate up to 10 people in self contained campers, the assessment has not shown the necessity for this mitigation. Recommendation number 26 should sufficiently cover human/wildlife interactions.*

Dates

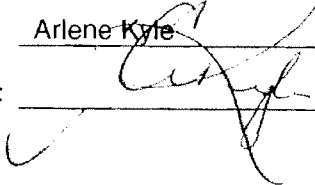
Project Recommendation Issued: December 21, 2008	Decision Document Issued: January 26, 2009
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Recommendation Received From:

Designated Office	<input checked="" type="checkbox"/>	Location: Watson Lake
Executive Committee	<input type="checkbox"/>	
Panel	<input type="checkbox"/>	a) Panel of the YESAB
	<input type="checkbox"/>	b) CEAA Panel
	<input type="checkbox"/>	c) Joint Panel (YESAB and other assessment body)

Authorization

By signing below, the Yukon government has exercised its authority as per YESAA s. 75 or s. 76 to issue a decision document on this project.

Name: Arlene Kyle Position: A/Director, Mineral Resources
 Signature:  Date: January 26, 2009

Copies Forwarded to (as required by YESAA):

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|-------------------------------------|--------------------------------------|-------------------|--|
| <input type="checkbox"/> | Other Decision Bodies | [list] | _____ |
| <input checked="" type="checkbox"/> | Project Proponent | [name] | Hudson Bay Mining and Smelting
Co., Limited |
| <input checked="" type="checkbox"/> | DAP Branch, Executive Council Office | | _____ |
| <input type="checkbox"/> | YESAB Designated Office | [location] | _____ |
| <input type="checkbox"/> | YESAB Executive Committee | [when applicable] | _____ |
| <input type="checkbox"/> | Minister Environment (Canada) | [when applicable] | _____ |
| <input type="checkbox"/> | Yukon Surface Rights Board | [when applicable] | _____ |
| <input checked="" type="checkbox"/> | Yukon Water Board | [when applicable] | _____ |
| <input type="checkbox"/> | Land Use Planning Commission: | [when applicable] | _____ |
| <input type="checkbox"/> | Independent Regulatory Agency | [when applicable] | _____ |
| <input type="checkbox"/> | Other Body/Person as Required | [List] | _____ |