



Environment Environnement
Canada Canada

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Our file: 4703 003 006

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RE: NWB1LUP0008 – Kinross – Request to Dispose of Contaminated Soils Underground at Lupin Mine

Thank-you for your letter dated March 23, 2006, in which you request comments on the proposal by Kinross Gold Corp. (Kinross) to dispose of contaminated soils underground at the Lupin Mine site. Given that the closure of the tailings containment area will be completed in 2006, Kinross is proposing to dispose of surface soils containing residual hydrocarbons and/or elevated concentrations of metals underground via open stopes accessible from the surface. Kinross states that these stopes are located within the permafrost zone and are isolated from underground access.

While EC appreciates the urgency of this request, the proposal by Kinross lacks a significant amount of detail which is required to review the request. Environment Canada recommends that the following information be submitted prior to the Nunavut Water Board (NWB) approving the request:

- What are the depths of the stopes that are proposed for use?
- What volume of contaminated soils can the stopes contain?
- A map indicating the location of the stopes should be provided, including their location in relation to any water bodies. If approved, EC recommends that the NWB require "as-built" information be submitted once available.
- What concentrations of hydrocarbons and metals are present in the soils that are to be disposed of? The soils should be characterized and the results provided to the NWB.
- Are the soils co-contaminated, or will soils contaminated with metals be disposed of separately from soils contaminated with hydrocarbons? Will measures be taken to reduce concentrations prior to disposal?
- What volume of contaminated soils require disposal? Does this volume include a swell factor? Can the volume of contaminated soils be contained within the available stopes, or will additional disposal locations be required?
- The request indicates that all disposal locations will be capped with at least 1 meter of clean esker sand or non-PAG rock. How will this material be placed? Will it be dumped into the open stope, or is it intended that the stope will be completely filled with contaminated soil and this material will be placed over the opening?
- The request indicates that the stopes are located within the permafrost zone. However, the Tailings Containment Area Closure Plan indicates that permafrost may not be present at the Lupin Mine site in 30 - 100 years into the future due to climate warming. Kinross is requested to justify why permafrost could be relied on to contain contaminated soils when they have indicated that it may not be a viable option for the containment of tailings.



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- Information regarding the long-term monitoring of the stopes to ensure containment of the materials is required. Does Kinross intend to install groundwater monitoring wells? Where would such wells be located? How often would they be monitored?

Once Kinross provides the information outlined above to the NWB, EC will be pleased to provide further comments on the proposal to dispose of the contaminated soils underground. If there are any changes in the proposed project, EC should be notified, as further review may be necessary. Please do not hesitate to contact me with any questions or comments with regards to the foregoing at (867) 975-4639 or by email at colette.spagnuolo@ec.gc.ca.

Yours truly,

Original signed by

Colette Spagnuolo
Environmental Assessment / Contaminated Sites Specialist

cc: (Stephen Harbicht, Head, EA North, Environment Canada, Yellowknife)
(Anne Wilson, Water Pollution Specialist, Environment Canada, Yellowknife)