



Environment Environnement
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Our file: 4705 037 POLA

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RE: Polaris Decommissioning and Reclamation Plan – Request to Place Metals Contaminated Soils in LRD Quarry Landfill and to Increase the Volume of Hydrocarbons Contaminated Soils Disposal in the Underground Mine Workings

On behalf of Environment Canada (EC), I have reviewed the information submitted with the above-mentioned application. The following specialist advice has been provided pursuant to Environment Canada's mandated responsibilities for the enforcement of the *Canadian Environmental Protection Act*, Section 36(3) of the *Fisheries Act*, the *Migratory Birds Convention Act*, and the *Species at Risk Act*.

As a result of additional work to refine the estimated quantities of contaminated soils at the Polaris mine, TeckCominco Ltd. has determined that there is insufficient capacity in the underground mine workings to store the remainder of the contaminated soils. Consequently, TeckCominco Ltd. is applying for approval to dispose of the remaining metals contaminated soils in the Little Red Dog (LRD) Quarry Landfill, and to utilize the remaining accessible areas of the mine to dispose of the hydrocarbon contaminated soils.

Environment Canada appreciates the opportunity to review this proposal, and offers the following recommendations for your consideration:

LRD Quarry Landfill Disposal

- Given the situation faced by TeckCominco, and the lack of available space in the underground mine workings, EC is satisfied with TeckCominco's proposal to encapsulate the remaining metals contaminated soils within the LRD Quarry Landfill. However, EC recommends that the metals contaminated soils be placed in the deepest possible point of the LRD quarry landfill pit to provide assurance of complete encapsulation by permafrost. This would require that TeckCominco Ltd. give priority to the placement of metals contaminated soils within LRD Quarry Landfill rather than to other construction debris in order to ensure that the pit is not filled with other materials. Given that the

metals contaminated soils are more susceptible to being bioavailable, EC's recommendation for placement of the material within the deepest portion of the pit will ensure that the material does not contaminate the active layer or Polaris Bay even if climate change impacts the effectiveness of the landfill cap.

Additional Underground Mine Working Disposal

- Provided that the additional underground mine workings are treated in the same manner as those already approved (i.e. wetting the floors, no disposal of free-phase hydrocarbons, the use of muck to isolate these areas from other areas of the mine, etc.), EC has no concerns with the use of the additional areas for the disposal of hydrocarbon contaminated soils.
- Environment Canada recommends that TeckCominco continue to ensure that the space in the underground mine workings is being used to fullest extent possible. If the values presented in the report are indeed maximum volumes, and some space remains after the placement of all the hydrocarbon contaminated soils, EC recommends that any remaining metals contaminated soils be placed underground rather than in LRD quarry landfill, as this is the preferred disposal option.

If there are any changes in the proposed project, or if the estimated volumes of contamination prove to be higher than anticipated, EC should be notified as further review will 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.meloche@ec.gc.ca.

Yours truly,

Original signed by

Colette Meloche
Environmental Assessment Specialist

cc: (Mike Fournier, Northern Environmental Assessment Coordinator, Environment Canada, Yellowknife)
(Stephen Harbicht, Head, Assessment and Monitoring, Environment Canada, Yellowknife)