

US EPA ARCHIVE DOCUMENT

**Kennecott Eagle Minerals**

Jonathan C. Cherry, P.E.  
General Manager  
504 Spruce Street  
Ishpeming, Michigan 49849  
(906) 486-1257

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December 4, 2009

Ms. Tinka Hyde, Director  
Region 5, Water Division  
United States Environmental Protection Agency  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3507

**Re: Response to November 18, 2009 Request for Inventory, Kennecott Eagle Minerals Company, Mine Re-flooding**

Dear Ms. Hyde:

During our meeting with you on November 18, 2009, you indicated that EPA staff had requested (but had yet to receive) a "Class V" UIC inventory of injection wells for the re-flooding stage of the mine. During the meeting you also requested additional technical information about the estimated volume of workings requiring re-flooding, source of water and location of the re-flooding wells. Based on our prior discussions with EPA staff we believed that EPA did not need the inventory or this additional information since this proposed activity will not take place until perhaps as much as a decade or more from now. That being said, and in response to your oral request last week, we are pleased to provide you with a copy of the inventory, which is enclosed and the requested technical information.

Kennecott Eagle Minerals Company best estimate of the requested technical information regarding mine re-flooding is as follows:

- The total estimated volume of underground workings is approximately 200,000 cubic meters. The estimated volume includes all underground spaces with the exception of the stopes which will be backfilled with solid geotechnical fill for stability.
- The source of water used for re-flooding the mine will likely be the local shallow unconsolidated aquifer groundwater, which is generally characterized as a calcium-bicarbonate, low TDS, neutral pH fresh water.

- Approximate location of the wells proposed for pumping water into the underground workings are shown on Figure 7-2 and 7-3 of the Kennecott Eagle Project Part 632 Nonferrous Metallic Mineral Mine Permit Application, which can be found at: <http://www.deq.state.mi.us/documents/deq-ogs-land-mining-metallicmining-EagleAppWeb.pdf>

Please note that this inventory and the information contained within the letter should be considered provisional and subject to change over the next 10-15 years or until such time as the details of this reclamation activity become finalized in light of future conditions. It would be more beneficial to complete this inventory and provide answers to EPA's technical questions for the re-flooding stage of the mine closer to the end of mine life when there will be a wealth of information available allowing water volume, rate, duration, location and content to be better understood.

If you should have any further questions, or require additional information, please contact me or Vicky Peacey directly at 906-486-1257.

Sincerely,



Jonathan C. Cherry  
General Manager

**UNDERGROUND DISCHARGE SYSTEM (CLASS V) INVENTORY SHEET**  
(see instructions on back)

**Name of facility:** Kennecott Eagle Minerals Company  
**Address of facility:** 46° 44' 55" N, 87° 53' 43" W (Geographic Location)  
**City/Town:** Marquette **State:** MI **Zip Code:**  
**County:** Marquette **Location:** 46° 44' 55" N, 87° 53' 43" W  
**Contact Person:** Ms. Victoria Peacey, Manager of Environmental Affairs, Health and Safety  
**Phone Number:** 906-486-1257

**Name of Owner or Operator:** Kennecott Eagle Minerals Company  
**Address of Owner or Operator:** 504 Spruce Street  
**City/Town:** Ishpeming **State:** MI **Zip Code:** 49855

**Type and Number of Systems:** Drywell(s) Septic System(s)  Other (description)  
Re-flooding of underground mine workings. The EPA well code corresponds to 5X "Other wells"

**Attach a schematic of the system. Attach a map or sketch of the system at the facility:** Site location maps (plan view and cross section) are provided in Figures 7-2 and 7-3 of the Kennecott Eagle Project Part 632 Nonferrous Metallic Mineral Mine Permit Application, located at <http://www.deq.state.mi.us/documents/deq-ogs-land-mining-metallicmining-EagleAppWeb.pdf>.

**Source of discharge into the system:** Approximate location of the wells proposed for pumping water into the underground workings are shown on Figure 7-2 and 7-3 of the Kennecott Eagle Project Part 632 Nonferrous Metallic Mineral Mine Permit Application (see the above link). Additionally, the workings will also re-flood naturally.

**Fluids discharged:** The source of water used for re-flooding the mine will likely be the local shallow unconsolidated aquifer groundwater, which is generally characterized as a calcium-bicarbonate, low TDS, neutral pH fresh water.

**Treatment before discharge:** No treatment

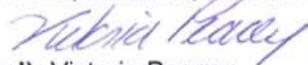
**Status of underground discharge system:** Proposed

**Approved/Permitted by:** Kennecott Eagle Part 632 Nonferrous Metallic Mineral Mine Permit MP 01 2007 issued by the State of Michigan Department of Environmental Quality.

**Date Constructed:** Proposed

**CERTIFICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

**Signature:**   
**Name (printed):** Victoria Peacey  
**Official Title:** Manager of Environmental Affairs, Health and Safety

**Date:** 12/4/2009