

From: Warnock, George MEM:EX
Sent: Wednesday, September 19, 2012 1:13 PM
To: Howe, Diane J MEM:EX
Cc: Hoffman, Al MEM:EX
Subject: Mount Polley Mine - 2012 Tailings Construction [Additional Raise]
Attachments: Amd M-200 Approving Tailings Storage Facility Stage 8A Construction September 2012_DRAFT.docx

Hello Diane,

I have reviewed the letter report titled, "2012 Stage 8A Tailings Storage Facility Construction Drawings and Stability Analysis for Embankment Raise to El. 965 m," prepared by AMEC Environment & Infrastructure and dated September 10, 2012. The letter report includes an attachment (also by AMEC) titled, "Mount Polley Mine Tailings Storage Facility 2012 Stage 8A (965 m) Expansion Stability Analyses," with the same date. As you may recall, an amendment to M-200 was issued on June 29, 2012 to permit the Stage 8 dam raise to the 963.5m elevation. The new application (received from Luke Moger by e-mail on September 18, 2012 – see below) seeks an amendment to permit the 2012 construction to the 965 m elevation, an increase of 1.5m over the June 2012 amendment. Construction associated with this latter amendment application has been dubbed the "8A raise". Relevant review comments as follows:

- Part of the rationale for the new raise elevation is to provide additional storage capacity and freeboard to allow 2013 construction to occur in late Spring or early Summer instead of early next Spring.
- Quality Assurance / Quality Control and other construction details will remain consistent with the 2012 Construction Manual (submitted and reviewed for the Stage 8 Raise).
- AMEC is targeting a short term design factor of safety of 1.3. Stability analyses indicate that this has been achieved for all embankments, and soil strengths used in the analyses appear to be reasonable. The Main Embankment had the lowest factor of safety of about 1.3 for both the drained and post-liquefaction case (results were only slightly lower (~1.5%) than the 963.5m embankment case). Based on the similarity of the results, seismic calculations were not deemed to be necessary.
- A transition is being made from "modified centerline" (upstream) construction to fully centerline construction in order to ensure that the closure criteria factor of safety of 1.5 can be achieved. [Note – it does not appear that future upstream dam raises would meet the short term or long term design criteria.]
- Trigger levels for piezometer monitoring have been established based on the calculated factor of safety for various hypothetical pore pressure elevation heads.
- The design modification was reviewed by Todd Martin, a Principal with AMEC and known to be knowledgeable with respect to tailings dams. Construction will be under his supervision. Drawings were "Issued for Construction" and are sufficiently detailed.

AMEC's letter report supports Mt. Polley's application, and I have no geotechnical objections to this application. I have used the Stage 8 amendment to prepare a draft Stage 8A amendment for Al's signature (see attached). Feel free to modify as you see fit.

Regards,

*George Warnock, P.Eng.
Manager, Geotechnical Engineering
Ministry of Energy and Mines
Phone: 250-565-4327*

From: Luke Moger [<mailto:lmoger@mountpolley.com>]
Sent: Tuesday, September 18, 2012 4:07 PM
To: Warnock, George MEM:EX
Cc: Hoffman, Al MEM:EX; Howe, Diane J MEM:EX
Subject: Mount Polley Mine - 2012 Tailings Construction [Additional Raise]

Hi George,

We were hoping to add an additional 1.5m onto our 2012 Tailings Construction Program at Mount Polley, taking it to the 965.0m elevation. The existing 2012 Tailings Construction is permitted to 963.5m (June 2012), which we are continuing to construct towards presently. There are multiple reasons for our wish to permit this additional build in 2012:

- 1) We would like to add additional internal contingency for our freeboard capacity (past the 1.3m permitted and safely projected by our water balance)
- 2) We would like to relieve the pressure to continue construction during more challenging conditions (i.e. be able to target more continuous, cost effective construction rather than "stop-start" construction)
- 3) We are looking at a slight design modification to a centerline method (please see attached package from AMEC) and would like to include some construction using this method in 2012 to help model 2013 budgeting and construction methodology
- 4) We would like to take advantage of what has been a very successful construction season to date

Please find attached the construction drawings from our design engineers, AMEC, along with the associated stability analyses. You are already in receipt of our 2012 Construction Manual, from which the QA/QC and other details will remain constant.

If you would be able to confirm receipt of this package that would be much appreciated; please do not hesitate to contact me if you have any questions or comments.

Kindest Regards,

Luke



Luke Moger
Project Engineer, Mine Operations
Mount Polley Mining Corporation
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Canada

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**PERMIT AMENDMENT
APPROVING TAILINGS STORAGE FACILITY
STAGE 8A CONSTRUCTION**

Permit: **M-200**

Mine No. 1101163

Issued to: **Mount Polley Mining Corporation
P.O. Box 12
Likely, British Columbia
V0L 1N0**

for work located at the:

Mount Polley Mine

Amended at Victoria, British Columbia this xxth day of September in the year 2012.

Al Hoffman, P.Eng.
Chief Inspector of Mines

PREAMBLE

An application for an amendment to permit M-200 entitled, "Mount Polley Mine – 2012 Tailings Construction," dated April 3, 2012, was submitted to the Chief Inspector of Mines (Chief Inspector) in accordance with Section 10(6) of the *Mines Act*. A permit amendment was issued in response to this application on June 29, 2012 to permit a dam raise to the 963.5m elevation, in what was called the Stage 8 Raise. On September 18, 2012, an application was submitted to amend the permit to allow 2012 construction to the 965m elevation, which is referred to as the Stage 8A Raise.

The following report was submitted in support of the original (Stage 8) application:

- A report by AMEC Environmental & Infrastructure entitled "Tailings Storage Facility – Stage 8 2012 Construction Monitoring Manual," and dated March 30, 2012.

The following report was submitted in support of the amended (Stage 8A) application:

- A letter report by AMEC Environmental & Infrastructure entitled "2012 Stage 8A Tailings Storage Facility Construction Drawings and Stability Analyses for Embankment Raise to El. 965 m," and dated September 10, 2012.

Both reports are considered necessary to support the Stage 8A application.

CONDITIONS

The Chief Inspector hereby approves the work program subject to compliance with the following terms and conditions:

General

1. Compliance with *Mines Act* and Code

All work shall be in compliance with all sections and parts of the *Mines Act* and Health, Safety and Reclamation Code for Mines in British Columbia (Code) and the owner, agent or manager (herein called the Permittee) shall obey all orders issued by the Chief Inspector or his delegate.

2. Departure from Approval

The Permittee shall notify the Chief Inspector in writing of any intention to depart from either the plan of the work system or the program for the protection and reclamation of the surface of the land and watercourses to any substantial degree, and shall not proceed to implement the proposed changes without the written authorization of the Chief Inspector.

Geotechnical

1. General

- (a) The stage 8A dam raise to elevation 965 m shall be constructed in accordance with the design and specifications provided by the design consultant.

All other terms and conditions remain the same.