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**From:** Luke Moger <lmoger@mountpolley.com>  
**Sent:** Thursday, June 06, 2013 4:49 PM  
**To:** Wiebe, Laura  
**Cc:** Ostritchenko, Dmitri  
**Subject:** RE: Field Investigation Summary

Hi Laura,

Please see comments below.

Kindest Regards,

**Luke Moger**

Project Engineer, Mining Operations  
Mount Polley Mining Corporation

Tel: +1 (250) 790-2215 ext. 113  
Fax: +1 (250) 790-2613  
Email: [LMoger@MountPolley.com](mailto:LMoger@MountPolley.com)

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**From:** Wiebe, Laura [mailto:Laura.Wiebe@amec.com]  
**Sent:** Wednesday, June 05, 2013 1:51 PM  
**To:** Luke Moger  
**Cc:** Ostritchenko, Dmitri  
**Subject:** Field Investigation Summary

Hi Luke,

As per your request, below is a field/site summary prepared by Dmitri based on his recent inspection of activities on site.

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As per my inspection of the construction activities performed on the TSF since my last site visit (May 14) , the following concerns were noted:

**Zone C placement - Main Embankment**

We stopped the placement methodology employed to eliminate the issues noted. We started pairing an excavator with the dozer receiving rock and selecting finer Zone T (Transition) from the pit run material being deposited. This methodology worked well in the remaining stretch along the Main Embankment towards Corner 3.

The exposed face immediately downstream of Zone F, where Zone T transition material (or selective zone C material) should be utilized, is too coarse and is out of specification from approximately 2+500 to about 2+000. Properly graded Zone T material will need to replace the currently oversized material in these areas. (photo 2 taken looking towards corner 2 @ 2+500, photo 7 shows typical as-placed material).

MPMC have scheduled for manufactured (-2") material to be produced this Friday and hauled to the dam for placement in any areas that are found to be unsuitable once clean-up is complete (trenching method most probably).

Photo 18 shows how the till was placed improperly around the main embankment tailings pipe. This area will need to be fixed and properly compacted prior to placing the next lift of till.

Zone S (Till) areas that have been affected will be cleaned (and if warranted, replaced) prior to the placement of the next lift of material.

Photo 19 is taken looking towards corner 3 @ 2+000. The grain size distribution of the visible material is better, however there are occasional oversized particles present in the transition zone area. However, the encroachment of this material onto the till is unacceptable and is resulting in the pinching off and contamination of the filter and till material in some areas. (photo 23, 32). These issues will need to be fixed prior to any further placement of till. Fixing may include trenching in till material near the downstream till limits if, upon further inspection, the core has been negatively affected.

The TSF Crew has been assigned the task of cleaning the Zone C (Rock) off of the Zone S (Till) and Zone F (Filter) and exposing an additional 1.5 for the Zone T (Transition) zone for remediation of the aforementioned areas. Zone S (Till) and Zone F (Filter) areas that have been affected will be cleaned (and if warranted, replaced) prior to the placement of the next respective lifts of each material.

### **Till Borrow**

Inspection of the currently utilized till borrow (found below Corner 2 along the ME) indicates that the material visible along the borrow pit side walls look consistent, however some evidence of glaciolacustrine material was noted to be present in the working face at the northwest corner of the pit. (Photos 33, 34) Continuous observation of the consistency of the material is required.

Peterson Contracting (Brian) is aware of this, and will follow the mixing protocol outlined in the construction manual if encountered.

### **Till placement – Perimeter Embankment**

Upon inspection the following deficiencies were observed:

It appears as though the haul trucks have not been consistently travelling on the recently placed till surface during placement. The till has not been spread/compacted out to the design limits as required. (Not to within 6 inches of the stake lines, or to the berm to the upstream side of the till) The contractor should be notified that the widths and location of the till need to be double checked by the field monitor (and/or AMEC rep) prior to placement of each successive lift.

A discussion has been had between AMEC (Dmitri) and Peterson Contracting (Brian) in regards to this, and a clarification memorandum has been formulated by AMEC for inclusion in the next bid package (965.0m and up).

During the inspection it was also noted that due to poor weather conditions as well as haul truck traffic working nearby, a layer of debris/muck has been forming on top of the completed sections of till. (photo 38) This debris will need to be removed to ensure proper bonding occurs between till layers.

This is being completed in line with standard operating procedure.

Additionally, some cracking along the upstream side of the Perimeter Embankment had been observed by AMEC (Dmitri) and after discussion with Peterson Contracting (Brian) is being remediated under the supervision of AMEC (Dmitri) today.

## **South Embankment**

Construction activities generally look acceptable and relatively ready for till placement. It was noted that there are some sections where the Zone U material is encroaching downstream into the till limits. The upstream and downstream extents of the till need to be surveyed and any encroaching Zone U material will need to be removed.

The upstream limits of the Zone S (Till) have been outlined today by MPMC (Lindsey) and AMEC (Dmitri), and cleaning of the Zone S (Till) and verification of width will be completed in standard operating procedures prior to placement of any additional lifts.

Laura Wiebe, P.Eng.  
Geotechnical Engineer

**AMEC Environment & Infrastructure**  
Direct number: (604) 295-6360  
AMEC VOIP #13-6360

Suite 600, 4445 Lougheed Highway  
Burnaby, B.C., V5C 0E4  
Main Tel: (604) 294-3811  
Fax: (604) 294-4664



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