Subject: Meadowbank East Dike Construction TSS and Turbidity Issue Update
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Date: Thu, September 11, 2008 12:20 pm
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All:

This is intended to provide an update to East Dike construction status at the Meadowbank site. The following provides a quick timeline summary for the East and West Channel Dikes:

* August 17th - The east dike embankment rockfill is completed from south to north closing off the northeast arm of Second Portage Lake with a pervious rockfill structure;

* August 23rd - Excavation and lakebed sediment removal from the East Dike core trench is completed;

* August 26th - Placement of crushed screened rockfill filter into the East Dike core trench is completed

* August 30th - Backfill of crushed and sized rockfill into the East Dike core trench is completed - compaction of the core trench under way

* September 07th - Compaction of backfilled East Dike core trench completed

* September 07th - Excavation and installation of East Dike cement bentonite cutoff wall started and is ongoing as of September 11th

* September 08th - Construction of West Channel Dike till core is started and was about 40% complete by September 10th

TSS (measured as turbidity) levels within Second Portage Lake have been decreasing since approximately August 26th. All of the west monitoring stations are indicating TSS levels of 6 mg/L or less. All NE and SE stations are now below the 15 mg/L TSS threshold. We still have some high value habitat monitoring stations showing TSS levels above 6 mg/L but these are also trending downwards.

Since my last update AEM has undertaken a number of activities to reduce and mitigate the introduction of total suspended solids into Second Portage Lake from the East Dike construction zone. The following summarizes these activities:

* An additional 260 meters of turbidity curtain was installed along the outside (lake side) of the East Dike in the area where trenching and placement of cutoff wall material was underway;

* Tarps and available HDPE liner material on site were used to place a plastic "cap" or barrier along the outside slope (lake side) of the East Dike rockfill to reduce the release of sediment from flowing passing through the Dike fill.

* A temporary dike was installed at the Western channel crossing to stop all flow (except some subterranean flow) from Third Portage Lake into Second Portage Lake through the west channel. The flow was cut off by August 24th. This in turn reduced the amount of water flowing through the East Dike construction zone as it reduced the flow into the upstream northeast arm of Second Portage Lake to surface runoff only;

* An additional 900 meters of turbidity barrier was ordered from the US supplier on an emergency basis for deployment as necessary;

* An order was placed for 400 meters of tarpaulins on an emergency basis to provide a source of material for further deployment if necessary.

Measured TSS levels within the turbidity barriers have significantly decreased since mid August and are now at levels of approximately 30 mg/L well below the 230 to 250 mg/L levels experienced earlier in August.

A team of two technicians from KI Environmental arrived at Meadowbank on Tuesday September 09th with their testing equipment and 100 - 1 Kg socks of Chitosan flocculant. They started bench testing on Wednesday and should be ready to field test Chitosan by September 12th. Field testing will be restricted to the impoundment side of the East Dike to the water inside the turbidity barrier to ensure that settled sediments remain inside the dewatered impoundment area. I will report the results of the bench testing to all ASAP.

Azimuth has completed a proposed field program to assess the effects of the high TSS levels in Second Portage Lake. This program proposal will be forwarded to all under separate cover either later today or tomorrow. The intention is to start this work before ice forms on the lake this Fall with a follow up program next year.

I have attached the most recent updates on TSS sampling within Second Portage Lake updated through September 10th

In summary the actions taken have reduced TSS release from the ongoing construction and we are seeing TSS levels trend downwards within Second Portage Lake.

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