Appendix A1

Independent Geotechnical Expert Review Panel 2008 Reports

September 29, 2008 – Report No.1

October 31, 2008 – Trip Report

UNIVERSITY OF ALBERTA

Department of Civil & Environmental Engineering
School of Mining and Petroleum Engineering

3-133 Markin/CNRL Natural Resources Engineering Facility
Edmonton, Alberta, Canada T6G 2W2

www.engineering.ualberta.ca/civil

Tel: 780.492.4235
Fax: 780.492.0249

September 29, 2008

Mr. Dennis Gourde, P.Eng.
General Manager
Agnico – Eagle Meadowbank Division
Baker Lake Office

Email: denis.gourde@agnico-eagle.com

Dear Mr. Gourde,

Re: Meadowbank Dike Review Board (MDRB)
Report No. 1

1.0 INTRODUCTION

Agnico – Eagle Mines Limited (AEM) has appointed an independent geotechnical review board (the Board, MDRB) with the following terms of reference:

- To provide AEM with independent senior technical review of the engineering designs for all of the dewatering dikes and tailings dams at the Meadowbank Project and to provide AEM with technical advice related to the construction, operation and decommissioning of these structures throughout the life of the Meadowbank Mine; and

- To provide AEM with independent technical review and advice on performance monitoring of the dewatering dikes and tailings dams including instrumentation and physical inspection throughout the mine life.

The membership of the Board is as follows:

- Dr. Norbert R. Morgenstern, Chairperson
- Mr. D. Anthony Rattue
- Dr. Andrew M. Robertson

Prior to the first meeting of the Board, each member received for information a complete set of the design documents and background studies for the Meadowbank dewatering dikes and tailings dams, including the design, specifications and drawings that pertain to the East Dike, which is currently under construction. The list of documents received is included as Attachment A.

The first meeting of the Board was convened on site between September 17-19, 2008. The agenda for the meeting which was more or less followed with minor changes is found in Attachment B. During the meeting the Board received for information a Project Overview, which it welcomed. Additional presentation material is discussed, as appropriate in the technical sections of this report that follow.

A list of attendees to the Board meetings, either fully or in part, is presented in Attachment C. The Board appreciates the efforts made by all presenters and the environment of open and frank discussion that prevailed. The Board briefed Project staff on major findings and recommendations, which is underlined in the body of this report below.

A draft of this report was submitted for review on October 7, 2008 and the final version was transmitted on November 26, 2008.

2.0 DESIGN OF THE EAST DIKE

The design of the east dike, which is currently under construction, was presented. The evolution of the design was discussed and modifications made to the design issued for construction were noted, as were the future document deliverables.

For the record the Board is in agreement with the design as presented. It notes that AEM and their Consultant, based on the limited hydraulic gradient across the cutoff wall, have elected to employ a soil-bentonite wall, as opposed to a soil-cement-bentonite wall which would be less erodible. The Board concurs that this choice was reasonable but emphasizes the need to evaluate the outcome to optimize the design of future dikes.

3.0 CONSTRUCTION OF THE EAST DIKE

3.1 Schedule

The construction schedule was presented. The Board was pleased to be informed that the Project is essentially on schedule, although grouting is incurring some delay at this time due to logistic issues. This is a significant achievement. A slight delay in completion of grouting is not expected at this time to impact the start of dewatering.

3.2 Materials

No Comments

3.3 Silt Control

The design and implementation of the silt curtain was described. It generally followed Diavik precedents with the curtain anchored to within 1 m of the lake bed. However, the Board notes that compliance points were much closer to the dike than at Diavik.

TSS developed during rockfill placement and with wave actions and currents a significant plume escaped from below the turbidity barrier and moved with currents. TSS was out of compliance and this is a serious issue to be resolved for future work.

The project has collected considerable information on the development and migration of sediment plumes. Correlations have been observed with rockfill placement, wave action, currents and the placement of anchors for the silt curtain. Given the available data, the Board recommends the following strategies:

i) develop a plan and costs for sediment removal and disposal in advance of rockfill placement for the future in-lake dike construction;

ii) undertake a detailed analysis of the sediment flux patterns, based on TSS profile measurements taken for the East dike, and its variation with time, construction activity, climatic and environmental factors etc. with the intent to evaluate improved placement practices;

iii) re-assess compliance permits if negotiable;

iv) based on the findings above, select the appropriate procedure for future work.

3.4 Rock Fill Placement

The Board was advised that the Project has determined that it is impractical to distinguish between PAG and NPAG rock for purposes of rockfill construction and therefore the design is now based on NPAG alone. The Board agrees.

Placement processes are acceptable. The Board accepts the decision to delete a portion of the upstream rockfill zone as unnecessary.

3.5 Core Trench Excavation

The core trench excavation extends through rockfill and till to the top of the bedrock. A number of difficulties have been identified:

i) the shape of the excavation is smoothed at its base and does not conform with the ideal design;

ii) it is difficult to confirm the Coarse Filter thickness;

iii) slopes and the top of slope alignment are somewhat variable;

iv) it is difficult to clean the base of the excavation in deeper sections due to equipment reach limitations;

v) survey control through bathymetry is difficult.

Nevertheless, the Board is of the view that the excavation has been reasonably well controlled and is generally successful.

3.6 Filter and Core Placement

The materials placed were generally consistent with the specifications. Placement procedures were appropriate and these activities went well.

3.7 Compaction

Dynamic compaction was well-suited for this application, given the moderate depths to be attained. The results appeared to have been excellent. The Board recommends that consideration be given in the future to conducting dynamic cone tests to obtain a signature of the resulting density. This could provide a guide for controlling compaction of core material in the future.

3.8 Slurry Trench and Backfill

The Board was advised that no slurry loss occurred during excavation. As noted above, the Board is of the view that excavation is reasonably well controlled. This pertains to both the core trench and the slurry trench. However the Board is doubtful that the base of the slurry trench rests reliably on or in rock. Based on information presented and a limited inspection of the excavation process and resulting spoil the Board is of the view that a residual layer or patches of till and/or re-sedimented material remains in place on the top of rock. As a result, the additional grouting at the base of the wall, as proposed by the design, is particularly important.

The soil-bentonite mix design that has been adopted is reasonable. However the hydraulic conductivity measured in QC tests is higher than anticipated. The Board recommends that the as-built report include a revision of anticipated seepage based on the actual test data with an additional allowance for scale effects.

The Board was favourably impressed by the QC procedures and notes that the slurry wall is being completed just ahead of the onset of cold weather. This is a significant achievement on the part of all involved.

3.9 Grouting

3.9.1 Rock

Rock grouting is intended to proceed in accordance with the specifications. The Board recommends the following additions and revisions:

i) The Consultant should be requested to clarify the orientation of the holes for water pressure tests so that they would intersect the dominant joint direction in the foundation rock;

ii) The grout pattern should pay special attention to possible fault locations, notwithstanding possible low takes in primary hole grouting;

iii) All primary holes should be completed first as a measure of final foundation investigation. This information will be of value in assessing the risk associated

with dewatering in advance of grout curtain completion and prioritizing the secondary hole work areas.

3.9.2 Contact Grouting

The contact grouting is intended to reduce seepage at the interface between the base of the cutoff wall and the underlying rock and to make the material in the zone more erosion resistant. The Consultant has proposed the "tube-a-manchette" (TAM) method to achieve these objectives and the specifications generally indicated the required procedure.

At the tender stage, the Contractor proposed a modified method which was accepted by the Project.

After review, the Consultant had reservations regarding this method and recommended a field trial prior to implementation.

The Board shares the concerns of the Consultant. To be successful, TAM requires injection under pressure in order to fracture the ground and it is not evident that this will occur with the method proposed by the Contractor.

The Board recommends that the Project first require that the originally specified TAM procedure be implemented if practical with available equipment and drill casing but with a smaller diameter sleeve pipe. If this is not practical the Board recommends that the Contractor's method be adopted, but that a grouted annulus around the casing be introduced into the scheme to facilitate pressure build-up and hydro-fracture at the base of the cutoff wall.

3.10 Instrumentation

The proposed instrumentation remains the same as that recommended in the design.

3.11 Dewatering

The discharge for lake dewatering is 80,000 m^3/day. It is not clear to the Board what percentage of the cutoff Portage Arm lake volume has been assumed to be directly dischargeable. The Project recognizes that TSS issues impose a severe limitation and that not all will be dischargeable. The Board suggested, and there was general agreement, that an assumption of 60% is a reasonable base case. The fate of the non-dischargeable water could have a significant impact on Project development.

The Board recommends the following:

i) a high priority should be given to developing discharge/time/ground emergence plots to assist planning and design;
ii) if the residual water cannot be left in place, as a base case, consideration should be given to containment by the Stormwater Dike and complete dewatering;

iii) an alternate possibility is to build an upstream cofferdam in the wet in order to gain access to the footprint of the Central Dike site.

3.12 Modifications During Construction

The Board expects all design modifications to be documented in the As-Built Report.

3.13 Lessons Learnt

A comprehensive summary of key lessons learnt was presented. These provided guidance for future dike designs. Additional lessons will be learnt following grouting and assessment of seepage performance following dewatering. These will be reviewed at the next meeting of the Board.

4.0 TAILINGS STORAGE FACILITY

Although the central dike was the main intended topic, the presentations and discussions revolved around the overall Tailings Storage Facility (TSF) and water management became one of the important issues. The main components of the TSF are:

- Central dike
- Stormwater dike
- North and South Saddle dikes

4.1 Central Dike

The Central Dike design has evolved from a till core rockfill embankment through an embankment with upstream till impervious element to an upstream geomembrane.

The design criteria are appropriate, however some clarification is in order concerning:

The potential for ice loading on the membrane;

The implication of climatic change has apparently been considered in the closure design which currently presumes freeze back of the dike and the tailings deposit in the long term. However, the relatively short mine life may imply incomplete freeze back at closure and this may affect how the seepage control requirements in short, medium and long term are established.

It should be noted that climate change effects, last considered by the Consultant in their response of the INAC review (Technical Memorandum to Larry Conell, dated April 4, 2008) assumed a 6.4°C increase by the year 2100. However an assessment of temperature data from Baker Lake since 1985 suggests a warming rate of 11°C/100 years, indicating that the conclusions of the Consultant require some re-assessment (Holubec, I., 2007, Design requirements for climate warming in permafrost. Yellowknife 2007 Symposium, Canadian National Committee for the International Permafrost Association, May 24.)

(Note that the closure design of the waste rock pile should also consider this aspect, though the buffering offered by the alkaline ultramafic rock of the cover also reduces net acid generation potential).

The Board supports the study of the various options that are proposed. The requirements and difficulties with reference to foundation dewatering will likely be a determining factor. There is a need to resolve the site wide water management plan and to see how the TSF integrates into this.

Should TSS issues slow the rate of dewatering, the construction of a cofferdam to isolate the foundation area is a distinct possibility despite the fact that the lakebed slopes away from the dike footprint. The current design with a concrete plinth/grout cap on rock necessitates complete dewatering of the dike footprint. The designer may explore other options which satisfy the objectives of minimizing seepage to the mine pit, ensuring safety for mining operations, facilitating closure with compliance of the environmental aspects in perpetuity.
If the plinth/grout cap is retained, the issued-for-construction drawings should include criteria for establishing the plinth longitudinal profile. Currently, only a minimum slab thickness is specified.

The Board looks forward to seeing the revised design report at the end of 2008.

4.2 Stormwater Dike

There was discussion on the percentage of water that can be pumped from the second portage arm before suspended solids become a limiting factor, on the manner in which the tailings will be deposited in the first year of production, on the possible need to store dredgate from the Bay-Goose footprint, and on the role to be played by the Stormwater dike. The service requirements may be other than first envisaged. Instead of a hydraulic gradient from the south to the north, it may be required to withstand gradients in either direction.

The Stormwater dike currently has an impervious element (till or geomembrane) on the south face. The designer notes that a central till core rockfill dam with the potential to offer the required flexibility of operation. Till would be won from the exposed lakebed after dewatering. Placement of till wet of optimum is possible with the provisor that the cross-section is designed to ensure stability. The foundation will be exposed after the drawdown of about 2 m to 3 m of water, thus permitting construction to begin, if required, ahead of the central dike.

4.3 North and South Saddle Dikes

The saddle dikes are required in the raising phases of the TSF. The North saddle dike is a rockfill access road whereas as the South dike is a rockfill embankment with impervious upstream element. Design will be finalized in due course.

5.0 BAY-GOOSE DIKE

There has been a major revision in the scope of the dike requirements, the Bay-Goose dike replacing earlier Bay Zone and Goose Island dikes. This is a significant change for the better in terms of dike design and construction, due to the reduced length and shallower water location, and the Board is pleased that mine planning could accommodate this change. The Board agrees with the dike design criteria, however, there is a need to confirm that all aspects of pit slope stability, set back, rock drainage and monitoring address the possibly critically flat lying rock structures and the associated failure modes as they may impact dike integrity.

The water depths are now similar to those at the East dike and the existing design for the latter structure can therefore be extended to the Bay-Goose subject to the experience with the grouting and the performance on dewatering.

The issues have been recognized by the designer and AEM for the development of the detailed design. Some options such as a cement/bentonite cutoff and ground freezing were put on the table for future consideration.

The Board agrees that additional site investigation is required to complete the design and to minimize unknowns for construction. The objectives include:

- improved knowledge of the sediment thickness, distribution and characteristics in order to better evaluate the scope of any dredging that may be required;
- confirming till thickness along the alignment of the cut-off.

A construction planning exercise should be part of the design process. The sequence of activities and the launch points for the embankment placing may well have an important impact on the suspended solids generation and transport.

Should thermosyphons be adopted for ground freezing in the deep section (west depression), then completion of this section of dike including the installation of the thermosyphons in the 1st season would permit passive operation of the thermosyphons over the following winter.

6.0 ADDITIONAL COMMENTS

Notwithstanding the impressive accomplishments during the short 2008 construction season, it is noted that the construction management and supervision team was possibly understaffed. It is anticipated that the 2009 season, with activities on possibly three fronts will likely overtax the resources. The successful completion of the work is predicated on the ability to respond rapidly to the geological and geotechnical conditions as they are exposed. Good lines of communication are essential.

The responsibilities for the various components of the work are spelt out in the "Administration" section of the specifications and this section also states that the "Owner" is responsible for "scheduling, coordination and direction of the Work".

It is outside the mandate of the Board to get involved with commercial aspects, but it would appreciate being advised of any technical disputes. It appears that good cooperation has been obtained so far from the Contractor and the contractual arrangements for the forthcoming work should be such as to encourage collaboration and permit whatever adaptations to conditions as may be necessary.

7.0 FUTURE MEETINGS

1. Conference call:

   A conference call is proposed for the morning of October 30th (8:00 am site time) to discuss the status of the grouting operation.

2. Next Board meeting

   The next Board meeting is scheduled for January 8th and 9th, 2009 in either Vancouver or Toronto (to be confirmed by AEM). It is anticipated that grouting will be completed or almost complete at this time and dewatering protocols will be available for discussion.

8.0 ACKNOWLEDGEMENTS

The Board wishes to thank the staff of Golder Associates for the informative presentations during the course of the meetings and to all participants for their valuable contribution to the discussions.

The Board also thanks Agnico-Eagle Meadowbank Division for the opportunity to work with the various players on this challenging project.

Norbert R. Morgenstern, P.Eng

D. Anthony Rattue, P.Eng.

ATTACHMENT A

DOCUMENT LIST

AGNICO-EAGLE MEADOWBANK
555 Burrard Street, Suite 375
Box 209, Two Bentall Centre
Vancouver, British Columbia V7X 1M8
Tel. 604.608.2557 Fax. 604.608.2559

agnico-eagle.com

August 18, 2008

Via Fedex

Dr. Norbert R. Morgenstern
Professor
Geotechnical Engineering
University of Alberta
3-075 Markin/CNRL Natural Resources
Engineering Facility
Edmonton, Alberta, Canada T6G 2W2
Phone: (780) 492-5127

Dear Dr. Morgenstern,

Re: Meadowbank Project – Geotechnical Review Board

Please find included with this letter the following documents which provide background and current design information for the Meadowbank Dewatering Dikes and the Tailings Impoundment Area. A CD with electronic versions is also included.

Package 1:

- Report: Doc No. 449 – Pit Slope Design Criteria for the Portage and Goose Island Deposits, Volume 1
- Report: Doc No. 449 – Pit Slope Design Criteria for the Portage and Goose Island Deposits, Volume 2
- Report: Doc No. 722 – Coupled Thermal/Seepage And Containment Transport Modeling For The Tailings Facility
- Letter – Meadowbank Type A Water License – Response to Pre-Hearing Commitments

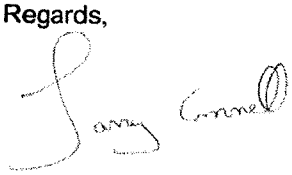
Package 2:

- Drawings - East Dike Drawings Package
- Letter - Expert Review of Meadowbank Tailings and Dewatering Dike Design
- Email – Re: Dike Designs: Meadowbank Gold Project (Revised August 30 email)
- Tech Memo: Doc. No. 561 – Summary of Review Comments Regarding September 5, 2007 Email – Meadowbank Dike Design
- Tech Memo: Doc. No. 597 – Minutes January 21, 2008 Meeting – Dr. Morgenstern Meadowbank Dike Designs
- Tech Memo: Doc. No. 611 – Dike Design Review Meeting Minutes 13 February 2008
- Tech Specs: Meadowbank Gold Project East Dike Technical Specifications
- Record: Record of Drillholes

- Tech Memo: Doc. No. 705 – East Dike Construction Drawings – Criteria
- Addendum: Addendum #2
- Tech Memo: Doc. No. 598 – Goose Island Dike Cutoff Wall Alignment Study
- Draft Report: Doc No. 572 – East Dike Design
- Draft Manual: Doc No. 571 – Operation, Maintenance and Surveillance Manual
- Tech Memo: Doc. No. 538 – 2007 Till Core Material Investigation and Laboratory Testing
- Report: Summary Report – Spring 2003 Field Geotechnical Studies
- Report Addendum: Doc. No. 492 – Detailed Design of Dewatering Dikes
- Report: Doc. No. 420 – Detailed Design of Central Dike, Volume 1
- Report: Doc. No. 420 – Detailed Design of Central Dike, Volume 2
- Report: Doc. No. 420 – Detailed Design of Central Dike, Volume 3
- Report: Doc. No. 348 – Sub-Bottom Profiling Surveys
- Report: Doc. No. 342 – Detailed Design of Dewatering Dikes, Volume 1
- Report: Doc. No. 342 – Detailed Design of Dewatering Dikes, Volume 2
- Report: Doc. No. 342 – Detailed Design of Dewatering Dikes, Volume3
- Report: Doc. No. 349 – Bathymetric Surveys
- Report: Doc. No. 193 – Winter 2006 Second Portage Tailings Dike Geotechnical Drilling, Hydrogeological, and Televiewer Investigation

Should you have any questions regarding the enclosed documentation, please contact me directly at 604-622-6530 or via email at lconnell@agnico-eagle.com.

Regards,



Larry Connell
Regional Manager: Environment, Social & Government Affairs

Sally Petaske

From: lconnell@agnico-eagle.com
Sent: Wednesday, August 06, 2008 2:01 PM
To: norbert.morgenstern@ualberta.ca; Anthony.Rattue@snclavalin.com; arobertson@mining.com
Cc: ben_wickland@golder.com; gaston.blanchette@snclavalin.com; emlamontagne@agnico-eagle.com; terry_eldridge@golder.com
Subject: East Dike Construction Drawings and Specifications for Review Board (1 of 2)

"Original hard copies coming by courier"

August 6, 2008

Reference:
Meadowbank Gold Mine Project - Nunavut
Dewatering Dike Geotechnical Review Board
East Dike Construction Drawings

Dear Sirs:

Please find enclosed for your review a set of construction drawings for the Meadowbank Project East Dewatering Dike and a copy of Golder Document 642 East Dike Construction Specification Rev. 0. These for construction drawings and specifications were issued by Golder Associates on August 05, 2008.

These drawings reflect a change in the core placement methodology that resulted from discussions held in July amongst the geotechnical engineering team and subsequently with the dam construction site supervisor and the construction contractor. In summary the changes are as follows:

- The alignment of the East Dike was moved slightly to place the dike in the shallowest portion of the lake at the intended dike location to minimize the height of this dike. The re-alignment was based on detailed bathymetry data collected in July once the ice had gone off the lake;

- The use of consolidated till as the core has been replaced by a compacted crushed rockfill and a soil-bentonite cutoff wall; and

- A single rockfill dike is to be constructed rather than the previous two rockfill dikes. The previous plan had consolidated till placed between the two dikes to provide the lower permeability core. The revised plan has one rockfill dike constructed with the crushed rock compacted cutoff core and soil-bentonite cutoff wall constructed via an excavated trench down this single rockfill dike.

It is my understanding that there was consensus that these changes, while more expensive, eliminate much of the uncertainty relating to the timing of consolidation of the original till core thus providing Agnico-Eagle Mines Limited and the construction contractor with better comfort over the planned construction schedule for this dike. Given the short summer construction season in Nunavut concern with construction schedule is critical. It is my understanding that there is more certainty with the constructability and performance of this modification in the Dike construction methodology.

Construction of the East Dike did commence on July 31st once the final authorizations had been received from the regulators. Work is currently proceeding on the placement of the rockfill dike structure.

I enclose these drawings and specifications for review by the Meadowbank Dewatering Dike Geotechnical Review Board. We would appreciate any comments or suggestions that you may have for us. Please feel to call on the undersigned at your convenience if I can provide any further information or detail.

You will be receiving by separate cover a complete set of the design documents and background studies for the Meadowbank dewatering dikes and tailings dams. These are being assembled by Golder Associates and should be available for distribution later this week.

Regards,

Agnico-Eagle Mines Ltd.
Larry Connell, P.Eng
Regional Manager Environment, Social and Government Affairs

File(s) will be available for download until **05 September 2008**:

Attachment: Doc 642 0801_08 East Dike Construction Specifications REV 0.pdf, 895.19 KB
Attachment: 2100-00.pdf, 925.61 KB
Attachment: 2100-01.pdf, 1,792.80 KB
Attachment: 2100-02.pdf, 918.32 KB
Attachment: 2100-03.pdf, 701.29 KB
Attachment: 2100-04.pdf, 784.07 KB
Attachment: 2100-05.pdf, 956.63 KB
Attachment: 2100-06.pdf, 907.67 KB
Attachment: 2100-10.pdf, 187.61 KB
Attachment: 2100-11.pdf, 654.04 KB

You have received attachment link(s) within this email sent via Agnico Eagle Mines File Transfer. To retrieve the attachment(s), please click on the link(s).

ATTACHMENT B

AGENDA FOR BOARD MEETING NO. 1

SEPTEMBER 17-19, 2008

AGNICO-EAGLE MINES - MEADOWBANK DIVISION

MEADOWBANK DIKE REVIEW BOARD

MEETING #1 - SEPTEMBER 17-19, 2008

MEETING AGENDA

Board members arrive at Baker Lake at 13:30 approx. on Wednesday Sept. 17

Wednesday Sept. 17 - Afternoon session at Baker Lake office

14:00	Introduction – Project Overview (Meadowbank General Manager)
15:00	Design of the East Dike (Golder)
17:30	Supper at Baker Lake
19:00	Transportation to Meadowbank mine site

Thursday Sept. 18 – Morning session at Meadowbank Construction office

07:00	Short site orientation session
07:30	East dike field visit
09:00	Construction of the East dike (Golder & AEM)

Thursday Sept. 18 – Afternoon session at Meadowbank Construction office

13:00	Design of Central Dike (Golder)
16:00	Design of Bay-Goose Dike (Golder)
18:00	Supper at Meadowbank cafeteria
19:00	Deliberation by the Board Members

Friday Sept. 19 – Morning session at Meadowbank Construction office

07:00	Preliminary report by the Board Members
08:00	Closure (Meadowbank General Manager)
09:00	Board members leave Meadowbank for Baker Lake airport

TECHNICAL SESSIONS

DESIGN OF THE EAST DIKE

- Design Criteria
- Original Concept
- Modified Concept
    - Change in cross-section
    - Change in dike axis
- Bill of Quantities
- Call for Tenders

CONSTRUCTION OF THE EAST DIKE

- Mobilization
- Construction Schedule
- Construction Materials
- Turbidity Control
- Initial Rockfill Platform
- Cutoff Trench Excavation
- Dynamic Compaction
- Slurry Trench Excavation
- Foundation Grouting
- Instrumentation and Monitoring
- Dewatering

DESIGN OF CENTRAL DIKE

- Design Criteria
- Original Concept
- Modified Concept
- Construction Materials and Quantities
- Construction Schedule

DESIGN OF BAY-GOOSE DIKE

- Design Criteria
- Original Concept
- Modified Concept
- Construction Materials and Quantities
- Construction Schedule

ATTACHMENT C

ATTENDEES

AGNICO EAGLE

MEADOWBANK MEETING

SEPTEMBER 17, 2008

Attendance		
Stephane Robert	AEM	Environment Superintendent
Martin Bergeron	AEM	Reg. General Manager
Larry Connell	AEM	Reg. Manager Environment & Govt.
John Cunning	Golder	Senior Technical Review
Ben Wickland	Golder	Dike Design
Norbert Morgenstern	Self	Dike Review Board
Eric Lamontagne	AE MM	Mine Manager
Gaston Blanchette	SNC Lavalin	Dike Engineer
Anthony Rattue	SNC Lavalin	Dike Review Board
Denis Gourde	AEM	General Manager

November 4, 2008

Mr. Dennis Gourde, P.Eng.
General Manager
Agnico – Eagle Meadowbank Division
Baker Lake Office

Email: denis.gourde@agnico-eagle.com

Dear Mr. Gourde,

Re: Meadowbank Dike Review Board (MDRB)
Trip Report – Dr. Andrew M Robertson – October 31, 2008

1.0 Trip Objectives and Schedule

This letter provides a brief report describing the activities and key observations during a visit to the Agnico – Eagle Mines Limited (AEM) Meadowbank mine site by the writer over the period October 30 to November 1, 2008.

As the third member of the Meadowbank Dike Review Board, the writer was unable to attend first MDRB site inspection and first review meeting from the 17th to 19th September, 2008. Following this first review meeting the MDRB issued MDRB Report No 1. The writer reviewed the reports and design documentation provided to the MDRB prior to this first meeting as well as MDRB Report No 1.

This trip was arranged to allow the writer to inspect site conditions and construction progress as well as to receive a briefing on material presented to the MDRB during Meeting No 1 from Mr. Gaston Blanchette of AEM. The trip agenda was as follows:

October 30: Travel from Winnipeg to Baker Lake.

October 31: Travel from Baker Lake to mine site. During the morning Mr Gaston Blanchette presented a review of the overall project dike requirements, investigations, designs and design changes, and construction progress. In the afternoon the East Dike was inspected (Photo 1) including the grouting installations and partially excavated trial grout area (Photos 2 to 4 and 7), and returned to Baker Lake. In the evening Gaston Blanchette completed the review presentation of the materials submitted for MDRB review during Meeting No 1.

November 1: Travel from Baker Lake to Winnipeg

2.0 Site Inspection

East dyke earthfill and slurry cut-off wall had been completed (Photo 7) together with installation of every second primary 'grouted in casing' in preparation for cut-off wall toe grouting. The grouting crew was off site waiting on a decision on which of two grouting procedures to implement.

A grouting test had been completed where both the 'grouted in casing' (GIC) and "tube-a-manchette" (TAM) methods had been applied at a location where excavation of the grout bulbs for inspection was possible. At the time of the visit the grout bulb for one of the GIC trials was being excavated (Photo's 2 to 4). The TAM trial for which the white grout casing is seen in Photo 7 had not been excavated.

A sample of the grouted crush was inspected closely (Photo's 5 and 6).

3.0 Observations

Observations relating to two topics are of immediate concern.

3.1 Grouting of the cut-off wall toe.

The grouting trial excavation indicated the presence of loose ungrouted 'crush' fill at the base of the cutoff wall fill material. This is apparent in the deeper 'hole' excavation seen in Photo 3. The grout bulb achieved by the GIC grouting trial clearly indicates the presence of open matrix crush prior to grouting. Reliable grouting of the toe of the cutoff wall is a necessity to prevent rapid seepage through such crush fill. Grouting of the rock below the upper surface could not be inspected.

The grouted bulb produced by cement grout intrusion from the GIC trial showed effective penetration of grout into the crush but for a limited distance (about 35 cm for the bulb seen in Photo 3. The conventional cement grout penetrates the crush well (see Photos 5 and 6) and the cement particle size does not appear to be a constraining factor.. It seems unlikely that the use of microfine cement will increase the radius of penetration significantly.

Some of the grout – particularly at the limits of the grout bulb – was very weak and some appeared not to have 'set' after 8 days. The unset grout would be readily erodible. The cold ground temperatures may be extending the set time the need for an accelerator should be considered, particularly if early dewatering is required.

The writer saw only the initial exposure of the first GIC bulb and the excavation of the remainder of the GIC and TAM trial is proceeding under the direct supervision of Gaston Blanchette. A more complete picture will be provided on completion.

Should the TAM not result in a considerably improved grout seal, and the GIC method is selected, it is appears likely that a very close spacing of grout holes will be required to reliably and continuously grout the cut-off wall toe.

It is understood that time requirements for application of the TAM method would result in delayed dewatering. Similar delays would result if large numbers of closely spaced GIC grout holes have to be formed.

It is prudent to develop a clear and reliable understanding of the grouting effectiveness of the alternative methods if a secure sealing of the toe of the cut-off wall is to be achieved in the most efficient and expeditious manner. Additional trials and testing may be warranted.

3.2 Dewatering requirements

The MDRB noted in Report 1, the potential that dewatering behind East Dike may be constrained by water quality limits on discharge. If this were to happen then the footprint of Central Dike would not be exposed in a timely manner to allow Central Dike foundation preparation and construction to proceed 'in the dry'. In this eventuality AEM are proposing to place tailings during initial years of production into Portage Attenuation Pond upstream of Stormwater dike.

The writer observes that it is difficult to achieve water quality in a pond during active dewatering. The continuous erosion of sediments from the expanding beach areas into the active pond, while it is being dewatered, results in low settling efficiency. It is usual to provide an intermediate sedimentation pond into which the water to be discharged is first pumped. The residence time in the pond should be sufficient to allow water to clarify (with or without a flocculent). Once the discharge water quality is achieved, water is decanted from the sedimentation pond at a rate which avoids exposure of sediment covered beaches.

Consideration may be given to the development of a sediment pond, as part of the dewatering system.

4.0 Closure

The writer would like to thank AEM personnel for the efficient manner in which they made arrangements for the travel and site visit and Gaston Blanchette for the considerable effort he went to effectively brief the writer and guide the site visit.

I would welcome the opportunity of answering any questions you maay have regarding this brief site visit report.

Yours truly,

Dr. Andrew M Robertson P.Eng.

PHOTOGRAPHS

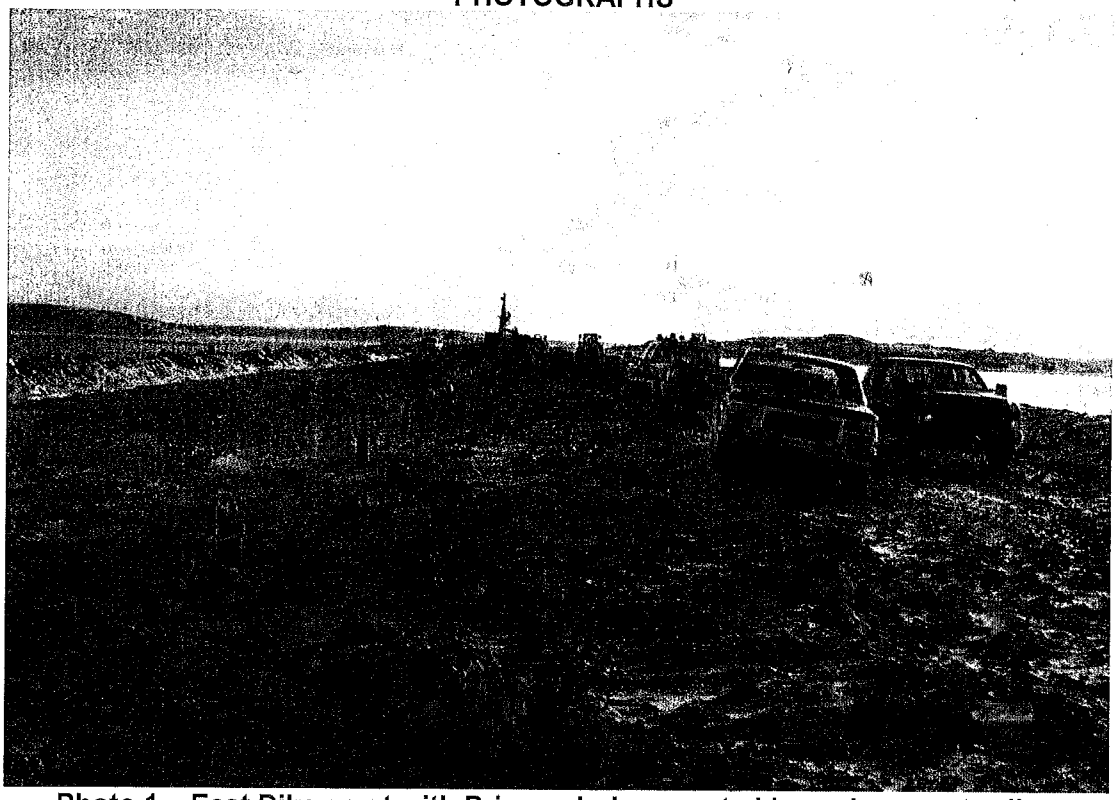


Photo 1 – East Dike crest with Primary holes grouted in casings protruding

Photo 2 – Excavated grouted in casings and grout bulb at slurry wall rock contact

Photo 3 – Grout bulb with excavated ungrouted 'crush' fill adjacent

Photo 4 – Limited extent of grout bulb. Injection port sleeve at tip of spade.

Photo 5 – Sample of grouted crush

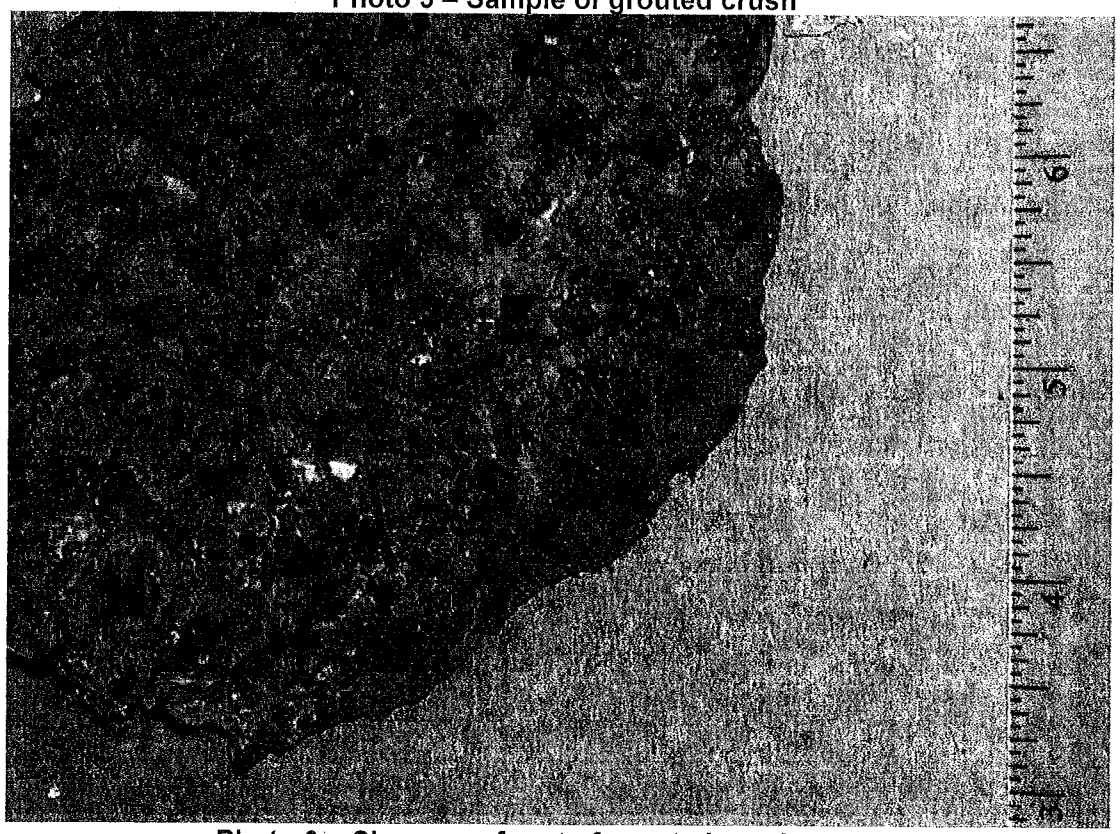


Photo 6 – Close-up of part of grouted crush sample

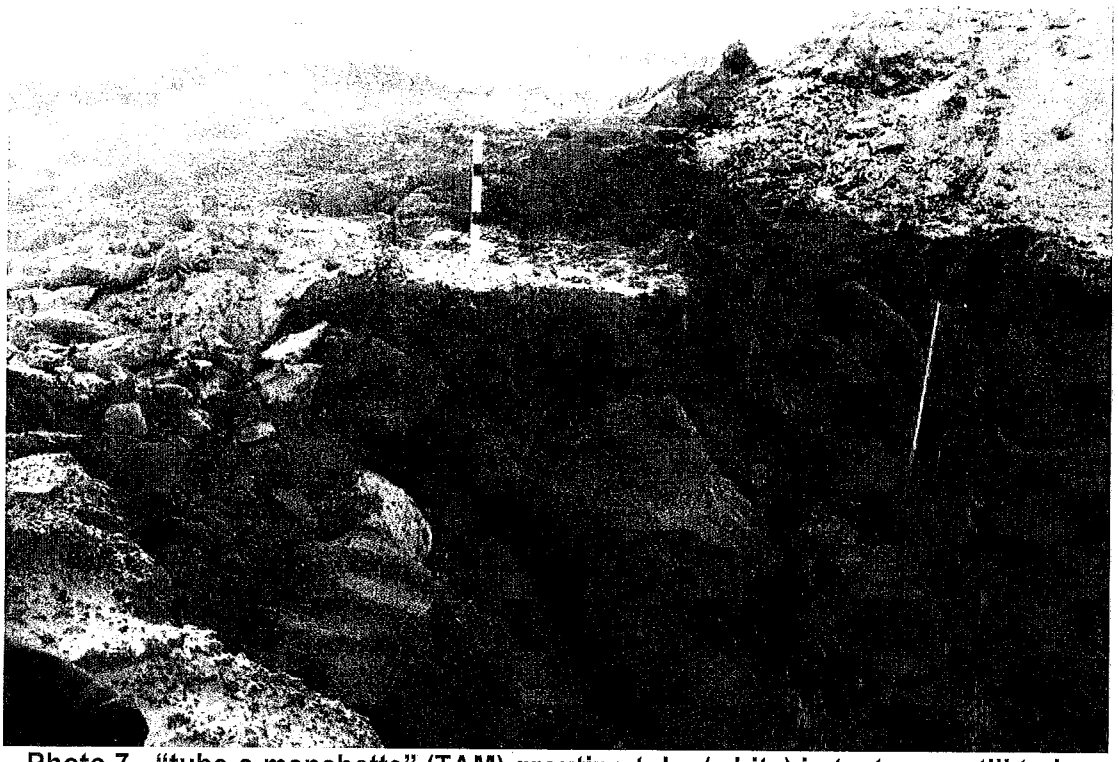


Photo 7 - "tube-a-manchette" (TAM) grouting tube (white) in test zone still to be excavated