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Appendix A2

Independent Geotechnical Expert Review Panel Reports

Report 5: ***Meeting December 17-18, 2009***
Letter: ***AEM Response to Report 5***

Report 6: ***Meeting April 30, 2010***
Letter: ***AEM Response to Report 6***

Report 7: ***Meeting July 26-29, 2010***
Letter: ***AEM Response to Report 7***

January 05, 2010

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

Email: denis.gourde@agnico-eagle.com

Dear Mr. Gourde,

Report No 5
Meadowbank Mine Dike Review Board
Meeting December 17-18, 2009

1.0 INTRODUCTION

The dike review meeting was held, as planned, in the Burnaby B.C. offices of Golder Associates Limited (GAL), to receive an up-date on the mine site construction activities, to learn of responses to past reports from the Board, to review the design of various water and tailings retention structures, and to assess the way forward. Particular emphasis was placed on:

- Performance of East Dike
- Design & construction Bay-Goose
- Design & Construction of TSF Structures

The sequence of presentations and discussions followed the agenda as presented in Attachment A.

All three Board members participated in the meetings. A list of the persons participating in the discussions is presented in Attachment B.

Prior to and during the meeting, information packages were sent out in electronic format. The presentations were made available in hard copy during the meeting and a compilation of the presentations was produced at the close.
A list of the documents made available is included in Attachment C.

In the report which follows, the Board's recommendations are underlined.

2.0 PROJECT STATUS

The representatives of Agnico Eagle Mines (AEM) gave a summary of the status of mine site construction, the business plan with respect to gold production, and the water quality management Final gold will be produced Q1/2010.

The site work is on schedule to permit drawdown of the Portage Pit pond to el. 116 m in March 2010 which will permit mining to begin. The first phase of the Tailings Storage Facilities (TSF), namely the Stormwater Dike (SWD) and the Saddle Dam No. 1 (SD1)

have also advanced to the intended crest elevations, 140 m and 141 m respectively, to accept tailings from the mill start-up. There has been a continuation from 2008 into 2009 for the principal players such as the main contractor, sub-contractor and much of the personnel which has obviously contributed to minimising any learning curve for the 2009 season. The adoption of two shifts for key work components is also part of the reason that the goals have been met.

Excellent progress has been made with respect to the management of suspended solids. Silt curtains were deployed according to best reasonable practice and measurements of Total Suspended Solids (TSS) indicated compliance. Even the disturbance of the water body by high winds during a September storm was of short duration with TSS values at the monitoring stations quickly returning to normal. AEM has been transparent and it is hoped that this good working relationship with the regulators will continue.

In order to further improve the control of sediments for the 2010 season, it is planned to advance a causeway during the winter along the alignment of the upstream shell of the southern sector to better confine the sediment generating activities in the open water summer season. This constitutes a good pro-active approach to the work.

3.0 RESPONSES TO RECOMMENDATIONS FROM REPORT NO 4

Written responses were made to the comments and recommendations from the Board's previous report. These were all satisfactory and either complete, would be covered by subsequent discussion, or will be considered in due course during the on-going work.

4.0 EAST DIKE

4.1 East Dike Instrumentation

GAL and AEM presented recent data on the dike performance including measurements from the vibrating wire piezometers, thermistors & inclinometers. However, it was noted that the inclinometers provide only horizontal movement data and vertical control is currently missing. Settlement monuments have been installed on the dike crest but, for a variety of logistical or staffing reasons, even the baseline survey has yet to be completed. Measurement of settlements and heave (frost) is an important component of the monitoring programme and this situation should be rectified as soon as reasonably possible even if the work is somewhat laborious due to interrupted lines of sight.

Deformation monitoring could be enhanced by the installation of shallow settlement gauges which would detect any tendency for separation at the cut-off wall/frozen dike cap interface.

The instrumentation is comprehensive in scale and is functioning reliably. The monitoring indicates that, in general, the East dike is performing as anticipated. The exception to this is the situation interpreted from the readings of the string of thermistor beads TH 485. This instrument was installed in a casing located in the slurry wall and on dike centerline. The evolution of the temperature, when compared to that of a string placed in the lake, indicates a strong correlation with little time lag, which provides evidence of a communication and potentially severe leak. The Board recommends additional thermistors in the vicinity of TH 485 to validate the findings, and to determine the possible extent of any high permeability zone. If this check confirms the interpretation of a leak then the following is needed:

i) Estimate permeabilities and calculate flux/m of wall and compare with current leakage

ii) Evaluate determining the possibility and the extent of other local anomalies by monitoring with additional thermistor installations which could also be installed in the grout tubes to avoid damage to the cut-off by new drilling.

4.2 CPT Investigation

Subsequent to the incident in May 2009, where high inflows through the dike interrupted the dewatering progress, and the occurrence of a sink hole immediately upstream of the cut-off in July 2009, an investigation programme consisting of Cone Penetration Tests (CPT) was initiated. Holes were pre-drilled through the cap of frozen coarse crushed material at the crest at intervals of approximately 1.5 m from Stn. 60+458 to Stn. 60+510. The probe was then pushed through the soil bentonite cut-off with continuous readings of tip resistance and sleeve friction as well as instantaneous pore pressure measurements. Several pore pressure dissipation tests were carried out by interrupting the probe advance for a period of time. The programme was well executed.
The primary aim of the exercise was to determine whether the integrity of the wall was compromised in the sinkhole area by comparing the measurements with those outside the area. The findings can be summarized as follows:

- A high degree of variability with the low values falling below what had been anticipated;
- Values obtained in the sinkhole area are not markedly different from outside this area except in the 3-4 m depth interval where more frequent spikes were noted;
- Refusal met on several occasions above the base of the Soil-Bentonite (SB) cut-off, which is interpreted as possible inclusion of cobbles in the mix;
- The CPT tests also indicated the presence of stiffer material (presumably natural in-situ till) between the base of the cut-off and the bedrock.

One of the conclusions drawn by GAL from this investigation was that a large proportion of the results could be classified in a region of low tip resistance and high friction ratio that was not consistent with the expected values for a well graded material such as the SB mix. The low tip resistance was interpreted as being indicative of low stresses, possibly the result of arching (silo effect) within the confines of the slurry trench.

The Board is sceptical with respect to the arching conclusion/silo effect but, if further analysis leads in this direction, suggests that Flat Dilatometer (DMT) tests be conducted to measure directly the lateral stresses within the SB slurry wall.

The Board is also not convinced about conclusions with respect to uniformly variable point resistance and wishes to emphasize the possible hypothesis that high tip resistance (qt) zones are indicative of granular and relatively free draining materials related to foreign intrusions and recommends that the CPTs be interrogated from this perspective. For example, the spikes in the traces of tip resistance at the locations shown in the following table are coincident with a nul reaction in the dissipation tests.

CPT test number	Depth (m)
10	7.43
14	4.16
17	7.08
26	4.72
31	6.07
36	9.69

The flat pore pressure trace could be showing material that is neither dilative nor contractive or, more likely, material with a higher permeability. It should be noted that the probe deviation may have caused the test in CPT 36 to be outside the SB trench and the high permeability at this location is therefore not necessarily associated with an inclusion. The Board would like the unfiltered data with respect to the permeability assessments to be made available.

The Board agrees that additional CPTs may be warranted in relation to the leakage study mentioned above and in other areas along the dike where discrepancies between the bottom of the cut-off and the bedrock level were noted.

4.3 Dike Investigations, Geophysical and Drilling

Further investigation of the sinkhole was carried out in October/November 2009. The work consisted of a series of Ground Penetrating Radar (GPR) profiles parallel to the dike axis and 3 diamond drill holes.

The geophysics program revealed no obvious expression of near surface void formations similar to that which led to the sinkhole formation.

The drillholes (one vertical and two inclined) were located in the area where some discrepancy had been noted between the rock elevation and the base of the cut-off. The vertical hole was carried out immediately upstream of the cut-off and the inclined holes downstream of the same. As the holes were drilled outside the cut-off, no verification of the nature of the contact zone could be made. The core recovered below the rock surface was more useful and there was evidence of gravel material, other than parent rock, below the interpreted rock surface.

The water pressure tests indicated zones of relatively high permeability and the reaction of certain instruments to the drilling operations confirmed the potential for communication within the rock between the upstream and the downstream sides of the cut-off. (It should be noted that curtain grouting programs are often not 100% efficient in closing all joints and fissures.)

The Board wishes to recognize the diligent manner in which this investigation work has been carried out. Certain questions remain, namely whether the current self-sealing plug with existing grouting constitutes an acceptable status (plus contingency plan); or is additional grouting at chosen targets justified?

Maintaining a grout plant on site, as AEM has committed to, is a good idea. The Board is of the view that bolstering the grouting is appropriate and justified. The investigation demonstrates that further grouting of the rock in this vicinity may be beneficial but the program needs to be well planned and executed with care. The grouting would be performed from the upstream side of the SB trench. Based on the detailed analysis of the earlier grouting records, and on possible additional CPT tests, an extension to the remedial grouting may be considered for other areas.

5.0 BAY-GOOSE CONSTRUCTION REVIEW

The construction of the Bay-Goose Dike (BGD) generally followed the design and the procedures developed in 2008 on the East Dike. Rockfill for the BGD was obtained from the required excavations for the mine development. Crushed materials for the coarse filter and the core zone complied with the specifications. Good quality till was available from the shore and bed of 2nd Portage Lake. This provided well graded material from which to produce the SB backfill.

No incidents of embankment instability were noted despite dumping of fill on the lakebed sediments and with the upstream sloping foundation. Either the sediments are sufficiently competent to support the embankment or the material is displaced by the advancing fill. Sediment was encountered in the excavation of the central trench, though the origin, natural sediments or fines from the embankment fill, has not been confirmed. Gradation tests on this material indicates 85% to 90% passing the 0.08 mm sieve size. The 0-19 mm core backfill has a D_{15} size of 0.7 mm or less when sampled above the water line. Samples recovered from below the water line (possibly washed) have a D_{15} of up to 2.5 mm. Therefore, the importance of minimizing segregation during the placement of the core material, such that it can be relied upon as a filter, is amply demonstrated. A concerted effort was made to ensure that the cut-off trench excavation reached bedrock.

The Large Penetration Test (LPT) was well conducted and worthwhile. Although testing on a "before" and "after" basis could not be performed due to the non-availability of the equipment, the results indicated that the dynamic compaction was efficient down to a depth of 6-8 m. The Board does not expect significantly deeper densification with this method and the vibro-densification technique may be required for areas of deeper fill.

With the double shift operation the Contractor was able to complete the cut-off wall on September 26th, ahead of the onset of cold weather. This was a considerable achievement given the late start (end July) of the dike construction.

One modification to the planned construction method was the abandonment of tremie pipe placing for the Cement-Soil-Bentonite (CSB) in order to facilitate construction. Instead, continuous inclined placement was permitted. The Board has concerns related to placement of stiff CSB over ductile/settling SB and the potential development of a gap/crack at the interface and recommends that the project team evaluates alternative remediation schemes (now and in the future if this method is adopted for the 2010 work). The low slump value for the material placed is also noted. This may have led to irregular surface profiles for the CSB material in the trench.

A minor adjustment of the dike axis was made at the Goose Island abutment and an end joint was also constructed of CSB to ensure trench backfill stability when the work is resumed in 2010.

As far as concerns the grouting for the Bay-Goose Dike, valuable lessons have been learned at the East Dike and will be implemented at the BGD. Fortunately the current schedule is not tight and the work can be started after the winter.

There is some concern over the use of Odex drilling with air in the CSB and the risk of cracking. The Board does not consider that a successful drilling test under controlled conditions with inspection by a televiewer will be a guarantee of problem free production work. Any blockage of the annular space may lead to a rapid build-up of pressures when using compressed air.

There is a need to evaluate the grouting methodology particularly with respect to:

- the hole washing strategy to ensure adequate removal of erodable joint infilling materials;
- phased contact grouting with sequential perforation to create, insofar as possible, a reticulate grout filament structure.

The Board looks forward to a review and discussion of this issue at the next meeting or conference call.

At the last meeting, there was some limited discussion on the issue of freeze thaw within the SB cut-off. A preliminary testing program has been put together but more details need defining before implementation. This subject also will be treated at a future occasion. However, the Board suggests that samples be taken from the East Dike to show the current incidence of ice lenses vs the measured temperature gradient. Current rates of frost heave should be assessed by direct measurement and related to current temperature gradients.

6.0 BAY-GOOSE PLANS

The Board is generally content with the planning for design and construction activities in 2010. The 2009 site investigation program added to the knowledge of the BGD foundations in both sectors and additional work is planned from the ice during the 2010 winter period. There is a high expectation for good results from the sonic drilling for various site applications. The Board concurs with this approach to obtaining samples of the lakebed sediments and underlying till. Complete samples, even if disturbed, are essential for the evaluation of the various cut-off options in the South sector.

The design of the cut-off for the South sector must be carried out in parallel with investigations, as an iterative process, to ensure that any necessary adjustments to the investigation program are made in a timely manner. Preliminary results from the exercise are expected in April and a discussion with the Board in a teleconference is proposed.

7.0 DIKE SEEPAGE MANAGEMENT PLAN

The Board is content with the formulation of the plan, but notes a need for a push in the design of the seepage collection system, pump station location, protection against freezing and the avoidance of ice accumulation. The planning will be reviewed again as it evolves along with increasing geotechnical quantifications.
Note that the TH 485 leakage scenario may indicate the value of more proactive measures in the plan.

8.0 TAILINGS STORAGE FACILITY 2009 CONSTRUCTION REVIEW

8.1 Stormwater Dike

A number of expedient decisions were made to facilitate construction given the presence of soft lakebed materials and the water table. The softer sediments were removed progressively with the advancing fill platform in the upstream area below the future liner but left in place on the downstream side. As a result this will be a higher risk structure but the short life is recognized and consequences of seepage are deemed to be manageable. The Board understands the project acceptance of higher risk for this structure. It is noted that underlying gravel/sand channels were discovered in some of the excavations and construction completion details, instrumentation installations, and monitoring during operation should take these into account.
The SWD was constructed by AEM to plans prepared by GAL. The Board seeks clarification with respect to the final construction report roles and responsibilities. The Engineer of Record will need to sign off on the As-Built report.

8.2 Saddle dams

In contrast to the SWD, the Saddle Dams (and the Central Dike) are permanent structures and this is reflected in the design. The dike cross-section for Saddle Dam

No. 1 (SD1), which was constructed in 2009, includes details such as a filter beneath the upstream shell to guard against piping and thus ensure longer life functionality.

However, the Board notes that the cut-off trench was backfilled with till so as to raise the location of the geomembrane liner key which now has a minimum seepage path length of only 2 to 3 m. Consequently, the Board recommends that an extra till berm be added above the liner to make a more robust tie-in to the foundation.

The topography of the site is such that a small drainage basin exists between the main site access road and the dike. Moreover, the stripped foundation elevation lies below the level of a lake situated on the opposite side of the access road. Therefore, the Board has concern that the downstream toe will be flooded by runoff and that water will enter the rockfill of the dam with the potential to degrade the ice rich foundation. The question that has to be addressed is whether this is significant and if so, can it be prevented?

8.3 General comments on geomembrane covers

A short discussion was held on the advantages and disadvantages of covers on the impervious geomembrane liners. Covers are placed on liners with a view to providing protection against:

- Ultra-violet radiation;
- Temperature fluctuations (expansion and contraction);
- Ice thrust and drag;
- Impact of boulders and other material from successive construction stages;
- Passage of equipment or animals over the surface.

The composition of modern liner materials is such as to resist the degradation from ultra-violet radiation, and a liner type with lower coefficient of thermal expansion can be selected. Ice impact and abrasion can be resisted by rub sheets of smooth membranes such as HDPE. By careful design and execution, the construction of subsequent dike raises can be carried out with limited risk of material falling or rolling onto the liner (berms and zones of finer material at the outside of the fill). Smooth surfaces will discourage the passage of animals.

The construction activity necessary to place a cover could, by and of itself, constitute a potential risk for perforation and tearing of the liner. An additional aspect to consider is that the cover materials, from the finer protective layer to the outer rip-rap, are pervious materials and, even when covered eventually by tailings, can constitute a seepage collector which can feed to any anomaly. GAL is to evaluate the pros and cons of a cover zone on the geomembrane liners in the TSF and further discussions will ensue.

9.0 TAILINGS STORAGE FACILITY 2010 INVESTIGATION PLAN

The Central Dike, Saddle Dikes 2, 3, 4, 5 and 6, and the Rockfill Road 2 will be constructed, as and when required, to complete the Tailings Storage Facility. An investigation program has been prepared for implementation in 2010. It consists of percussion drilled holes to confirm the bedrock elevation and to obtain disturbed samples, as well as several diamond drill holes. The Board considers the program to be well conceived and should provide the required information to advance the detailed design of these structures. The interaction between the design and the investigation work, including any adjustments to the latter as the work progresses, should consider the following aspects:

- In future, it would be advantageous to provide detailed information on “Issued for Construction” level drawings to define anchor trench geometry and sequences of dewatering/construction. There is a need to evaluate how to work as much as possible in-the-dry to ensure good quality execution.
- There is also a need to understand potential glacial fluvial deposits in the basin and their influence on the design, construction and performance. There is a particular need to understand the site geology for cut-off design.

The Board understands that the project team will re-evaluate the liner alternatives (Coletanche vs LLDPE) for all failure modes and adopt the appropriate design details.

The Board recommends a re-assessment of the length of the upstream geomembrane seal to control seepage gradients and minimize the potential for piping.

10.0 NEXT MEETINGS

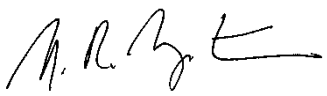
The following meetings are to be planned/confirmed:

- Teleconference call in April concerning the preliminary results of the Bay-Goose investigations and the design of the cut-off for the Southern sector;
- Site visit for July 26 to 29.

11.0 ACKNOWLEDGEMENTS

The Board once again wishes to thank the personnel of AEM and GAL for their participation in the meetings, and for the excellent documentation and presentations made by AEM and GAL which contributed to the efficiency and effectiveness of the proceedings.

Signed:



Norbert R. Morgenstern, P.Eng

D. Anthony Rattue, P.Eng.

Andrew M. Robertson, P. Eng.

ATTACHMENT A

AGENDA FOR BOARD MEETING NO. 5

December 17-18, 2009

AGNICO-EAGLE MINES - MEADOWBANK DIVISION
MEADOWBANK DIKE REVIEW BOARD

Meeting #5 - 17-18 DECEMBER 2009

5th Floor Main Boardroom, Golder Associates Office
500-4260 Still Creek Drive, Burnaby

AGENDA

Day 1 - Thursday December 17

8:30 **Welcome** (Coffee and pastries)
8:45 **Agenda Review and Approval**
8:50 **MDRB Report no.4 Review**
10:00 Coffee Break
10:15 **East Dike**

- Review of latest monitoring results
- CPT investigation results
- East dike investigation results
- East Dike mitigation plan

12:00 Lunch

13:00 **Bay-Goose - 2009 Construction Review**

- Summary of construction works
- Details on placement of SB-CSB
- LPT testing program carried out
- Lessons learned from 2009 construction season

15:00 Coffee Break
15:15 **Bay-Goose - 2010 Investigation and Construction Planning**

- South Portion Alignment
- Intent of the investigation
- Design decisions that remain to be done over the winter

17:00 End of Day 1
18:00 Dinner

Day 2 - Friday December 18

8:30 Coffee and pastries
8:45 **TSF 2009 Construction Review**

- SWD – Stage 1 Construction Works
- SD1 – Stage 1 Construction Works

10:00 Coffee Break
10:15 **TSF - 2010 Investigation and Construction Planning**

- 2010 Geotechnical Investigation
- 2010 Construction work planning

12:00 Lunch

13:00 **Deliberation by the Board Members**
15:30 Coffee Break
15:45 **Preliminary Report by the Board Members**
16:45 Closure

ATTACHMENT B

ATTENDANCE AT DECEMBER 2009 MEETING
Held at the Golder Associates office Burnaby, B.C.

Attendance		
Gaston Blanchette	AEM	Dike Superintendant
Eric Lamontagne	AEM	Mine manager
Stephane Robert	AEM	Environment Manager
Yohan Jalbert	AEM	
Michel Julien	Golder Associates	Project Manager
Annie Beaulieu	Golder Associates	
Paul Bedell	Golder Associates	
Grant Bonin	Golder Associates	Grouting Specialist
John Cunning	Golder Associates	
Trevor Carter	Golder Associates	
Karine Doucet	Golder Associates	
Fiona Esford	Golder Associates	
Rick Fillotte	Golder Associates	
Lynn Wilson	Golder Associates	
Norbert Morgenstern	Self	Dike Review Board
Anthony Rattue	SNC Lavalin	Dike Review Board
Andrew Robertson	Robertson Geoconsultants	Dike Review Board

ATTACHMENT C

LIST OF FURNISHED DOCUMENTS

Golder Associates, 2009(a), “TSF dike construction, technical specifications”, October 2009.

Golder Associates, 2009(b), “Bay-Goose and South Camp Dikes, 2009 spring geotechnical investigation, November 2009.

Golder Associates, 2009(c), Technical memorandum, Additional details for work carried out between Stns 60+452 and 60+500 at the East Dike, Meadowbank Gold Project”, November 2009.

Golder Associates, 2009(d), “Response to report no. 4, Meadowbank Dike Review Board, dated August 19,2009”, December 2009.

Golder Associates, 2009(e), “2009 geotechnical investigation, Tailings Storage Facility, Meadowbank Gold Project”, December 2009.

Golder Associates, 2009(f), “East Dike CPT investigation, Meadowbank Gold Project, Nunavut”, December 2009.

Golder Associates, 2009(g), “East Dike construction as-built report, Meadowbank Gold Project, Nunavut”, December 2009.

Golder Associates, 2009(h), “West Channel Dike construction as-built report, Meadowbank Gold Project, Nunavut”, December 2009.

Golder Associates, 2009(i), “Technical memorandum, Drilling and LPT investigation program, Bay-Goose Dike, Meadowbank Gold Project, Nunavut”, December 2009.

Golder Associates, 2009(j), “Binder and CD of PowerPoint presentations made on December 17 and 18”

April 27, 2010

Project No. 09-1428-5007
Doc. No. 1005 Ver. 0

Dr. Eric Lamontagne
Agnico-Eagle Mines Limited Meadowbank Division
P.O. Box 540
Baker Lake, Nunavut
X0C 0A0

RESPONSE TO REPORT NO.5 MEADOWBANK MINE DIKE REVIEW BOARD, DATED JANUARY 5, 2010
SUBJECT: REVIEW COMMENTS

Dear Dr. Lamontagne,

On December 17 and 18, 2009, the fifth meeting was held between Meadowbank Dike Review Board (MDRB), Agnico-Eagle Mines Limited (AEM), and Golder Associates Ltd. (Golder). The meeting was held in the Golder Burnaby BC office. The objectives of the meeting were to present an update on the performance and evaluation of the East Dike, and the design and construction of the Bay-Goose Dike and TSF structures.

On January 5, 2010, the MDRB provided a letter with their comments from this meeting. The following provides Golder's response to the MDRB questions and comments raised in their letter.

1.0 EAST DIKE

1.1 East Dike Instrumentation

Comment: *GAL and AEM presented recent data on the dike performance including measurements from the vibrating wire piezometers, thermistors & inclinometers. However, it was noted that the inclinometers provide only horizontal movement data and vertical control is currently missing. Settlement monuments have been installed on the dike crest but, for a variety of logistical or staffing reasons, even the baseline survey has yet to be completed. Measurement of settlements and heave (frost) is an important component of the monitoring programme and this situation should be rectified as soon as reasonably possible even if the work is somewhat laborious due to interrupted lines of sight.*

Response: Golder/AEM agrees with the Board's comments. It is understood that AEM plans to initiate the settlement monitoring program in the spring as several of the monuments are currently covered by snow or are surrounded by high snow banks limiting access.

Comment: *Deformation monitoring could be enhanced by the installation of shallow settlement gauges which would detect any tendency for separation at the cut-off wall/frozen dike cap interface.*

Response: The need for enhanced deformation monitoring will be re-evaluated based on the results of the monitoring of vertical deformations at the settlement monuments this spring. A technical memorandum providing details of a potential shallow settlement gauge to be used, if necessary, to monitor for separation at the cut-off wall/frozen dike cap interface has been prepared and will be provided to the Board for review and discussion during the next MDRB meeting planned for April 30, 2010.

Comment: *The evolution of the temperature [at instrument TH 485], when compared to that of a string placed in the lake, indicates a strong correlation with little time lag, which provides evidence of a communication and potentially severe leak. The Board recommends additional thermistors in the vicinity of TH 485 to validate the findings, and to determine the possible extent of any high permeability zone. If this check confirms the interpretation of a leak then the following is needed:*
i) Estimate permeabilities and calculate flux/m of wall and compare with current leakage
ii) Evaluate determining the possibility and the extent of other local anomalies by monitoring with additional thermistor installations which could also be installed in the grout tubes to avoid damage to the cut-off by new drilling.

Response: Golder/AEM agrees with the MDRB interpretation. A total of ten additional thermistor cables are planned to be installed in the most likely zones of advective flow in the cutoff wall. The cables will be installed in existing grout casings as soon as the crest thaws down to casing level.

1.2 CPT Investigation

Comment: *One of the conclusions drawn by GAL from [the CPT investigation] was that a large proportion of the results could be classified in a region of low tip resistance and high friction ratio that was not consistent with the expected values for a well graded material such as the SB mix. The low tip resistance was interpreted as being indicative of low stresses, possibly the result of arching (silo effect) within the confines of the slurry trench.*

The Board is sceptical with respect to the arching conclusion/silo effect but, if further analysis leads in this direction, suggests that Flat Dilatometer (DMT) tests be conducted to measure directly the lateral stresses within the SB slurry wall.

Response: Arching (silo effect) was only presented as a possible explanation of the results observed in some locations. Further analysis of the CPT data has been completed and will be presented in a technical memorandum to the Board for review and discussion during the next MDRB meeting planned for April 30, 2010.

Comment: *The Board is…not convinced about conclusions [from the CPT investigation] with respect to uniformly variable point resistance and wishes to emphasize the possible hypothesis that high tip resistance (qt) zones are indicative of granular and relatively free draining materials related to foreign intrusions and recommends that the CPTs be interrogated from this perspective.*

Response: As indicated above, further analysis of the CPT data has been completed and will be presented in a technical memorandum to the Board for review and discussion during the next MDRB meeting planned for April 30, 2010. Based on the results of this analysis, it appears that some clear differences may exist between the zone where the sinkhole has developed and the immediately surrounding zones.

Comment: *The Board would like the unfiltered data with respect to the permeability assessments [from the CPT investigation] to be made available.*

Response: As indicated above, further analysis of the CPT data has been completed and is presented in a technical memorandum for review and discussion during the next MDRB meeting planned for April 30, 2010. Golder will provide the requested data should the Board still feel it necessary following review of this analysis.

Comment: *The Board agrees that additional CPTs may be warranted in relation to the leakage study mentioned above and in other areas along the dike where discrepancies between the bottom of the cut-off and the bedrock level were noted.*

Response: Golder/AEM agrees with the Board but believes that these works should be carried out following initiation of this summer's flow monitoring program so as to better target zones requiring additional testing, if any.

1.3 Dike Investigations, Geophysical and Drilling

Comment: *The Board wishes to recognize the diligent manner in which this investigation work has been carried out. Certain questions remain, namely whether the current self-sealing plug with existing grouting constitutes an acceptable status (plus contingency plan); or is additional grouting at chosen targets justified?*

Maintaining a grout plant on site, as AEM has committed to, is a good idea. The Board is of the view that bolstering the grouting is appropriate and justified. The investigation demonstrates that further grouting of the rock in this vicinity may be beneficial but the program needs to be well planned and executed with care. The grouting would be performed from the upstream side of the SB trench. Based on the detailed analysis of the earlier grouting records, and on possible additional CPT tests, an extension to the remedial grouting may be considered for other areas.

Response: Based on the results of the monitoring program completed to date following the May 2009 inflow event, Golder/AEM is of the opinion that monitoring should be extended before a final decision is taken on the actual need for further East Dike remedial grouting. The monitoring in the coming summer months will be particularly critical in evaluating whether the process that resulted in the May 2009 inflow event has indeed stabilized.

The need for additional grouting will be based on the piezometric response of vibrating wire piezometers that will be installed on the downstream side of the wall in each zone identified as having a potential issue or concern with respect to seepage. If a need for further grouting is identified, it would be relatively straightforward to mobilize teams and equipment given the other grouting activities currently planned on site in the coming 12 months. Nevertheless, in anticipation of the development of additional zones of concern, contingency grouting measures including low mobility grout mix designs, and potential silicate (*i.e.*, flash set) grouting techniques will continue to be planned for.

2.0 BAY-GOOSE DIKE CONSTRUCTION REVIEW

Comment: *The 0-19 mm core backfill has a D_{15} size of 0.7 mm or less when sampled above the water line. Samples recovered from below the water line (possibly washed) have a D_{15} of up to 2.5 mm. Therefore, the importance of minimizing segregation during the placement of the core material, such that it can be relied upon as a filter, is amply demonstrated.*

Response: Golder/AEM agrees with the MDRB interpretation. The placement method for the core backfill to minimize loss of fines is important and will continue to be monitored as part of the Quality Assurance program. It is noted that samples of placed core backfill were obtained using the excavator sitting at the face of the trench reaching down and digging into the face and then raising the sample to the surface. This method additionally disturbs and promotes washing; therefore results may not be entirely representative of the in place material. Samples of core backfill material obtained during the LPT program had higher fines content and did not appear to have been washed.

Comment: [*T]he results [of the LPT] indicated that the dynamic compaction was efficient down to a depth of 6-8 m. The Board does not expect significantly deeper densification with this method and the vibro-densification technique may be required for areas of deeper fill.*

Response: The Contractor will be using vibro-densification in the deepest portions of the Bay-Goose Dike southern portion. .

Comment: *One modification to the planned construction method was the abandonment of tremie pipe placing for the Cement-Soil-Bentonite (CSB) in order to facilitate construction. Instead, continuous inclined placement was permitted. The Board has concerns related to placement of stiff CSB over ductile/settling SB and the potential development of a gap/crack at the interface and recommends that the project team evaluates alternative remediation schemes (now and in the future if this method is adopted for the 2010 work). The low slump value for the material placed is also noted. This may have led to irregular surface profiles for the CSB material in the trench.*

Response: Golder/AEM shares these concerns with the Board. Remediation and/or monitoring options are currently being evaluated to assess this condition.

It should be noted that the low slump (50, 100 and 150 mm) was measured in the first three batches of the CSB (during the first shift). The slump was then adjusted, and for the remainder of the work, slump values were between 180 to 190 mm and met the specification.

Comment: *There is some concern over the use of Odex drilling with air in the CSB and the risk of cracking. The Board does not consider that a successful drilling test under controlled conditions with inspection by a televiewer will be a guarantee of problem free production work. Any blockage of the annular space may lead to a rapid build-up of pressures when using compressed air.*

Response: Alternative drilling methods to permit grouting through the CSB material with a single line of grout holes are being evaluated, along with a monitoring program to assess the impact of the drilling on the integrity of the CSB wall. The current approach for drilling in the wall will involve tricone drilling with water flush. As an additional precaution, the holes will be backfilled with grout under a small applied pressure to help seal off any large cracks that may have been created within the CSB.

Comment: *There is a need to evaluate the grouting methodology particularly with respect to:*
• the hole washing strategy to ensure adequate removal of erodable joint infilling materials;
• phased contact grouting with sequential perforation to create, insofar as possible, a reticulate grout filament structure.
The Board looks forward to a review and discussion of this issue at the next meeting or conference call

Response: Golder/AEM agrees with the Board's comments. Mandatory water/air flushing will be carried out in all holes in 2010. If necessary, special washing will also be completed until reasonably clean return water is achieved. Special washing would focus on the top 3 to 5 m of the grout hole, depending on conditions encountered during grout hole drilling.

Comment: *At the last meeting, there was some limited discussion on the issue of freeze thaw within the SB cut-off. A preliminary testing program has been put together but more details need defining before implementation. This subject also will be treated at a future occasion. However, the Board suggests that samples be taken from the East Dike to show the current incidence of ice lenses vs the measured temperature gradient. Current rates of frost heave should be assessed by direct measurement and related to current temperature gradients.*

Response: Thermal modeling of the cutoff wall has been conducted to identify potential locations of the wall that may be subjected to freeze-thaw cycles. The results of thermal modeling are presented in a technical memorandum for review and discussion during the next MDRB meeting planned for April 30, 2010. The results indicate that for medium to deeper portions of the wall (greater than 4 m below lake level) the cutoff wall between Elevation 130 m and 132 m (5 to 7 m below the dike surface) may be exposed to repetitive cycles of freezing and thawing.

A laboratory testing procedure to expose a sample of CSB and SB material to freeze thaw cycles and in turn to test the hydraulic conductivity of the material at various stages has been proposed as described in a previous email to the MDRB. It is recognized that the testing method proposed does not supply a source of water to the sample during the freezing process, however the proposed approach is viewed as an appropriate laboratory scale to obtain a better understanding of the materials behavior under freeze thaw cycles.

A sample of frozen SB cutoff wall material was obtained from the East Dike, near Sta. 30+200 during the 2010 winter geotechnical investigation program recently completed at Meadowbank. The sample was obtained using the sonic rig and has been stored in such a manner to maintain the sample in a frozen condition. The sample was shipped to the Golder Burnaby offices for visual examination and assessment of the potential presence, magnitude and distribution of ice lenses. The results of this analysis will be presented to the Board during the next MDRB meeting planned for April 30, 2010.

3.0 BAY-GOOSE PLANS

Comment: *The 2009 site investigation program added to the knowledge of the BGD foundations in both sectors and additional work is planned from the ice during the 2010 winter period. There is a high expectation for good results from the sonic drilling for various site applications. The Board concurs with this approach to obtaining samples of the lakebed sediments and underlying till. Complete samples, even if disturbed, are essential for the evaluation of the various cut-off options in the South sector.*

Response: The sonic drilling program for the southern portion of the Bay-Goose Dike has recently been completed and an interim summary report of the complete 2010 geotechnical investigation will be provided to the Board for review prior to the next MDRB meeting planned for April 30, 2010. Recovery of samples is considered to have been good and is providing valuable information into the nature and condition of

the foundation soils. This information is being reviewed and assessed as part of the design process. Implications of the foundation conditions on potential cutoff wall designs for the dike are being evaluated and discussed with AEM.

Comment: *The design of the cut-off for the South sector must be carried out in parallel with investigations, as an iterative process, to ensure that any necessary adjustments to the investigation program are made in a timely manner. Preliminary results from the exercise are expected in April and a discussion with the Board in a teleconference is proposed.*

Response: Golder/AEM agrees with the Board's comment.

4.0 DIKE SEEPAGE MANAGEMENT PLAN

Comment: *The Board is content with the formulation of the plan, but notes a need for a push in the design of the seepage collection system, pump station location, protection against freezing and the avoidance of ice accumulation. The planning will be reviewed again as it evolves along with increasing geotechnical quantifications. Note that the TH 485 leakage scenario may indicate the value of more proactive measures in the plan.*

Response: Golder/AEM agrees with the Board's comment. The current plan is to collect the seepage water and pump it back to the lake providing water quality is sufficient to do so. AEM is in the process of developing this plan in collaboration with Golder but are waiting for ice break up before finalizing the design details.

5.0 TAILINGS STORAGE FACILITY 2009 CONSTRUCTION REVIEW

5.1 Stormwater Dike

Comment: *It is noted that underlying gravel/sand channels were discovered in some of the excavations and construction completion details, instrumentation installations, and monitoring during operation should take these into account.*

Response: Golder/AEM agrees with the Board's comment. Monitoring of the performance of the structures of the TSF is a planned activity and will be included in the OMS Manual.

Comment: *The SWD was constructed by AEM to plans prepared by GAL. The Board seeks clarification with respect to the final construction report roles and responsibilities. The Engineer of Record will need to sign off on the As-Built report.*

Response: The final construction report will be prepared and signed by AEM and Golder. The report will outline the party/parties responsible for each section of the report.

5.2 Saddle Dams

Comment: *The dike cross-section for Saddle Dam No. 1 (SD1), which was constructed in 2009, includes details such as a filter beneath the upstream shell to guard against piping and thus ensure longer life functionality. However, the Board notes that the [Saddle Dam 1] cut-off trench was backfilled with till so as to raise the location of the geomembrane liner key which now has a minimum seepage path length of only 2 to 3 m. Consequently, the Board recommends that an extra till berm be added above the liner to make a more robust tie-in to the foundation.*

Response: The as-built conditions will be compared to the design and recommendations will be provided to AEM as required. The current plan is to expose the bentonite-enriched crushed stone and cover it with additional till.

Comment: *The topography of the site is such that a small drainage basin exists between the main site access road and [SD1]. Moreover, the stripped foundation elevation lies below the level of a lake situated on the opposite side of the access road. Therefore, the Board has concern that the downstream toe [of SD1] will be flooded by runoff and that water will enter the rockfill of the dam with the potential to degrade the ice rich foundation. The question that has to be addressed is whether this is significant and if so, can it be prevented?*

Response: The downstream seepage collection ditch and sump will be constructed to mitigate this concern. However, it should be noted that no earthworks will be possible in this area before freshet. If required, ponding water will be evacuated by pumping during this time.

5.3 General Comments on Geomembrane Liners

Comment: *The composition of modern liner materials is such as to resist the degradation from ultraviolet radiation, and a liner type with lower coefficient of thermal expansion can be selected. Ice impact and abrasion can be resisted by rub sheets of smooth membranes such as HDPE. By careful design and execution, the construction of subsequent dike raises can be carried out with limited risk of material falling or rolling onto the liner (berms and zones of finer material at the outside of the fill). Smooth surfaces will discourage the passage of animals.*

The construction activity necessary to place a cover could, by and of itself, constitute a potential risk for perforation and tearing of the liner. An additional aspect to consider is that the cover materials, from the finer protective layer to the outer rip-rap, are pervious materials and, even when covered eventually by tailings, can constitute a seepage collector which can feed to any anomaly. GAL is to evaluate the pros and cons of a cover zone on the geomembrane liners in the TSF and further discussions will ensue.

Response: It is Golder/AEM's opinion, that an HDPE rub sheet will not provide adequate protection to the underlying geomembrane from ice loading as the layers will freeze together. Further, damage to the rub sheet from animal passage and/or chewing is

expected (see below).

The raising of the rub sheet as the structure is raised may also be challenging and result in damage to the underlying geomembrane.

Golder's experience shows that animals are not discouraged from walking over smooth geomembranes. The passage of caribou results in significant damage to HDPE geomembranes. Additionally, carnivores chew plastic-based geomembranes should an edge be available.

The current design has a cover of tailings will be hydraulically placed over the geomembrane through the construction of a rockfill berm upstream of the Saddle Dams of the North Cell. The tailings beach will be developed during summer months to limit ice damage to the geomembrane.

6.0 TAILINGS STORAGE FACILITY 2010 INVESTIGATION PLAN

Comment: *The Board considers the [2010 investigation] program to be well conceived and should provide the required information to advance the detailed design of these structures. The interaction between the design and the investigation work, including any adjustments to the latter as the work progresses, should consider the following aspects:*
• In future, it would be advantageous to provide detailed information on "Issued for Construction" level drawings to define anchor trench geometry and sequences of dewatering/construction. There is a need to evaluate how to work as much as possible in-the-dry to ensure good quality execution.
• There is also a need to understand potential glacial fluvial deposits in the basin and their influence on the design, construction and performance. There is a particular need to understand the site geology for cut-off design

Response: Golder/AEM agrees with the Board's comment. The above noted points will be considered during the development of the design and construction drawings.

Comment: *The Board understands that the project team will re-evaluate the liner alternatives (Coletanche vs LLDPE) for all failure modes and adopt the appropriate design details.*

Response: Golder/AEM has decided to proceed with LLDPE geomembranes for the remainder of the Saddle Dams. The design details will be updated accordingly.

Comment: *The Board recommends a re-assessment of the length of the upstream geomembrane seal to control seepage gradients and minimize the potential for piping.*

Response: Golder/AEM agrees with the Board's comment. This will be considered during the design of the structures.

7.0 NEXT MEETINGS

Comment: *The following meetings are to be planned/confirmed:*
• Teleconference call in April concerning the preliminary results of the Bay-Goose investigations and the design of the cut-off for the Southern sector;
• Site visit for July 26 to 29.

Response: Golder agrees with Board's comment. Details to follow at a later date.

8.0 CLOSURE

We hope the above information provides the required clarification. If additional information is required, please do not hesitate to contact us.

Yours very truly,

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

Fiona Esford, P.Eng., (BC, Yukon, NWT/NU)
Senior Geotechnical Engineer

ORIGINAL SIGNED

Paul M. Bedell, M.E.Sc., P.Eng. (BC, NWT/NU)
Associate, Senior Geotechnical Engineer

ORIGINAL SIGNED

Grant Bonin, M.Eng., P.Eng., (BC)
Associate, Geotechnical Engineer

ORIGINAL SIGNED

Dan Walker, Ph.D., P.Eng., (BC, NWT/NU)
Associate, Project Manager

ORIGINAL SIGNED

Michel Julien, Ph.D., P.Eng., (QC)
Principal, Project Director

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May 28th, 2010

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

Email: denis.gourde@agnico-eagle.com

Dear Mr. Gourde,

Report No 6
Meadowbank Mine Dike Review Board
Meeting April 30th, 2010

1.0 INTRODUCTION

The one day dike review meeting was held, in the Burnaby B.C. offices of Golder Associates Limited (GAL), to receive an up-date on the status of the project, to learn of responses to the previous report from the Board, and to review the site investigations and the design of the southern portion of the Bay-Goose dike. Additional items were presented for information.

The sequence of presentations and discussions followed the agenda as presented in Attachment A.

All three Board members were present at the meeting. A list of the persons participating in the discussions is presented in Attachment B.

Prior to and during the meeting, information packages were provided in electronic format. The presentations were made available in hard copy during the meeting and a compilation of the presentations was produced at the close. A list of the documents made available is included in Attachment C.

In the report which follows, the Board's recommendations are underlined.

2.0 RESPONSES TO RECOMMENDATIONS FROM REPORT NO 5

GAL transmitted responses to the comments and recommendations from the Board's previous report by way of a letter to AEM dated April 27, 2010. The responses were satisfactory and there are no outstanding issues.

3.0 BAY-GOOSE DIKE SOUTH PORTION

3.1. Geotechnical Investigations

A detailed presentation was made of the work undertaken during the past winter period. Field work has been completed but some laboratory testing is still underway. The programme was ambitious but very successful with high quality results being achieved. The data management is at a high level and the results

of the programme will provide an adequate basis for finalizing the design of this part of the works to “Issued for construction” level. Three depressions in the dike profile have been identified as Channels 1 to 3 from the NW to the SE of this portion. The Board notes that the low point in the rock profile in Channel 3 has not been adequately defined but this can be resolved by air-track soundings from the construction platform. It is also noted that no inclined holes, that may have better characterized the fault zone in this same depression, were included in this years programme. However, it is anticipated that adjustments can be made, if necessary, to the grout pattern during construction to deal with any higher permeability.

3.2. Design

3.2.1. Design modifications proposed:

- A minor change has been made to the alignment at the NW abutment.
- The mine now plans to use larger CAT 777 trucks instead of the 773 model and consequently the width of the haul road on the dike has been increased.
- In order to improve the sediment management, a causeway is being built on the lake side of the dike axis while there is still an ice cover on the lake. This embankment will reduce current velocities and provide a secure anchor for the silt curtains. It will be incorporated into the Bay-Goose dike. Though no incidents of instability have been reported during the construction, the deeper deposits of lakebed sediments (up to 6 m) as compared to the east dike and the adverse bed slope justify an evaluation of the potential risk to truck traffic.
- Some of the investigation boreholes encountered zones of rock with low RQD values. Moreover, mention was made in the documentation, that the set-back from the pit high wall may be tight in some areas. The Board suggests that a review of the set-back design be carried out. As the dike is of generous width, the set-back could be evaluated from the toe of a hypothetical minimum safe section.

3.2.2. Cross-sections

- Four typical sections have been proposed with improved cut-off details. The first is applicable to areas where the bedrock is at less than 5 m below the lake level, and the second for depths from 5 m to 6 m. Both will adopt a Soil-Bentonite cut-off. The third, for depths exceeding 6 m, employs a Cement-Soil Bentonite cut-off taken to rock. A fourth option where depths exceed the reach of the available equipment includes a cut-off, again of CSB, which will be anchored in firm till. The base width of the contact of the central zone of crushed rock on the till foundation increases progressively from the first to the fourth typical section. As was the case for the sections used in the northern portion of the Bay-Goose dike, no coarse filter is placed in contact with the foundation. Given the results of the investigations (no samples with less than 10% fines), the Board accepts the principle of the partial cut-off and concurs with the application the above mentioned typical sections.
- The Board notes that a large extended reach Komatsu PC 1250 excavator will be available to maximize the depth of cut-off construction to the degree practicable. The Board is pleased with this initiative as a

positive cut-off can be relied upon to a much greater extent than a grouted zone.

- The embedment of the cut-off in the till foundation will depend on a minimum excavation depth in till for the initial trench through sediments or the central crushed rock core zone and the maximum depth achievable for the cut-off. Consequently, the Board seeks clarification of the intended specifications for the control of these depths and of the approval process.
- The Board notes that the optimization of the densification methodology (vibro-densification and dynamic compaction) will be the responsibility of the sub-contractor and concurs with this approach.
- The Board also agrees with the proposal to determine the lateral extent of CSB and SB and to avoid the placing of CSB on SB.

3.2.3. Grouting

- For those lengths of the dike with only a partial cut-off, reliance is on the grouting to control piping (seepage) below the cut-off.
- The grouting in rock builds on the experience gained to date on the site. Improvements are being implemented in the northern portion; such as the change to thicker mixes at 240 litres rather than 400 litres of take.
- To date, the overburden treatment has been performed using a perforated pipe rather than true "Tube-à-Manchette" (TAM) methods. The Board notes that final control is now to be based on TAM and recommends that a three line treatment be carried out unless the cut-off embedment reduces the till window depth to less than 2 m.
- The Board recommends that jet grouting in the till and upper rock section be assessed as an alternative solution.
- The Board suggests that an analysis of the various methods be conducted to make a recommendation to AEM prior to the planned May 31st teleconference.
- The Board recommends that the "special washing" proposed prior to grouting in overburden be eliminated as it is an unproven method.
- As some concern has been expressed previously related to the use of air flush drilling techniques, the Board seeks clarification of the drilling methods that will be employed for the grouting works.
- The Board anticipates that the design and constructability considerations will honour the current mine plan; any departure would be considered as a mitigation activity.

3.2.4. Mitigation

- The Board accepts the role of expanded instrumentation for the partial cut-off sections, but cautions that instruments, while able to assist with the location of problem areas, may not give forewarning of an incipient piping condition; such as was the case at the East dike.
- Other more extreme efforts (remedial grouting, modified mine plan etc) will be evaluated on an as-needed basis in due course.

4.0 OTHER ISSUES

4.1 CPT studies

- A presentation was made of the re-interpretation of the CPT test results for the area of the East Dike sink hole. The study has been productive with some indication of the possible inclusion of pockets of granular material of higher permeability within the SB cut-off in this area. No further action is needed, but the Board anticipates presentation, at the July meeting, of a review of the dike performance.

4.2 Groundwater flow modelling

- Groundwater flow modelling has been carried out to assist with the design of the south portion of the Bay-Goose dike in channels 1 and 2. Relief wells were included as one option to control uplift pressures. However, the Board wishes to note that local hydraulic gradients may increase with such an installation and may not provide the intended protection against piping.

4.3 Frost heave studies

- A borehole has been put down at Stn 60+200 on the East dike in the vicinity of thermistor string BH185. Core samples from elevations: 133.0, 132.4 and 131.8 were recovered. The sampled zone brackets the depth of frost penetration according to the readings of thermistor TH185. The samples were examined for the presence of ice and measurements of water content were made. The quantity of ice observed was minor with no ice lensing perpendicular to the core (parallel to the freezing front). The Board suggests that the "Segregation Potential" of the SB material be determined and that further sampling be made in locations where the frozen/unfrozen boundary is fairly stable.
- Copies of a preliminary report on Seepage/Thermal modelling were distributed but time did not permit a presentation to be made on this subject. As the studies are ongoing, it is anticipated that the topic will be re-visited in July at the site meeting.

5.0 NEXT MEETINGS

The following meetings are proposed subject to confirmation by AEM:

- Teleconference call on May 31st (19h:30 Eastern Daylight Time) concerning the grouting design for the Bay-Goose dike;
- Site visit for July 26 to 29, 2010.

6.0 ACKNOWLEDGEMENTS

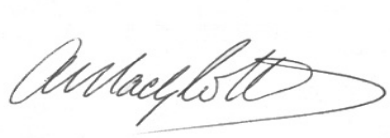
The Board once again wishes to thank the personnel of AEM and GAL for their participation in the meetings, and for the excellent documentation and presentations made by AEM and GAL which contributed to the efficiency and effectiveness of the proceedings.

The Board would also like to re-iterate their condolences to the GAL project team on the death of Rick Firlotte, the project sponsor who participated at the previous meeting in December.

Signed:

Norbert R. Morgenstern, P.Eng

D. Anthony Rattue, P.Eng.



Andrew M. Robertson, P. Eng.

ATTACHMENT A

AGENDA FOR BOARD MEETING NO. 6

April 30th, 2010

AGNICO-EAGLE MINES - MEADOWBANK DIVISION

MEADOWBANK DIKE REVIEW BOARD

Meeting #6 - April 30, 2010

4th Floor Main Boardroom, Golder Associates Office
500-4260 Still Creek Drive, Burnaby

AGENDA

8:30 **Welcome** (Continental Breakfast served)

8:35 **Agenda Review and Approval**

8:40 **MDRB Report No. 5 Review**

9:00 **2010 Geotechnical Investigation** (Golder)

Bay-Goose Summary

9:45 **East Dike** (Golder)

Freeze/thaw testing update
CPT program update

10:15 *Coffee Break*

10:30 **Bay-Goose Dike South Portion** (Golder)

Design Basis
Design Concepts and cross-sections

12:00 *Lunch*

12:30 **Bay-Goose Dike South Portion Continued** (Golder)

Treatment of Soils Left in Place
Grouting

14:30 *Coffee Break*

14:45 **Bay-Goose Dike South Portion Continued** (Golder)

Design Mitigation options
Instrumentation

15:30 **2010 Dike Construction Update** (AEM)

Construction Status Update
2010 Construction Schedule

15:50 **TSF** (AEM/Golder)

Proposed Bedrock Approval Procedure

16:00 **Deliberation by the Board Members**

17:00 **Preliminary report by the Board Members**

17:30 **Closure**

19:00 *Dinner Reservation (TBC based on travel schedules)*

ATTACHMENT B

ATTENDANCE AT APRIL 2010 MEETING
Held at the Golder Associates office, Burnaby, B.C.

Attendance		
Gaston Blanchette	AEM	Dike Superintendant
Eric Lamontagne	AEM	Mine manager
Yohan Jalbert	AEM	
Michel Julien	Golder Associates	Project Manager
Annie Beaulieu	Golder Associates	
Grant Bonin	Golder Associates	Grouting Specialist
Trevor Carter	Golder Associates	
Karine Doucet	Golder Associates	
Fiona Esford	Golder Associates	
Dan Walker	Golder Associates	
Lynn Wilson	Golder Associates	
Norbert Morgenstern	Self	Dike Review Board
Anthony Rattue	SNC Lavalin	Dike Review Board
Andrew Robertson	Robertson Geoconsultants	Dike Review Board

ATTACHMENT C

LIST OF FURNISHED DOCUMENTS

Golder Associates, 2010(a), “Response to report No. 5, Meadowbank Dike Review Board”, April 2010.

Golder Associates, 2010(b), “Interim summary of 2010 geotechnical investigation, Bay-Goose Dike, Meadowbank Gold Project, Nunavut”, April 2010.

Golder Associates, 2010(c), “Preliminary design for the south portion of the Bay-Goose Dike, Meadowbank Gold Project, Nunavut”, April 2010.

Golder Associates, 2010(d), “Additional CPT analysis for the East Dike, Meadowbank Gold Project, Nunavut”, April 2010.

Golder Associates, 2010(e), “Summary verification testing on cement-soil-bentonite mix design for the Bay-Goose Dike cut-off wall, Meadowbank Gold Project, Nunavut”, April 2010.

Golder Associates, 2010(f), “Bay-Goose Dike project, groundwater flow modelling and sensitivity analysis to assess hydraulic head and gradient distribution under Bay-Goose channel 1 and channel 2, Meadowbank Gold Project, Nunavut”, April 2010.

Golder Associates, 2010(g), “Coupled seepage-thermal analysis for the East Dike, Meadowbank Gold Project, Nunavut”, April 2010.

Golder Associates, 2010(h), “Binder and electronic copy of PowerPoint presentations made on April 30th”

July 20, 2010

Project No. 09-1428-5007
Doc. No. 1065 Ver. 0

Dr. Eric Lamontagne
Agnico-Eagle Mines Limited Meadowbank Division
P.O. Box 540
Baker Lake, Nunavut
X0C 0A0

RESPONSE TO REPORT NO. 6 MEADOWBANK MINE DIKE REVIEW BOARD, DATED MAY 28, 2010
SUBJECT: REVIEW COMMENTS

Dear Dr. Lamontagne,

On April 30, 2009, the sixth meeting was held between Meadowbank Dike Review Board (MDRB), Agnico-Eagle Mines Limited (AEM), and Golder Associates Ltd. (Golder). The meeting was held in the Golder Burnaby, BC office. The objectives of the meeting were to present an update on the geotechnical investigation and design for the southern portion of the Bay-Goose Dike.

On May 28, 2010, the MDRB provided a letter with their comments from this meeting. The following provides Golder's response to the MDRB questions and comments raised in their letter.

1.0 BAY-GOOSE DIKE SOUTH PORTION

1.1 Geotechnical Investigations

Comment: *Three depressions in the dike profile have been identified as Channels 1 to 3 from the NW to the SE of this portion. The Board notes that the low point in the rock profile in Channel 3 has not been adequately defined but this can be resolved by air-track soundings from the construction platform.*

Response: The Board's comment is correct. AEM is planning to perform additional air track drilling to provide better definition of the bedrock profile in Channel 3 from the dike platform once constructed.

Comment: *It is also noted that no inclined holes, that may have better characterized the fault zone in this same depression, were included in this years programme. However, it is anticipated that adjustments can be made, if necessary, to the grout pattern during construction to deal with any higher permeability.*

Response: Consideration to inclined holes will be given based on conditions encountered in the field, the results of the grouting program and the equipment available on site. The grouting program is planned and is being executed using vertical holes; to date, satisfactory grouting results have been achieved.

1.2 Design

1.2.1 Design modifications proposed

Comment: *Though no incidents of instability have been reported during the [causeway] construction, the deeper deposits of lakebed sediments (up to 6 m) as compared to the east dike and the adverse bed slope justify an evaluation of the potential risk to truck traffic.*

Response: A stability analysis for construction of the causeway has been completed and will be provided to the Board. The analysis was used as a guideline and was supplemented by experience gained during causeway construction. AEM will use their experience gained from causeway construction along with observations made during the further construction for widening of the causeway to complete construction of the rockfill platform. An update on the causeway stability and rockfill platform construction will be provided during the site meetings in July.

Comment: *The Board suggests that a review of the [dike] set-back design be carried out. As the dike is of generous width, the set-back could be evaluated from the toe of a hypothetical minimum safe section.*

Response: Discussions are in progress to complete this investigation / review of the setback.

1.2.2 Cross-sections

Comment: *Four typical sections have been proposed with improved cut-off details. The first is applicable to areas where the bedrock is at less than 5 m below the lake level, and the second for depths from 5 m to 6 m. Both will adopt a Soil-Bentonite cut-off. The third, for depths exceeding 6 m, employs a Cement-Soil Bentonite cut-off taken to rock. A fourth option where depths exceed the reach of the available equipment includes a cutoff, again of CSB, which will be anchored in firm till. The base width of the contact of the central zone of crushed rock on the till foundation increases progressively from the first to the fourth typical section. As was the case for the sections used in the northern portion of the Bay-Goose dike, no coarse filter is placed in contact with the foundation. Given the results of the investigations (no samples with less than 10% fines), the Board accepts the principle of the partial cut-off and concurs with the application the above mentioned typical sections.*

Response: It is noted that in zones designated for cutoff wall construction with CSB, CSB is to be used up to an elevation of at least 128 m. Above this elevation SB or CSB may be used. In areas where a partial cutoff is constructed, soil left in place will be treated by jet grouting. Jet grouted columns of about 1 m will be constructed between the base of the cutoff wall and bedrock with some treatment (jet grouting) of the overlaps.

Comment: *The Board notes that a large extended reach Komatsu PC 1250 excavator will be available to maximize the depth of cut-off construction to the degree practicable. The Board is pleased with this initiative as a positive cut-off can be relied upon to a much greater extent than a grouted zone.*

Response: No response is required.

Comment: *The embedment of the cut-off in the till foundation will depend on a minimum excavation depth in till for the initial trench through sediments or the central crushed rock core zone and the maximum depth achievable for the cut-off. Consequently, the Board seeks clarification of the intended specifications for the control of these depths and of the approval process.*

Response: Based on results of the 2010 geotechnical investigation program, a target surface for the initial trench excavation in the partial cutoff areas has been developed which represents the anticipated depth at which competent till exists. It is noted that variation in the actual depth of competent till is likely and therefore the QA representative will be responsible for approving the actual depth of excavation prior to the trench being backfilled. The QA representative will base this decision on the reaction of the excavator as it digs and on samples obtained from the base of the excavation. The excavator is instrumented with a GPS system which will be used to obtain a second reading of the depth of excavation in addition to that obtained from the bathymetric survey. The results obtained from this system will be reviewed and compared with those from the bathymetric survey.

The cutoff trench in the partial cutoff areas is required to be extended at least 1 m into competent till beyond the elevation of the initial trench. A combination of the manual soundings and GPS system on the excavator will be used to track the depth of the cutoff trench. The QA representative will also monitor the excavation to obtain information on the competency of the material being excavated through, and is to approve the depth of the cutoff trench.

Comment: *The Board notes that the optimization of the densification methodology (vibro-densification and dynamic compaction) will be the responsibility of the sub-contractor and concurs with this approach.*

Response: No response is required.

Comment: *The Board also agrees with the proposal to determine the lateral extent of CSB and SB and to avoid the placing of CSB on SB.*

Response: No response is required.

1.2.3 Grouting

Comment: *To date, the overburden treatment has been performed using a perforated pipe rather than true "Tube-à-Manchette" (TAM) methods. The Board notes that final control is now to be based on TAM and recommends that a three line treatment be carried out unless the cut-off embedment reduces the till window depth to less than 2 m.*

Response: Since the last Board meeting, the design for the Bay-Goose Dike southern portion has been modified. Jet grouting rather than TAM grouting methods will be performed between the base of the cutoff wall and bedrock in the partial cutoff zones. Below the base of the jet grouting, bedrock grouting will be performed, as is currently being performed in the north portion of the dike. The remainder of the dike, where the cutoff wall is extended to bedrock, bedrock and contact grouting will be performed using the current methodology.

Comment: *The Board recommends that jet grouting in the till and upper rock section be assessed as an alternative solution. The Board suggests that an analysis of the various methods be conducted to make a recommendation to AEM prior to the planned May 31st teleconference.*

Response: An evaluation of jet grouting versus TAM has been completed. An update was provided to the Board via teleconference on June 21st (10h:30 Eastern Daylight Time). AEM has selected jet grouting as the preferred method for treating the soils left in place beneath the cutoff wall, and has Hayward-Baker to complete the work.

Comment: *The Board recommends that the "special washing" proposed prior to grouting in overburden be eliminated as it is an unproven method.*

Response: Special washing is only being implemented in limited areas of the bedrock.

Comment: *As some concern has been expressed previously related to the use of air flush drilling techniques, the Board seeks clarification of the drilling methods that will be employed for the grouting works.*

Response: Through the SB-only portion of the cutoff wall, a 4.5-inch OD steel casing is advanced to bedrock by pushing the casing into the ground with up to a maximum 3500 psi of downwards force. While advancing the casing, the bit is rotated via a hydraulic drive head. If necessary, the hammer is actuated to advance through / push aside any cobbles/boulders that are encountered and create space so that the casing can be pushed again. Only the hammer itself is air-actuated.

Through the CSB-only portions, a 4.5-inch diameter borehole is pre-drilled with a rotary tricone water flush bit. The 4.5-inch OD steel casing is then pushed into the open hole in the same manner as is used for SB-only.

Through the CSB overlying SB portions, a 4.5-inch diameter borehole is pre-drilled to the top of the SB with the same rotary tricone water flush bit. The casing is advanced through the CSB to the top of the SB as described above for the CSB-only portion of the wall, and then through the SB as described for the SB-only portion.

Through the SB overlying CSB portions, a 4.5-inch OD casing is first advanced to the SB/CSB contact as described for the SB-only portion. A 3.5-inch hole is then triconed through the CSB and the casing is subsequently reamed through to bedrock. It is possible that the diameter of the 3.5-inch triconed hole is actually a bit larger than 3.5-inches because the CSB borehole wall is widened slightly with the rotary tricone bit.

The air-actuated DTH concentric bit is used to advance the casing 0.5m into bedrock. The bit and central rods are then extracted, leaving the steel casing in place.

Bedrock drilling is carried out through the steel casing by top-hammer, air-rotary drill rig with water flush only. The head of the top hammer is fitted with a special head which is capable of drilling with water flush, and using air to lift the cuttings and return water out of the grout hole. The use of air is limited to the end of the hole.

1.2.4 Mitigation

Comment: *The Board accepts the role of expanded instrumentation for the partial cut-off sections, but cautions that instruments, while able to assist with the location of problem areas, may not give forewarning of an incipient piping condition; such as was the case at the East dike.*

Response: As jet grouting has been selected as the method of treating the soils left in place beneath the cutoff wall, less instrumentation will be installed than would otherwise have been if the soils were not treated by this technique. A preliminary instrumentation plan is being prepared and will be provided to the Board during the next meeting.

2.0 OTHER ISSUES

2.1 CPT studies

Comment: *No further action is needed, but the Board anticipates presentation, at the July meeting, of a review of the [East] dike performance.*

Response: An update regarding the performance of the East Dike will be presented during the July site meetings.

2.2 Groundwater flow modelling

Comment: *Groundwater flow modelling has been carried out to assist with the design of the south portion of the Bay-Goose dike in channels 1 and 2. Relief wells were included as one option to control uplift pressures. However, the Board wishes to note that local hydraulic gradients may increase with such an installation and may not provide the intended protection against piping.*

Response: As jet grouting has been selected as the method of treating the soil left in place beneath the cutoff wall, it is anticipated that the risk of piping will be significantly reduced in comparison to not treating the soils with this technique. As a result, there is a lower probability that other mitigation methods will be necessary, including the use of relief wells. The potential for greater localized gradients with relief wells is recognized.

2.3 Frost heave studies

Comment: *The Board suggests that the "Segregation Potential" of the [East Dike] SB [core sampled] material be determined and that further sampling be made in locations where the frozen/unfrozen boundary is fairly stable.*

Response: Particle size analysis of the samples obtained from the East Dike is underway and will be used to assess the segregation potential of the material.

Comment: *Copies of a preliminary report on Seepage/Thermal modelling were distributed but time did not permit a presentation to be made on this subject. As the studies are ongoing, it is anticipated that the topic will be re-visited in July at the site meeting.*

Response: These topics will be re-visited during the July site meetings.

3.0 NEXT MEETINGS

Comment: *The following meetings are proposed subject to confirmation by AEM:*

- *Teleconference call on May 31st (19h:30 Eastern Daylight Time) concerning the grouting design for the Bay-Goose dike;*
- *Site visit for July 26 to 29, 2010.*

Response: The teleconference concerning the grouting design for the partial cutoff areas of the Bay-Goose Dike was held with the Board on June 21st (10h:30 Eastern Daylight Time). The dates for the site visit are confirmed for July 26 to 29; details to follow at a later date.

4.0 CLOSURE

We hope the above information provides the required clarification. If additional information is required, please do not hesitate to contact us.

Yours very truly,

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

Fiona Esford, P.Eng. (BC, Yukon, NWT/NU)
Geotechnical Engineer

ORIGINAL SIGNED

Karine Doucet, P.Eng. (BC)
Geotechnical Engineer

ORIGINAL SIGNED

Grant Bonin, M.Eng., P.Eng., (BC)
Associate, Geotechnical Engineer

ORIGINAL SIGNED

Dan Walker, Ph.D., P.Eng., (BC, NWT/NU)
Associate, Project Manager

ORIGINAL SIGNED

Michel Julien, Ph.D., P.Eng., (QC)
Principal, Project Director

FE/KD/GB/AB/DRW/MRJ/lw/ja

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August 26th, 2010

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

Email: denis.gourde@agnico-eagle.com

Dear Mr. Gourde,

Report No 7
Meadowbank Mine Dike Review Board
Meeting July 26-29, 2010

1.0 INTRODUCTION

The meeting of the Dike Review Board was held on site as planned from July 26th to 29th. All three members of the Board were in attendance, though the first day's activities were missed by Dr. Robertson due to travel delays.

The objectives were to review the status of the performance of the East Dike, and the design and construction of the Bay-Goose and TSF dikes.
The activities covered those outlined in the agenda which is included as Attachment A, with the addition of some discussion on the planning for the Central Dike. The list of attendees at the meeting is given in Attachment B.

Documents were submitted by Golder and Associates (GAL) before and during the meeting for which a list is included in Attachment C. Data on grain size analyses of crushed stone filter is included in Appendix D. A selection of photographs taken during the visits is to be found in Appendix E.

In the report which follows, the Board's recommendations are underlined.

2.0 UPDATE ON MINE STATUS

Agnico Eagle Mines (AEM) provided an update on the mine status. The Process Plant achieved a successful start-up with the first pour of gold on February 27th. The ore is being extracted from the Northern and Southern portions of the Portage Pit. The planned winter phase of the Bay-Goose Dike construction was successfully completed with a causeway tracing the full outline of this structure.

The Board observes that the project is in midst of the transformation from construction phase to operations and the activities for some staff may be limited to one or the other. It is important to note that, ultimately, the Operations will have significant geotechnical responsibilities related to Operation, Maintenance and Surveillance of the various dams. This will entail the

preparation and updating of manuals, participation in the periodic raising of the structures, dealing with compliance issues, and undertaking tailings management. The staffing for Operations should be beginning at the present time in order that the personnel may gain experience during the construction phase and have the opportunity to profit from the presence of persons who have had involvement from the outset. Consequently, the Board recommends that GAL and Gaston Blanchette advise the project management of what the obligations are going to be in order to permit the Project to evaluate its staffing in this regard.

3.0 RESPONSE TO REPORT NO 6

GAL has prepared a comprehensive letter response to the MDRB report No 6. The Board is pleased that the responses are positive on all critical issues. No substantive matters have been left unattended.

4.0 EAST DYKE

4.1 Field Inspection

The participants visited the crest of the East dike in the vicinity of the 2009 leak and sinkhole at approximately Stn. 60+490 to discuss additional planned instrumentation, and observe the subsidence (minor) noted after the 2009-2010 winter period.

An inspection was made of the entire dike toe to observe the ground conditions and the areas of visible seepage (photos #1 to 6). AEM advised that two weirs are to be installed to monitor leakage more accurately. These will be located in the North and South Channels and will be of a "V"-notch geometry. The existing rectangular weir in the North Channel may give an indication of major change in flow but lacks the precision for more subtle changes. The flow in the South channel is monitored by visual observation. Some turbidity was noted at the time of the visit but this was caused by drainage from an active dump site adjacent to the spring. (Photos # 6). It is understood that the observed seepage situation is stable and the order of magnitude of the flows is similar to those noted in late 2009.

The Board was advised that the initial survey of settlement monuments has not yet been carried out for reasons related to line of sight obstructions but also because of survey staff limitations. In the view of the Board, this is not diligent practice.

4.2 Performance and design

4.2.1 Instrumentation

A presentation was made of monitoring data including piezometer results for three sections, inclinometer profiles, and thermistor readings from various chains installed along the dike.
Piezometric data indicates that equilibrium conditions have been attained over the time since the last meeting. The piezometric levels beneath the dike are essentially at downstream toe ground elevation with no artesian pressures. However, the Board notes that a greater head loss exists in the rock upstream of the cut-off at Stn. 60+490 than elsewhere. An influence of the lake bed sediments and till overburden may be suspected. However, as the pervious rockfill transmits pressure at full lake level to the base of the cut-off on the upstream side, a significant downward gradient is indicated in the rock at this point. The head loss between the piezometers upstream and downstream of the cut-off is comparatively less. This may indicate

anisotropic conductivity in the rock. The Board recommends that detailed evaluation of the three instrumented sections be undertaken to determine by what mechanism these patterns of pressure distribution can be explained. A flow net seepage analysis by finite element modelling may be required.

The graphs of displacement versus depth in the inclinometers are plotted to a large exaggerated horizontal scale but, in fact, show no movements of significance.

The thermistor data has been accumulated for more than a year on the East Dike. The overall portrait and particularly the deviations from the anticipated annual cycle are very valuable to define leakage zones (see TH485). A study of time lags for the temperature cycles has been initiated. The Project proposes to measure temperatures with additional thermistor strings adjacent to section 60+490 ±15m to determine the extent of the leakage zone. The Board supports this initiative, especially as the installations will be made by drilling in existing grout casings and thus no extra intrusion is implied. The results should be overlain on the CPT longitudinal section and potential remediation schemes developed including risk analyses for each scheme. The Board wishes to be consulted after this study prior to undertaking any further action.

Flow measurement data from the weir in 2010 is limited but consistent with past readings. The existing rectangular installation is to be modified to a "V" shaped weir to improve accuracy. Other weirs are also planned in areas of significant seepage.

4.2.2 Contingency Planning

The Contingency planning that is necessary is related to deterioration in the dike and its foundation with attendant increase in seepage.
The existing EPP (prepared for initial dewatering) needs to be updated for the current status, which is operational and would form part of site wide EPP. The daily inspection needs to be formalized for operational status, as would be expected from the OMS manual. A register of inspections, documentation of observations, an itemized list of leaks, and a photo record, would be expected.

4.2.3 Segregation Potential

The Project has evaluated the Segregation Potential (SP) using soil index properties following the method developed by J-M Konrad and has shown that observed heave and ground ice accumulation is less than the one dimensional forecast; no additional work is required in this regard other than the ongoing monitoring of overall dike performance.

5.0 BAY GOOSE DYKE

5.1 Field Inspection

Observations made during the site visit included the Soil-Bentonite (SB) fill preparation (photo # 7); embankment widening, functioning of turbidity barriers, water pumping to assist containment; central trench excavation, fine filter material stockpiles for the Bay Goose Dike. The Board was pleased to see how effective the turbidity barriers, together with the causeway, have been in controlling suspended sediment migration. The stockpile of fine filter material was examined and the Board remarked on the apparent high fines content (photo # 8). This non-PAG material is produced from relatively friable volcanic rock and the crushing and handling may generate

excessive fines. However, the grain size analyses, transmitted subsequent to the Board meeting and shown in Appendix C, indicate the material to be well graded and within the specified envelope except for a small fraction of oversize particles. As the materials were dry when observed it is possible that some segregation on the outer slopes of the piles may have contributed to the perception of a less well graded product. Nevertheless, it is evident that care is required in the exploitation of the stockpiles, particularly when dry, in order to minimize the segregation.

5.2 IFC Drawings & Specifications

A presentation was made to remind the Board of the status of the design and construction. There are no major design aspects pending but field decisions will likely be required with respect to the limits of application of the typical sections and the grouting details. It was noted that additional investigations (percussion holes) are still planned to verify the bedrock profile in more critical areas. There are no additional comments.

5.3 Grouting

The Contractor has completed the northern section ahead of schedule, which is a significant achievement. The Board is pleased with the attention paid to the execution and evaluation of the grouting program and is confident that rock grouting was adequate and consistent with the design concept. There were no particular surprises.

Drilling operations revealed the presence of accumulated soft sediments at the base of the wall in the North Channel. Despite the fact that preparations had been made to refine the "special washing" technique it was not applied. The Board agrees with the interpretation that the material could not be amended by conventional grouting or even by TAM and that jet grouting is required in the zones as proposed.

Elsewhere, the bedrock contact zone was grouted in a 'live front' grouting strategy, rather than primary and secondary holes, with the rational that travel over thawed SB cut-off material needed to be minimized. The grouting criteria used was aimed to get closure by pressure. The Board is not convinced that this was the correct approach as higher volumes of grout were consumed as compared to the East Dike and suggests that a more traditional approach of limiting volume, allowing set, and achieving incremental closure, be re-evaluated for stages 3 and 4. There may be financial savings and grout may be better confined to the width of the cut-off. It is suspected that some of the grout injected may have ended up in the fine filter zones with consequent increase in heterogeneity and the possibility of creating areas of higher hydraulic gradients.

The Board notes the careful observations made regarding communication of drilling fluids during casing installation, but the explanation and significance is not yet clear.

5.4 Jet Grouting

The Board is pleased with the decision to proceed with jet grouting, notes that an experienced contractor has been engaged and that an acceptable schedule is being worked out. The Board confirms that the QC program is appropriate but recommends that the verification of drill hole verticality also be included. This is essential to ensure column overlap and cut-off continuity. The Contractor should be required to deliver plots with a commitment for additional

holes if overlap is inadequate. The Board wishes to see the jet grouting specifications when these become available.

5.5 Instrumentation

The Board was advised of the progress in establishing the network of instruments for this structure and will comment when the final layout is available, but does not expect any concerns.

5.6 Schedule

The construction schedule was presented for information and it was noted that the schedule is controlled by the limit of non-PAG rock production.

5.7 Ongoing Studies

i) The Set-back of the dyke with respect to the mine high wall is being re-evaluated. This will not affect dike design or construction.
ii) Freeze-thaw experiments in a confined state are to be undertaken to investigate change in permeability of SB.
iii) Seepage thermal modeling has been undertaken to guide ii) above.

6.0 TAILINGS STORAGE FACILITY

6.1 Field visit

The Board paid a visit to the Stormwater Dyke and inspected the bedding material (photos # 9 and 10), the liner as placed and welded (photos # 11 to 13), though there was no ongoing activity, and the tailings beach (photo # 14). The susceptibility of the liner to damage by construction and operation equipment was noted. The standard of placing is variable and this is apparently due to weather conditions (wind etc) prevailing at the time of installation.
The tailings deposition was observed from the vantage point of the water reclaim jetty. The Board noted the clarity of the decant pond water and remarked that re-use as process water should thus be facilitated.

At Saddle Dam SD-1, the plans to increase the cover on the upstream tie-in of the liner and to enhance the protection were described. This will entail the construction of a groin upstream of the dike toe (photo # 16) and the direction of tailings to the enclosure to create a beach in advance of normal deposition in the area. Localised pumping was underway at the downstream toe (photo # 17) to reduce the potential for build-up of pressure under the liner until the aforementioned beach is created. There was also mention of lowering the culverts under the access road which runs downstream of the dike.

At the Saddle Dam SD-2, foundation excavation was underway on the footprint of the upstream shell where ice rich material requires removal (photo # 18).

The site of the Center dike was also visited and the liquefaction flow slides in the still saturated lake bed sediments were noted. (photos # 19 and 20).

6.2 2009 As-Built reports

The Board was advised of the planning for the preparation of the 2009 As-Built reports. The Board supports the structure of the report preparation team and urges that this activity be carried out as soon as reasonably possible while the staff members acquainted with the work that was carried out are still on site.

6.3 2010 Investigation

The objectives of the 2010 program were to enhance the knowledge of the foundation conditions at the structures for which the design is ongoing, namely the Central Dike, Saddle Dams 4, 5 and 6, and the Rockfill road No 2. The program comprised 99 air track percussion holes and 7 Sonic soundings. Conditions did not permit work in the middle part of the Central Dike due to an uneven ice sheet grounded on the lake bed. An indication of the depths to bedrock at the various locations was given for information.

6.4 2010 Design Update

As mentioned earlier, there are plans to enhance the liner tie-in at the Saddle Dam SD-1 with a modification at the till berm. This will require a tailings beach as soon as possible.
As far as future tie-ins are concerned, it is anticipated that all overburden will be removed to rock. The adopted configuration will allow remedial grouting if required and, being outside the general embankment profile, work on the cut-off tie-in will be decoupled from embankment construction. The bedrock will be cleaned and mapped, but the Board is not supportive of the concept to place a geotextile cover over 20 mm joint openings with a view to controlling piping. Large joints should be cleaned and plugged with mortar in a more conventional manner. The Board agrees that the option to provide a tie-in by means of a trench excavated in rock is not to be favoured, as blasting will disturb the rock and entail more extensive treatment to preclude piping.

Construction management
With respect to the liner QC/QA:

- the bedding material is of good quality materials with satisfactory placing and compaction;
- a comparison should be made with current Diavik practice, with which GAL is familiar, in order to demonstrate the equivalence in scrutiny;
- as the work may be spread over several months with varying weather conditions there is a need for diligence particularly with respect to winter work and snow incorporation. Several wrinkles were noted during the course of the inspection. There is a need to establish whether these are excessive and to provide the inspection staff with clear criteria for acceptance;
- protocols should be established to govern equipment working on liners with mandatory use of check lists and reporting of any event that could lead to damage.

With respect to beach formation:

- GAL should declare beach requirements in light of current tailings operations; if these are not met they should evaluate alternative ice management for the coming winter season;
- The planning of the tailings deposition is based on a solids content (Cs) of 35% for the remainder year 2010 (50.8% thereafter) and reclaim water maximized to the degree possible. This necessitates a revised filling curve.

7.0 TAILINGS PLANNING

With the given volume available in the North Cell (Stormwater Dyke) and current production planning, the area will be able to cover deposition requirements to the end of Q4 2013.
The base case is for the Center Dyke construction to start in summer 2012, with a commitment for barging in Q1 2012. If this option is too expensive or not feasible, the possible alternative is for tailings deposition in the Portage pit of which at least part will have been worked out.
However, this scenario carries considerable regulatory risk and therefore there is a high priority to assess if the base case is still viable.
Apparently a preliminary assessment suggests that it is, given that:

- the soft silt mantle is not excessive;
- the stiff till below does not need excavation;
- the silt cover will be beneficial on closure and may be strengthened by means of wick drains to accelerate the consolidation;

However, additional site investigation is required in the middle sector and a feasibility design must be developed soon for project assessment.

8.0 NEXT MEETING

The dates for two meetings were tentatively set as:
Winter 2011 – Jan 27 to 28 (Vancouver) Subject to approval
Summer 2011 – July 18 to 21 (on site) subject to approval

9.0 ACKNOWLEDGEMENTS

The Board once again wishes to thank the personnel of AEM and GAL for their participation in the meetings, and for the excellent documentation and presentations made by AEM and GAL which contributed to the efficiency and effectiveness of the proceedings.

Signed:

Norbert R. Morgenstern, P.Eng

D. Anthony Rattue, P.Eng.

Andrew M. Robertson, P. Eng.

ATTACHMENT A

AGENDA FOR BOARD MEETING NO. 7

July 26th-29th, 2010

AGNICO-EAGLE MINES - MEADOWBANK DIVISION
MEADOWBANK DIKE REVIEW BOARD

Meeting #7 - July 26 to 29, 2010
Meadowbank Mine Site, Nunavut

AGENDA

Monday July 26

Mr. Morgenstern, Mr. Robertson, Mr. Bonin, Mr. Bedell, Ms. Esford and Mr. Walker arrive in Baker Lake at approximately 14:30 pm local time (TBC). AEM to provide transport from Baker Lake to site (~ 2 hrs).

Mr. Rattue, Mr. Julien, and Ms. Beaulieu arrive on site in early afternoon from Montreal on AEM Charter.

17:30 *Check-in, room assignments and site H&S orientation (AEM to provide)*

18:30 **Welcome** (AEM to confirm meeting room)

Dinner (site cafeteria)

Tuesday July 27 – Morning Session (Office & Field)

6:30 *Breakfast (site cafeteria)*

7:30 **Review of Agenda**

7:45 **Update on Status of the Mine**

8:00 **MDRB Report #6**

Review and Respond to MDRB Report #6

- Bay-Goose Dike South Portion
  - Geotechnical Investigations
  - Design
- Other Issues

8:30 **East Dike**

- Instrumentation data update
- Contingency planning update
- Segregation potential analysis

9:00 *Coffee Break*

9:15 **East Dike and Bay-Goose Field Visit**

East Dike

- Downstream toe inspection

Bay-Goose Dike

- Causeway south portion
- Turbidity barrier placement
- Rockfill placement south portion
- Initial trench excavation south portion
- Grouting north portion

11:30 Bay Goose Dike

- IFC Drawings and Specifications

12:30 Lunch (site cafeteria)

Tuesday July 27 – Afternoon Session (Office)

13:30 Bay Goose Dike (Cont'd)

- Grouting
- Jet Grouting

15:30 Coffee Break

15:45 Bay Goose Dike (Cont'd)

- Instrumentation plan
- Construction plan and schedule
- Update on ongoing studies
    - Dike set back
    - Freeze/thaw testing
    - Seepage thermal modeling

18:30 Dinner (site cafeteria)

Wednesday July 28 – Morning Session (Office & Field)

6:30 Breakfast (site cafeteria)

7:30 TSF Dike Field Visit

- Stormwater Dike
- Saddle Dam 1
- Dewatering and tailings deposition progress

10:00 TSF

- 2009 As-Built
- 2010 Geotechnical Investigation

12:30 Lunch (site cafeteria)

Wednesday July 28 – Afternoon Session (Office)

13:30 TSF (Cont'd)

- 2010 Design Update
- Construction Plan and schedule

15:00 Deliberation by the Board Members

18:30 Dinner (site cafeteria)

19:30 Preliminary report by the Board Members

20:30 Closure

Thursday July 29 – Morning (Meadowbank/Baker Lake)

Mr. Morgenstern, Mr. Robertson, Mr. Bonin, Mr. Bedell, Ms. Esford, Mr. Julien and Ms. Beaulieu to depart for Baker Lake no later than 8:30 am local time (TBC). AEM to provide transport from site to Baker Lake (~ 2 hrs).

Mr. Rattue depart site in early afternoon for Montreal on AEM Charter.

6:30	*Breakfast (site cafeteria)*
7:00	*Check-out (AEM to provide office space until Baker Lake transport or charter departure)*

ATTACHMENT B

ATTENDANCE AT JULY 2010 MEETING
Held at the Meadowbank Mine site, Nunavut

Attendance		
Gaston Blanchette	AEM	Dike Superintendant
Eric Lamontagne	AEM	Mine manager
Yohan Jalbert	AEM	
Michel Julien	Golder Associates	Project Manager
Annie Beaulieu	Golder Associates	
Paul B. Bedell	Golder Associates	
Grant Bonin	Golder Associates	Grouting Specialist
Fiona Esford	Golder Associates	
Dan Walker	Golder Associates	
Lynn Wilson	Golder Associates	
Norbert Morgenstern	Self	Dike Review Board
Anthony Rattue	SNC Lavalin	Dike Review Board
Andrew Robertson	Robertson Geoconsultants	Dike Review Board

ATTACHMENT C

LIST OF FURNISHED DOCUMENTS

Golder Associates, 2010(a), “Bay-Goose Dike South Portion, Drawings Issued for Construction”, May 2010.

Golder Associates, 2010(b), “Causeway Set Out Points and Construction Restrictions between Sta. 30+890 and Sta. 32+140, Bay-Goose Dike, Meadowbank Gold Project, Nunavut”, May 2010

Golder Associates, 2010(c), “Response to report No. 6, Meadowbank Dike Review Board”, July 2010.

Golder Associates, 2010(d), “East Dike CPT Investigation, Meadowbank Gold Project, Nunavut”, July 2010

Golder Associates, 2010(e), “2010 Geotechnical Investigation of East Dike Soil-Bentonite Cut-off wall, Meadowbank Gold Project, Nunavut”, July 2010

Golder Associates, 2010(f), “Summary of 2010 geotechnical investigation, Bay-Goose Dike, Meadowbank Gold Project, Nunavut”, July 2010.

Golder Associates, 2010(g), “Foundation and backfill approval procedures during initial trench excavations (on rock and on soil) during construction of Bay-Goose Dike-South Portion, Meadowbank Gold Project, Nunavut”, July 2010.

Golder Associates, 2010(h), “Segregation Potential and frost heave of S-B material, Meadowbank Gold Project, Nunavut”, July 2010.

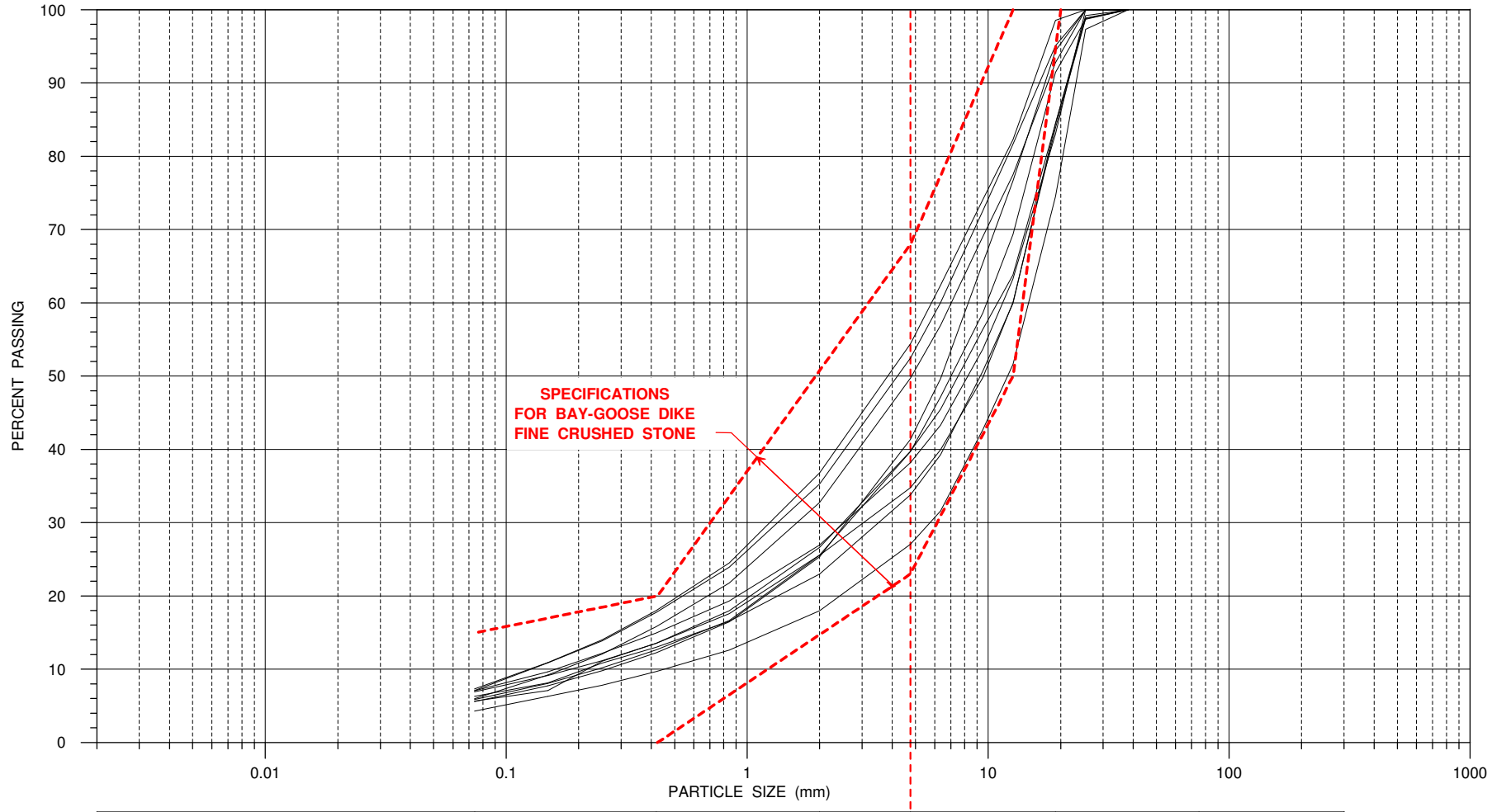
Golder Associates, 2010(i), Binder and electronic copy of PowerPoint presentations made on July 27th and 28th, 2010

ATTACHMENT D

GRAIN SIZE CURVES FOR 0-20mm CRUSHED STONE

FILTER AND BEDDING MATERIALS

GRAIN SIZE DISTRIBUTION



FINE GRAINED SOILS	FINE	MEDIUM	COARSE	FINE	COARSE	COBBLE
SILT SIZE	**SAND SIZE**			**GRAVEL SIZE**		**SIZE**

NOTES:

1) FINE CRUSHED STONE SAMPLED FROM STOCKPILE FOR BAY-GOOSE DIKE BETWEEN JULY 29th AND AUGUST 10th (10 SAMPLES)

2) MADE OF NPAG MATERIAL

3) SAMPLING AND TESTING BY AEM

AGNICO-EAGLE MINES LIMITED - MEADOWBANK DIVISION

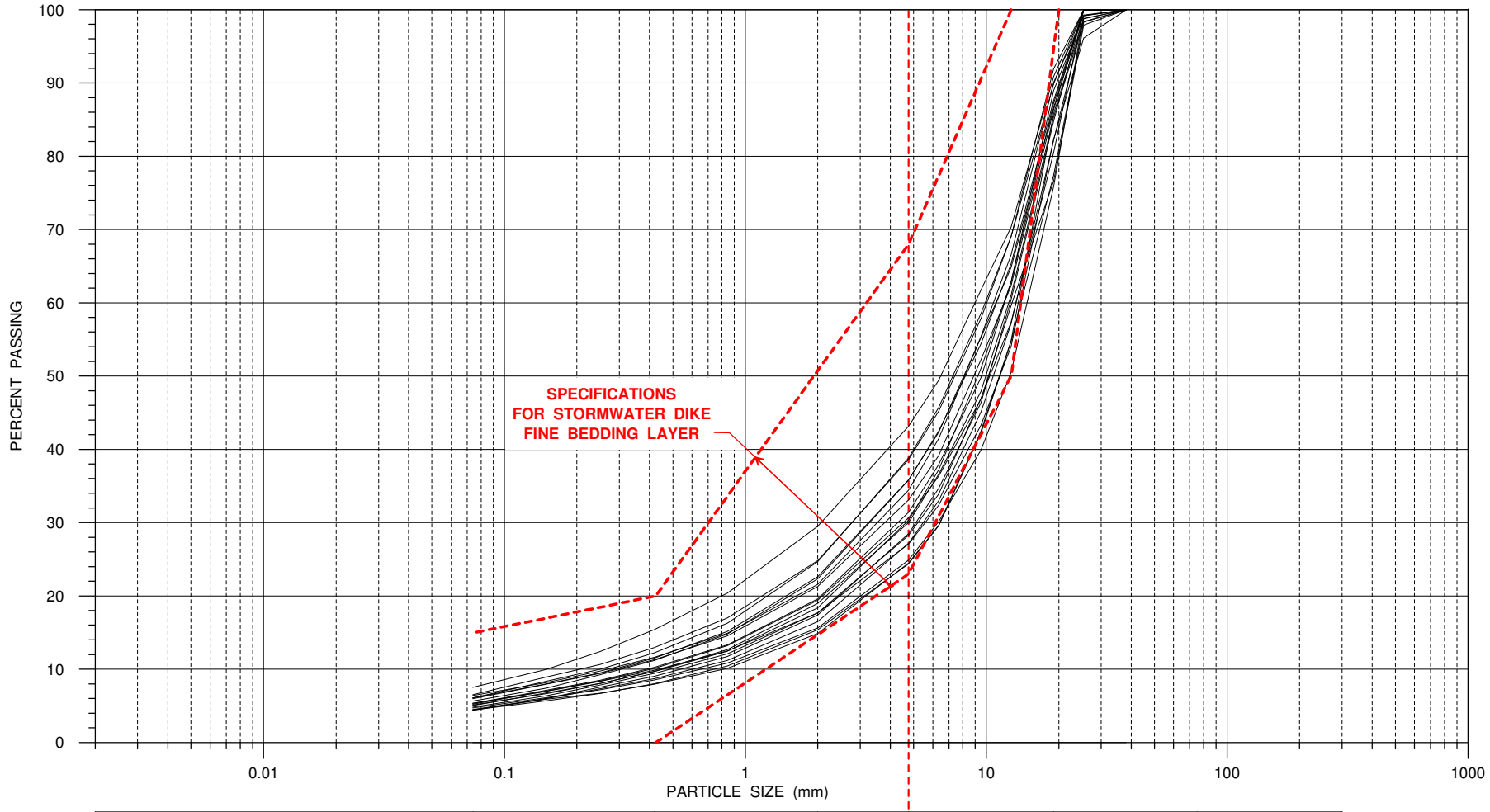
MEADOWBANK GOLD PROJECT - BAY-GOOSE DIKE

SAMPLES FROM STOCKPILE OF FINE CRUSHED STONE

GRAIN SIZE CURVES

BAY-GOOSE DIKE GRAINSIZE CURVES.GRF

GRAIN SIZE DISTRIBUTION



FINE GRAINED SOILS	FINE	MEDIUM	COARSE	FINE	COARSE	COBBLE
SILT SIZE	**SAND SIZE**			**GRAVEL SIZE**		**SIZE**

NOTES:

1) AS-PLACED FINE BEDDING LAYER SAMPLED BETWEEN JULY 19th AND AUGUST 06th (19 SAMPLES)

2) MADE OF PAG MATERIAL

3) SAMPLED AND TESTED BY AEM

AGNICO-EAGLE MINES LIMITED - MEADOWBANK DIVISION

MEADOWBANK GOLD PROJECT - STORMWATER DIKE

SAMPLES OF AS-PLACED FINE BEDDING LAYER

GRAIN SIZE CURVES

STORMWATER DIKE GRAINSIZE CURVES.GRF

ATTACHMENT E

PHOTOGRAPHS

Photo # 1 East dike, seepage areas in North Channel

Photo # 2 East dike, seepage circa Stn. 60+550

Photo # 3 East dike, location of weir circa Stn. 60+490

Photo # 4 East dike, weir circa Stn. 60+490

Photo # 5 East dike, flow from toe of dike in South Channel

Photo # 6 East dike, active dumping area adjacent to above flow

Photo # 7 Bay-Goose, preparation of dry SB mix

Photo # 8 Bay-Goose, material for fine filter from non PAG rock

Photo # 9 Stormwater dike, stockpile of bedding material from PAG rock

Photo # 10 Stormwater dike, placed and compacted bedding

Photo # 11 Stormwater dike, Coletanche liner minor wrinkles

Photo # 12 Stormwater dike, liner damaged by construction subsequent to installation

Photo # 13 Stormwater dike, liner weld failure at wrinkle

Photo # 14 Stormwater dike, tailings beach and decant water pond

Photo # 15 Saddle dam SD1, LLDPE liner with geotextile cover

Photo # 16 Saddle dam SD1, upstream toe

Photo # 17 Saddle dam SD1, downstream shoulder. Note pump and culverts in background

Photo # 18 Saddle dam SD2, excavation of ice rich soils

Photo # 19 Central dike axis, view from North abutment to South

Photo # 20 Central dike axis, flow slide in lakebed sediments

February 18, 2011

Project No. 09-1428-5007
Doc. No. 1203 Ver. 0

Ms. Julie Belanger
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X0C 0A0

RESPONSE TO REPORT NO. 7 MEADOWBANK MINE DIKE REVIEW BOARD, DATED AUGUST 26, 2010
SUBJECT: REVIEW COMMENTS

Dear Ms. Belanger

The seventh meeting between the Meadowbank Dike Review Board (MDRB), Agnico-Eagle Mines Limited (AEM), and Golder Associates Ltd. (GAL) was held on July 26 through 29, 2010 at the Meadowbank mine site, Nunavut. The objectives of the meeting were to review the status of the East Dike, and the design and construction of the Bay-Goose and TSF dikes.

On August 26, 2010, the MDRB provided a letter with their comments from this meeting. The following provides Golder's and AEM's response to the MDRB questions and comments raised in their letter.

2.0 UPDATE ON MINE STATUS

Comment: *The staffing for Operations should be beginning at the present time in order that the personnel may gain experience during the construction phase and have the opportunity to profit from the presence of persons who have had involvement from the outset. Consequently, the Board recommends that GAL and Gaston Blanchette advise the project management of what the obligations are going to be in order to permit the Project to evaluate its staffing in this regard.*

Response: AEM agrees with the Board's comment. Obligations under Operations have been presented to the Meadowbank General Management Team. AEM has prepared an updated organizational chart for operations and is in the process of staffing this chart.

4.0 EAST DIKE

4.1 Field Inspection

Comment: *AEM advised that two weirs are to be installed to monitor leakage more accurately. These will be located in the North and South Channels and will be of a "V"-notch*

geometry. The existing rectangular weir in the North Channel may give an indication of major change in flow but lacks the precision for more subtle changes. The flow in the South channel is monitored by visual observation.

Response: A temporary v-notch weir has been installed downstream approximately stations 60+150 to 60+200 to monitor seepage flow in the south channel. The v-notch weir was intended as a temporary structure until a more accurate and permanent facility can be installed. Options relating to the East Dike mitigation are currently under consideration including a permanent system to monitor seepage.

Comment: *The Board was advised that the initial survey of settlement monuments has not yet been carried out for reasons related to line of sight obstructions but also because of survey staff limitations. In the view of the Board, this is not diligent practice.*

Response: The monuments will require replacement, which is currently planned for completion in second quarter, 2011.

4.2 Performance and Design

4.2.1 Instrumentation

Comment: *The Board recommends that detailed evaluation of the three instrumented sections be undertaken to determine by what mechanism these patterns of pressure distribution can be explained. A flow net seepage analysis by finite element modelling may be required.*

Response: A detailed evaluation of the three instrumented sections at the East Dike is underway, the results of which will be presented at the next meeting of the Board, scheduled for March 28 and 29, 2011 in Vancouver.

Comment: *The Project proposes to measure temperatures with additional thermistor strings adjacent to section 60+490 ±15m to determine the extent of the leakage zone. The Board supports this initiative, especially as the installations will be made by drilling in existing grout casings and thus no extra intrusion is implied. The results should be overlain on the CPT longitudinal section and potential remediation schemes developed including risk analyses for each scheme. The Board wishes to be consulted after this study prior to undertaking any further action.*

Response: Temporary thermistor stings were installed during the summer of 2010, and results will be presented at the next meeting of the Board, scheduled for March 28 and 29, 2011 in Vancouver. Options relating to the East Dike mitigation are currently under consideration by AEM. The mitigation strategy will also be presented to the Board during the next MDRB meeting.

4.2.2 Contingency Planning

Comment: *The existing EPP (prepared for initial dewatering) needs to be updated for the current status, which is operational and would form part of site wide EPP. The daily inspection needs to be formalized for operational status, as would be expected from the OMS manual. A register of inspections, documentation of observations, an itemized list of leaks, and a photo record, would be expected.*

Response: An updated EPP and OMS Manual are in preparation and will be finalized by the end of the first quarter, 2011.

4.2.3 Segregation Potential

Comment: *The Project has evaluated the Segregation Potential (SP) using soil index properties following the method developed by J-M Konrad and has shown that observed heave and ground ice accumulation is less than the one dimensional forecast; no additional work is required in this regard other than the ongoing monitoring of overall dike performance.*

Response: No response required.

5.0 BAY-GOOSE DIKE

5.1 Field Inspection

Comment: *The stockpile of fine filter material was examined and the Board remarked on the apparent high fines content (photo # 8). This non-PAG material is produced from relatively friable volcanic rock and the crushing and handling may generate excessive fines. However, the grain size analyses, transmitted subsequent to the Board meeting…indicate the material to be well graded and within the specified envelope except for a small fraction of oversize particles. As the materials were dry when observed it is possible that some segregation on the outer slopes of the piles may have contributed to the perception of a less well graded product. Nevertheless, it is evident that care is required in the exploitation of the stockpiles, particularly when dry, in order to minimize the segregation.*

Response: GAL and AEM agree with the Board's comment.

5.2 IFC Drawings & Specifications

Comment: *There are no major design aspects pending but field decisions will likely be required with respect to the limits of application of the typical sections and the grouting details. It was noted that additional investigations (percussion holes) are still planned to verify the bedrock profile in more critical areas.*

Response: No additional investigations were completed due to logistical constraints.

5.3 Grouting

Comment: *Drilling operations revealed the presence of accumulated soft sediments at the base of the wall in the North Channel. Despite the fact that preparations had been made to refine the "special washing" technique it was not applied. The Board agrees with the interpretation that the material could not be amended by conventional grouting or even by TAM and that jet grouting is required in the zones as proposed.*

Response: No response required.

Comment: *Elsewhere, the bedrock contact zone was grouted in a 'live front' grouting strategy, rather than primary and secondary holes, with the rational that travel over thawed SB cut-off material needed to be minimized. The grouting criteria used was aimed to get closure by pressure. The Board is not convinced that this was the correct approach as higher volumes of grout were consumed as compared to the East Dike and suggests that a more traditional approach of limiting volume, allowing set, and achieving incremental closure, be re-evaluated for stages 3 and 4. There may be financial savings and grout may be better confined to the width of the cut-off. It is suspected that some of the grout injected may have ended up in the fine filter zones with consequent increase in heterogeneity and the possibility of creating areas of higher hydraulic gradients.*

Response: A "live front" grouting method was not used during the winter grouting program for the South Portion of the Bay Goose Dike. In an effort to reduce quantities of grout injected, particularly for Stages 3 and 4, the thickening sequence was reviewed. From experience gained at the North Portion, it was determined that greater than 90% of the primary and secondary Stages 3 and 4 went to at least Mix B. As such, primary and secondary Stages 3 and 4 in the South Portion were started with Mix B, and if appropriate, thickened to Mixes C, D and thicker. Maximum volumes injected were 600 L/m for Stage 3 and 530 L/m for Stage 4; the former being the same cutoff used during the East Dike grouting program, and 150 L/m less than was used for the North Portion, while Stage 4 volume limit was reduced by a further 70 L/m.

5.4 Jet Grouting

Comment: *The Board confirms that the* [jet grouting] *QC program is appropriate but recommends that the verification of drill hole verticality also be included. This is essential to ensure column overlap and cut-off continuity. The Contractor should be required to deliver plots with a commitment for additional holes if overlap is inadequate. The Board wishes to see the jet grouting specifications when these become available.*

Response: A document describing the jet grouting program, including planned QA activities, is provided under separate cover with this response.

6.0 TAILINGS STORAGE FACILITY

6.1 2009 As-Built Reports

Comment: *The Board was advised of the planning for the preparation of the 2009 As-Built reports. The Board supports the structure of the report preparation team and urges that this activity be carried out as soon as reasonably possible while the staff members acquainted with the work that was carried out are still on site.*

Response: No response required.

6.4 2010 Design Update

Comment: *… there are plans to enhance the liner tie-in at the Saddle Dam SD-1 with a modification at the till berm. This will require a tailings beach as soon as possible. As far as future tie-ins are concerned, it is anticipated that all overburden will be removed to rock. The adopted configuration will allow remedial grouting if required and, being outside the general embankment profile, work on the cut-off tie-in will be decoupled from embankment construction. The bedrock will be cleaned and mapped, but the Board is not supportive of the concept to place a geotextile cover over 20 mm joint openings with a view to controlling piping. Large joints should be cleaned and plugged with mortar in a more conventional manner. The Board agrees that the option to provide a tie-in by means of a trench excavated in rock is not to be favoured, as blasting will disturb the rock and entail more extensive treatment to preclude piping.*

Response: Tailings deposition from Saddle Dam 1 occurred in November 2010 and has covered the upstream tie-in of the structure.

Within the upstream tie-in of the remaining Saddle Dams, all ice-rich and coarse grained materials will be removed such that the geomembrane will tie-in to either native till or bedrock. The exposed bedrock will be mapped. Bentonite-enriched granular material will be placed over bedrock discontinuities having widths greater than 10 mm to reduce the potential for piping.

Comment: *Construction management*
With respect to the liner QC/QA:
• the bedding material is of good quality materials with satisfactory placing and compaction;
• a comparison should be made with current Diavik practice, with which GAL is familiar, in order to demonstrate the equivalence in scrutiny;
• as the work may be spread over several months with varying weather conditions there is a need for diligence particularly with respect to winter work and snow incorporation. Several wrinkles were noted during the course of the inspection. There is a need to establish whether these are excessive and to provide the inspection staff with clear criteria for acceptance;
• protocols should be established to govern equipment working on liners with mandatory use of check lists and reporting of any event that could lead to damage.

Response: AEM has implemented an internal protocol for personnel and equipment working on or near liners.

The Board's comments regarding liner QA inspection and evaluation are appreciated and noted. It is noted that the comments relating to wrinkles are applicable to the bituminous liner placed at the Stormwater Dike during 2009. The practices for bituminous liner placement were reviewed and modified for 2010 based on 2009 experience and practices elsewhere.

Comment: *With respect to beach formation:*
• GAL should declare beach requirements in light of current tailings operations; if these are not met they should evaluate alternative ice management for the coming winter season;
• The planning of the tailings deposition is based on a solids content (Cs) of 35% for the remainder year 2010 (50.8% thereafter) and reclaim water maximized to the degree possible. This necessitates a revised filling curve.

Response: The beach requirements are such that neither water nor ice is to come in contact with the upstream face of the structures; this requirement is paramount for the Saddle Dams. The development of rockfill berms upstream of the Saddle Dams to develop a cover of tailings over the upstream face (summer activity) and to serve as a deposition structure away from the structures (winter activity) is a planned activity. This scheme was discussed with the Board.

A revised filling scheme is under preparation and will be presented at the next meeting of the Board, scheduled for March 28 and 29, 2011 in Vancouver.

7.0 TAILINGS PLANNING

Comment: *The base case is for the Center Dyke construction to start in summer 2012, with a commitment for barging in Q1 2012…there is a high priority to assess if the base case is still viable. Apparently a preliminary assessment suggests that it is, given that:*
• the soft silt mantle is not excessive;
• the stiff till below does not need excavation;
• the silt cover will be beneficial on closure and may be strengthened by means of wick drains to accelerate the consolidation;
However, additional site investigation is required in the middle sector and a feasibility design must be developed soon for project assessment.

Response: GAL and AEM agree with the Board's comment regarding the Central Dike. A geotechnical investigation for the Central Dike is currently underway recognizing the points identified by the Board.

8.0 CLOSURE

We hope the above information provides the required clarification. If additional information is required, please do not hesitate to contact us.

Yours very truly,

GOLDER ASSOCIATES LTD.

ORIGINAL SIGNED

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Associate, Project Manager

ORIGINAL SIGNED

Michel Julien, Ph.D., P.Eng. (QC)
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DRW/GRB/PMB/FE/MRJ/lw

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