Appendix A2

Independent Geotechnical Expert Review Panel Reports

Report 8: *Meeting April 26-27, 2011*
Letter: *Response to Report 8*

Report 9: *Meeting September 12-15, 2011*
Letter: *Response to Report 6*

Report 10: *Conference Call November 1, 2011*

May 16th, 2011

Mr. Dominique Girard, P. Eng.
General Manager
Agnico – Eagle Meadowbank Division
Baker Lake Office

Email: dominique.girard@agnico-eagle.com

Dear Mr. Girard,

Report No 8
Meadowbank Mine Dike Review Board
Meeting April 26-27, 2011

1.0 INTRODUCTION

The meeting of the Dike Review Board was held in the Burnaby, B.C. offices of Golder Associates from April 26th to 27th. As Dr. Robertson has resigned from the Board, only two members were present.

The objectives were to:

- update the status of the various structures in operation or under construction;
- be advised of the design basis for the central dike.

The activities covered those outlined in the agenda which is included as Attachment A. The list of attendees at the meeting is given in Attachment B.

The PowerPoint presentations made by Golder and Associates (GAL) during the meeting and various backup documents, such as drawings, were compiled into a binder and a CD prepared specifically for the MDRB meeting #8.

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

2.0 RESPONSE TO MDRB REPORT NO 7

GAL has prepared a comprehensive letter response to the MDRB Report No 7 and this was received on February 18, 2011. The responses have been reviewed and the Board is content that all items have been considered effectively except for the previous recommendation that seepage analyses be undertaken on the East Dam instrumented section at Stn. 60+490 in order to better understand the mechanism of erosion/cut-off deterioration. The data base has been enriched by the comprehensive temperature measurements and merits an additional effort to evaluate the current condition of the structure.

3.0 UPDATE ON MINE STATUS

Agnico Eagle Mines (AEM) provided an update on the mine status and indicated that a new management organisation is now in place. The Board requests a copy of the updated organigram to better appreciate the changes. The Board was advised of mine production and other related issues for 2010/2011 including:

- Severe winter weather operations problems and;
- A fire which destroyed the kitchen complex.

Nevertheless, some significant technical achievements were made such as the Total Suspended Solids (TSS) management in and around the Bay-Goose dike construction activities.

In general, dike construction is on schedule and dewatering of the Bay-Goose enclosure should be complete by year end. The construction of Central Dike is to start this season and to be advanced to the point of providing water storage to elev. 108 m.
The North Cell of the Tailings Storage Facility (TSF) is in use and its capacity will suffice for production needs for the next 3 years.

4.0 BAY-GOOSE DIKE SOUTH

Construction is essentially complete with the exception of the final sections of jet-grouting, curtain grouting and instrument installation. The work was generally in conformance with the specifications and dewatering should begin in mid-June to end in October. Lessons learnt in the construction of East dike and in the previous year's campaign for Bay-Goose, were put into application. The Board notes the improved geometry of the Cement-Soil-Bentonite (CSB) plugs and the diligent tracking of silt accumulation in the cut-off trench in order to focus subsequent jet grouting activities.

Quality Control (QC) was the responsibility of the Contractor and GAL had an effective Quality Assurance (QA) programme. However, the strength testing of the CSB, carried out on samples with 7, 28 and 56 days of curing, indicates values lower than those specified. This was apparently due to low cement contents. There was also mention made of the difficulty in excavating the cut-off in the dense till at the bottom of the trench. Reconciliation with respect to the design intent is required. The aspects to be evaluated are:

- The strength, as it relates to erosion resistance;
- The key-in and the potential for high gradients beneath the cut-off wall (this latter point has to be considered in the light of any potential windows in the jet grouted portion, see next topic).

5.0 JET AND CURTAIN GROUTING

5.1 Jet grouting

The Board was disappointed to learn of the poor productivity and increased cost of this component. The pressing issue is now the confirmation of quality. The Specialist Contractor is likely to demobilize at the end of May and priority has to be given to confirming the continuity

and the quality of the cut-off and, if needed, to identify areas for remedial work. Though the data base is not as complete as would be desired, there is still a considerable amount of information to be digested and some in-situ control testing to be carried out. The analysis should focus on the following:

- *Closure.*
  The orientation of the drill-holes was not determined to industry practice; equivalence was established by taking measurements in inclinometer casing installed in some holes during the drilling phase and by assuming that the average deviation could be extrapolated to the other holes. Column diameter, as declared by the Specialist Contractor, has been assumed to be conservative and, overall, the closure is judged to be acceptable. However, the lack of complete information regarding column location and spacing leaves a residual risk with respect to closure. The QC was not consistent with the specifications but it is noted that these did not form part of the contract.

- *Adequately low hydraulic conductivity of the system* (jet grout and in-situ till)
  The Board is pleased with the in-situ testing in the columns and encourages additional effort in this area given the limited available time. The pump-out (rising head) or falling head tests will likely provide the necessary information regarding seepage. The Board notes that the offset between the axes of jet grouting and curtain grouting may lead to some curtain holes being on the edge of the narrow overlap zone and care will be required in the interpretation of the test results in these holes which may be more subject to drilling deviation and fall outside the column.

- *Consistency of strength*
  The best overall information is to be obtained from the drilling for rock curtain grouting which, because of the frequency of the holes, will be comprehensive if not necessarily quantitative. Good field observations have been made to date. This practice needs to be continued and the results synthesized to conclude that the in-situ strength is homogeneous and adequate. The Board deems other desires, such as coring, to be superfluous to the need to accept (or otherwise) the jet grout cut-off by the end of May.

- *Incidence of boulders*
  The Board recommends that the jet grout drilling records be interrogated to determine the incidence of boulders. Large boulders or groups of boulders may result in windows due to the shadow effect on the jet coverage.

5.2 Rock Curtain Grouting

The Board was advised of the modifications to the grouting procedure as far as mix thickening to reduce grout take is concerned. This new approach looks promising. It is understood that the procedure includes mixes with Celbex in primary and secondary holes. The Board cautions against over enthusiastic use of this product as premature closure could be obtained and urges early experience with water pressure testing in quaternary holes to validate current procedures.

6.0 STORMWATER DIKE

The presentation covered the construction progress particularly as concerns the liner installation. Good practice is evident with adequate QC and QA. It is noted that this structure has a limited life requirement and will be in service only until 2014.

7.0 SADDLE DAMS

Work is proceeding effectively on these structures with good control of the construction.
The issue of the inclination of the natural ground towards the upstream was again discussed. Run-off and infiltration through the fill, particularly during freshet, will tend to collect in the upstream shell and supply "warm water" beneath the liner. Most of the tools (thermistor strings) are in place and adequate monitoring and evaluation is required to determine the long term trends and the potential development of seepage paths through the foundation till.

The Board identified a concern with respect to completion of the As-Built construction reports in a timely manner and requests a presentation of the status and content at the next meeting.

8.0 EAST DIKE

Excellent monitoring has been carried out with thermistor strings to characterize the seepage window in the vicinity of Stn. 60+490. This exercise is to be repeated over the coming year in an effort to identify any growth of the zone. It may be useful to overlay the results of the CPT investigation campaign on the summary thermistor plots to continue to interrogate the causes of the defect. See also the previous comment in section 2.0 concerning seepage analyses.

A contingency plan has been developed based on a downstream embankment which would serve as a back-up dike and permit the water levels on either side of the questionable sector of East dike to be balanced and thus facilitate the execution of remedial works. The Board concurs with this innovative proposal and looks forward to more detailed development. It is to be noted that this dike also has a planned limited service life, which will be taken into account in the choice of remedial works.

9.0 CENTRAL DIKE

Presentations covered the recent investigations which the Board considers to complete the knowledge base and permit, given the general site experience, to move forward to final design. A new requirement, to provide water storage as early as 2012, eliminates the option of enhancing the strength of the soft sediments to be able to leave them in place. The design will therefore be based on their removal down to firm foundation.

As part of the next step, the Board seeks project assessment of the long term seepage management in relation to closure. It is a question of whether thorough foundation treatment and the provision of a complete liner system are needed for geo-environmental purposes.

The latest concept departs from the original design by incorporating a cut-off located beneath the dike crest and connected by a horizontal impervious membrane to the upstream inclined

impervious face liner. This constitutes an uncommon precedent, particularly in view of the use of a soil bentonite slurry trench, for a hydraulic head of 60 m. While the concept may be theoretically feasible, the construction of such a system in the short weather window of the site puts considerable emphasis on the need to achieve good quality execution at the numerous singularities. High hydraulic gradients and adverse uplift pressures are among the aspects requiring consideration.

The Board understands the rationale behind the choice of cut-off location, as it coincides with the area of minimum overburden thickness and reduces the potential for entrapment of run-off flows under the liner similar to the issues identified for the inclined foundations of the Saddle Dikes. However, the Board suggests that consideration be given to a vertical impervious element. A till core would normally be considered but the lack of available material counts against this option. A core of asphaltic concrete involves the use of small equipment and limited volumes of imported materials, which may make it alternative to be considered.

The construction of a cut-off at the upstream toe has been viewed as not being feasible in the available time window, if a large scale open excavation below the water table is required. However, the provision of a working platform at some suitable elevation may enable the cut-off to be construction in a two phase operation by clamshell and chisel. A conventional tremie concrete wall would permit a mechanical connection to be made with the upstream inclined membrane.

10.0 NEXT MEETING

The dates for site visit have been changed to the week of September 12th, 2011, subject to confirmation, in order to better coincide with various construction activities.

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.

ATTACHMENT A

AGENDA FOR BOARD MEETING NO. 8

April 26th-27th, 2011

AGNICO-EAGLE MINES - MEADOWBANK DIVISION
MEADOWBANK DIKE REVIEW BOARD

Meeting #8 - April 26-27th, 2011

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

AGENDA

Attendees: Norbert Morgenstern, Anthony Rattue, Éric Lamontagne, Julie Bélanger, Stéphane Robert, Gaston Blanchet, Sébastien Tolgyési, Yohan Jalbert, Michel Julien, Dan R. Walker, Fiona Esford, Grant Bonin, Lynn Wilson, Annie Beaulieu

Tuesday April 26th PM

12:00 pm	Welcome (Lunch served)
1:00 pm	**Meadowbank Project Status Update & Team Presentation** (AEM)
1:30 pm	**Bay-Goose Dike South** (AEM and Golder)
	Construction 2010
3:15 pm	*Coffee Break*
3:30 pm	**Bay-Goose Dike South Cont'd** (AEM and Golder)
	Grouting and Jet Grouting
5:30 pm	**Wrap-Up and Confirm Tomorrow's Agenda**

Wednesday April 27th

8:30 am	Welcome (Breakfast served)
8:45 am	**TSF** (Golder and AEM)
	2010 Construction Review of Instrumentation Data
10:00 am	*Coffee Break*
10:15 am	**Central Dike** (Golder and AEM)
	Investigation Results Conceptual Design
12:00 pm	*Lunch*
1:00 pm	**East Dike** (Golder and AEM)
	Review of Instrumentation Data Remediation Plan
3:00 pm	*Coffee Break*
3:30 pm	**Deliberation by the Board Members**
5:00 pm	**Preliminary report by the Board Members**
5:30 pm	**Closure**

ATTACHMENT B

ATTENDANCE AT APRIL 2011 MEETING
Held at the Burnaby, B.C. offices of Golder Associates

Attendance		
Gaston Blanchette	AEM	Dike Superintendant
Julie Belanger	AEM	
Eric Lamontagne	AEM	Mine manager
Stéphane Robert	AEM	
Yohan Jalbert	AEM	
Michel Julien (Teleconference)	Golder Associates	Project Manager
Annie Beaulieu	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

September 8, 2011 Reference No. Doc 1293-1112210103 Ver. 0

Ms. Julie Belanger
Agnico-Eagle Mines Limited
Meadowbank Division
P.O. Box 540
Baker Lake, Nunavut
X0C 0A0

RE: RESPONSE TO REPORT NO. 8 MEADOWBANK DIKE REVIEW BOARD, DATED MAY 16, 2011
SUBJECT: REVIEW COMMENTS

Dear Ms. Belanger,

The eighth meeting between the Meadowbank Dike Review Board (MDRB), Agnico-Eagle Mines Limited (AEM), and Golder Associates Ltd. (GAL) was held on April 26 through 27, 2011 at the Golder Burnaby, BC office. The objectives of the meeting were to review the design and construction of the Bay-Goose and TSF dikes and present an update on the geotechnical investigation and design for the Central Dike.

On May 16, 2011, 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 RESPONSE TO REPORT NO. 7

Comment: *The responses have been reviewed and the Board is content that all items have been considered effectively except for the previous recommendation that seepage analyses be undertaken on the East Dam instrumented section at Stn. 60+490 in order to better understand the mechanism of erosion/cut-off deterioration.*

Response: A seepage analysis on the East Dike instrumented section at Stn 60+490 will be performed in the fall of 2011.

3.0 UPDATE ON MINE STATUS

Comment: *Agnico Eagle Mines (AEM) provided an update on the mine status and indicated that a new management organizsation is now in place. The Board requests a copy of the updated organigram to better appreciate the changes.*

Response: Please see attached.

Comment: *The construction of Central Dike is to start this season and to be advanced to the point of providing water storage to elev. 108 m.*

Response: As indicated to the board in an email communication on May 11, 2011, AEM has decided not to advance the design and the construction of Central Dike during the summer of 2011. Instead, AEM has decided to construct a cofferdam as a mitigation measure in case there is a need to store water within the basin prior to Stage 1 construction of Central Dike, which is now scheduled for 2012. AEM prepared a design and began construction of the cofferdam at the end of July. The cofferdam is being constructed within the upstream footprint of the proposed Central Dike. Design details and construction progress will be presented during the upcoming meeting. Additional details regarding the Central Dike and cofferdam are also provided in Section 9 of this letter.

4.0 BAY-GOOSE DIKE SOUTH

Comment: *Quality Control (QC) was the responsibility of the Contractor and GAL had an effective Quality Assurance (QA) program. However, the strength testing of the CSB, carried out on samples with 7, 28 and 56 days of curing, indicates values lower than those specified. This was apparently due to low cement contents. There was also mention made of the difficulty in excavating the cut-off in the dense till at the bottom of the trench. Reconciliation with respect to the design intent is required. The aspects to be evaluated are:*

- *The strength, as it relates to erosion resistance;*
- *The key-in and the potential for high gradients beneath the cut-off wall (this latter point has to be considered in the light of any potential windows in the jet grouted portion, see next topic).*

Response: Erodibility testing will be conducted on CSB samples in the coming months with varying cement contents (*e.g.* 6%, 4% and 2%) to assess and compare the relative impacts on potential erodibility of the material and therefore impact on the cutoff wall's performance.

In any areas where the cutoff wall was not excavated to bedrock, jet grouting of the soil beneath the cutoff wall was conducted to extend the cutoff system to bedrock. Jet grouted columns were constructed in a manner to overlap the cutoff wall such that a continuous cutoff system was created. Although, the orientation/inclination survey data for each jet grouted column was not collected, column spacing is considered to have been sufficient to minimize these windows. Subsequent drilling through the jet grout columns to facilitate bedrock grouting operations was tracked. No evidence of windows in the jet grouted columns was detected. In addition, periodic rising head and falling head tests were conducted. The results of this testing will be presented to the Board at the upcoming meeting.

A second series of 3-dimensional downhole surveys was carried out by the Contractor, for comparative purposes with those carried out within installed SI-casings by AEM. A plan view of the additional surveys showing the offset of the jet grout columns as depth in comparison with the planned vertical collar locations has been prepared and will be presented during the upcoming meeting.

5.0 JET AND CURTAIN GROUTING

5.1 Jet Grouting

5.1.1 Closure

Comment: *The orientation of the drill-holes was not determined to industry practice; equivalence was established by taking measurements in inclinometer casing installed in some holes during the drilling phase and by assuming that the average deviation could be extrapolated to the other holes. Column diameter, as declared by the Specialist Contractor, has been assumed to be conservative and, overall, the closure is judged to be acceptable. The lack of complete information regarding column location and spacing leaves a residual risk with respect to closure. The QC was not consistent with the specifications but it is noted that these did not form part of the contract.*

Response: See above response in Section 4.0.

5.1.2 In-Situ Testing

Comment: *Adequately low hydraulic conductivity of the system (jet grout and in-situ till).*

The Board is pleased with the in-situ testing in the columns and encourages additional effort in this area given the limited available time. The pump-out (rising head) or falling head tests will likely provide the necessary information regarding seepage.

Response: The results of rising/falling head tests will be presented and discussed with the Board at the upcoming meeting.

5.1.3 Consistency of Strength

Comment: *The best overall information is to be obtained from the drilling for rock curtain grouting which, because of the frequency of the holes, will be comprehensive if not necessarily quantitative. Good field observations have been made to date. This practice needs to be continued and the results synthesized to conclude that the in-situ strength is homogeneous and adequate. The Board deems other desires, such as coring, to be superfluous to the need to accept (or otherwise) the jet grout cut-off by the end of May.*

Response: After the April 2011 MDRB meeting, no further diamond coring of the jet grout materials was attempted. During the installation of steel casings for the purpose of carrying out the bedrock and contact grouting activities, a qualitative assessment of the homogeneity and apparent strength of the cut-off wall was documented on a hole by hole basis. The data has been synthesized and will be presented to the Board at the upcoming meeting.

5.1.4 Incidence of Boulders

Comment: *The Board recommends that the jet grout drilling records be interrogated to determine the incidence of boulders. Large boulders or groups of boulders may result in Windows due to the shadow effect on the jet coverage.*

Response: During the jet grouting and grouting work, Golder monitored the incidence of boulders. A longitudinal profile through the jet grouted sections showing the locations of potential boulder and cobble zones has been prepared and will be presented and discussed with the Board at the upcoming meeting.

5.2 Rock Curtain Grouting

Comment: *The Board was advised of the modifications to the grouting procedure as far as mix thickening to reduce grout take is concerned. This new approach looks promising. It is understood that the procedure includes mixes with Celbex in primary and secondary holes. The Board cautions against over enthusiastic use of this product as premature closure could be obtained and urges early experience with water pressure testing in quaternary holes to validate current procedures.*

Response: Celbex-based, thixotropic grout mixes (Mix X) were used on Stage 3 and 4 intervals where a refusal by volume was obtained. Injected total volumes of Mix X ranged between 80 and 200 L, and were injected as the last batches per stage, when necessary. In general, zones where Celbex-based mixes were used in comparison to those where they were not; typically resulted in lower grout takes at the tertiary and quaternary sequence of grouting, and lower residual hydraulic conductivities across the contact. Experience, grout takes and water pressure testing results will be discussed with the Board at the upcoming meeting.

6.0 STORMWATER DIKE

Response: No comments which require a response.

7.0 SADDLE DAMS

7.1 Data Monitoring and Seepage Analysis

Comment: *The issue of the inclination of the natural ground towards the upstream was again discussed. Run-off and infiltration through the fill, particularly during freshet, will tend to collect in the upstream shell and supply "warm water" beneath the liner. Most of the tools (thermistor strings) are in place and adequate monitoring and evaluation is required to determine the long-term trends and the potential development of seepage paths through the foundation till.*

Response: Ongoing temperature monitoring and assessment is being performed by AEM and will continue.

A permanent seepage collection system at the toe will be constructed, as per the design for the perimeter structures. A temporary seepage collection system is in place at Saddle Dam 1.

7.2 As-Built Reports

Comment: *The Board identified a concern with respect to completion of the As-Built construction reports in a timely manner and requests a presentation of the status and content at the next meeting.*

Response: As-built construction reports for the TSF structures are in progress. As-built reports will be provided early in 2012.

8.0 EAST DIKE

8.1 Data Monitoring

Comment: *Excellent monitoring has been carried out with thermistor strings to characterize the seepage window in the vicinity of Stn. 60+490. This exercise is to be repeated over the coming year in an effort to identify any growth of the zone. It may be useful to overlay the results of the CPT investigation campaign on the summary thermistor plots to continue to interrogate the causes of the defect.*

Response: AEM will perform this monitoring in 2012 and subsequent years, if deemed necessary. The CPT investigation data will be added to the upcoming thermistor plots.

8.2 Contingency Plan

Comment: *A contingency plan has been developed based on a downstream embankment which would serve as a back-up dike and permit the water levels on either side of the questionable sector of the East Dike to be balanced and thus facilitate the execution of remedial works. The Board concurs with this innovative proposal and looks forward to more detailed development.*

Response: Additional details will be provided to the Board at the upcoming meeting.

9.0 CENTRAL DIKE

9.1 Soft Sediments Removal

Comment: *Presentations covered the recent investigations which the Board considers to complete the knowledge base and permit, given the general site experience, to move forward to final design. A new requirement, to provide water storage as early as 2012, eliminates the option of enhancing the strength of the soft sediments to be able to leave them in place. The design will therefore be based on their removal down to firm foundation.*

Response: Although the construction of the Central Dike has been deferred, Golder and AEM agree with the need to remove the soft sediments under the dam foundation. The cofferdam currently under construction and previously mentioned in the response, is being built within the general footprint of Central Dike. AEM confirms that soft soils beneath the foundation of the cofferdam (and in turn Central Dike) are being removed. The dike will be founded on suitable till.

9.2 Long-Term Seepage Management

Comment: *As part of the next step, the Board seeks project assessment of the long-term seepage management in relation to closure. It is a question of whether thorough foundation treatment and the provision of a complete liner system are needed for geo-environmental purposes.*

Response: As part of the Central Dike design, a long-term seepage analysis will be performed to assess this issue.

9.3 Low-Permeability Element

Comment: *The Board understands the rationale behind the choice of cut-off location, as it coincides with the area of minimum overburden thickness and reduces the potential for entrapment of run-off flows under the liner similar to the issues identified for the inclined foundations of the Saddle Dikes. However, the Board suggests that consideration be given to a vertical impervious element. A till core would normally be considered but the lack of available material counts against this option. A core of asphaltic concrete involves the use of small equipment and limited volumes of imported materials, which may make it alternative to be considered. The construction of a cut-off at the upstream toe has been viewed as not being feasible in the available time window, if a large scale open excavation below the water table is required. However, the provision of a working platform at some suitable elevation may enable the cut-off to be construction in a two phase operation by clamshell and chisel. A conventional tremie concrete wall would permit a mechanical connection to be made with the upstream inclined membrane.*

Response: We appreciate the above comments and will take them into consideration when the design resumes. The Central Dike design schedule will be presented at the upcoming meeting.

10.0 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, NWT/NU)
Senior Geotechnical Engineer

ORIGINAL SIGNED

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

ORIGINAL SIGNED

Annie Beaulieu, P.Eng. (QC)
Associate, Project Manager

ORIGINAL SIGNED

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

KD/FE/GB/AB/no/lw
Attachments: AEM Dike General Org Chart

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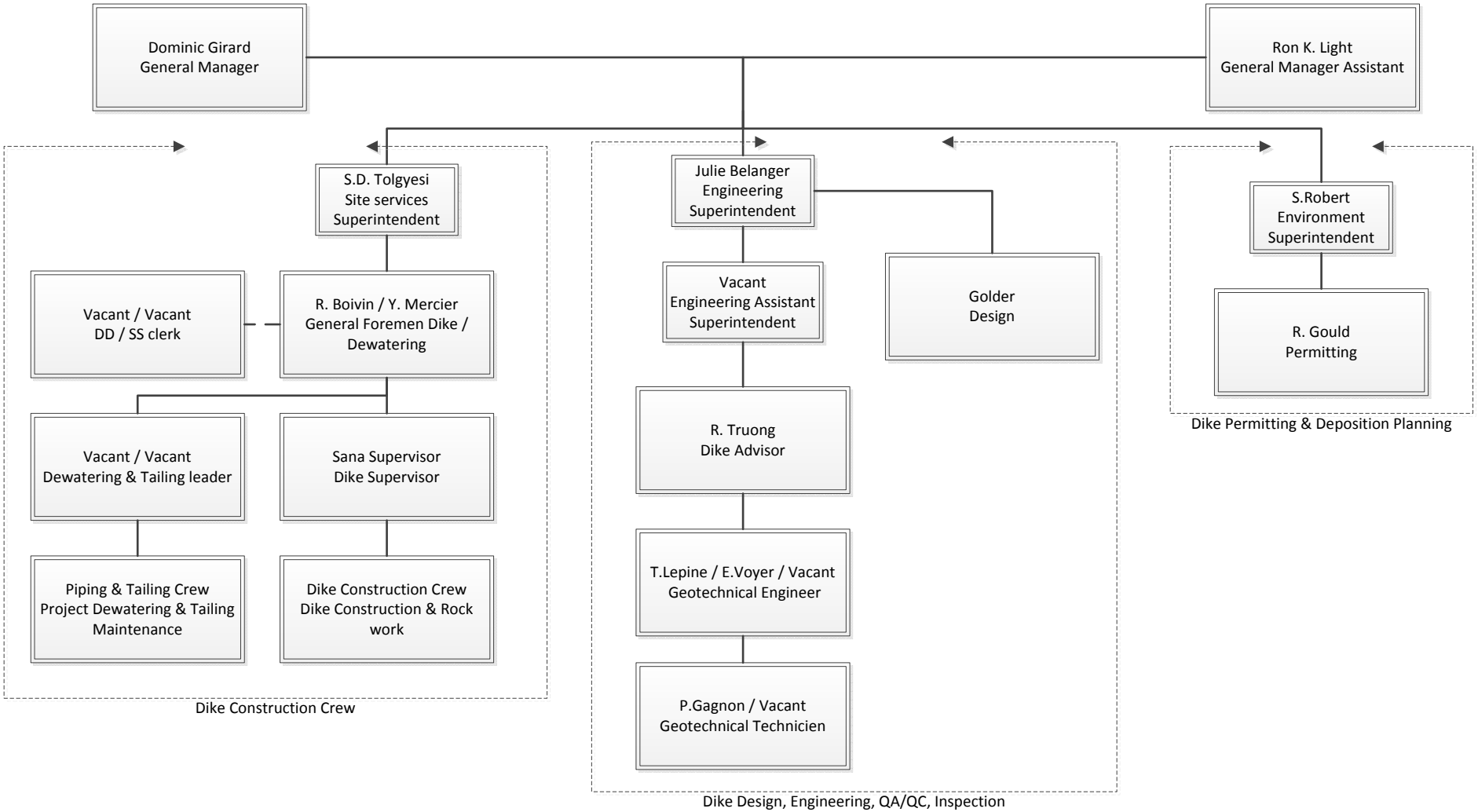
AEM Dike General Organizational Chart
September 8, 2011



September 20th, 2011

Mr. Dominique Girard, P. Eng.
General Manager
Agnico – Eagle Mines, Meadowbank Division
Baker Lake Office

Email: dominique.girard@agnico-eagle.com

Dear Mr. Girard,

Report No 9
Meadowbank Mine Dike Review Board
Meeting September 12-15, 2011

1.0 INTRODUCTION

The meeting of the Dike Review Board was held on site as planned from September 12th to 15th. The Board is now comprised of two members, Dr. N. R. Morgenstern and Mr. D. A. Rattue, both of whom were in attendance.

The objectives were to review the progress of the works, the design of the various structures, and the dike behaviour.
The activities covered those outlined in the agenda which is included as Attachment A. The list of attendees at the meeting is given in Attachment B.

Paper copies of the various PowerPoint presentations were submitted by Agnico-Eagle Mines (AEM) and Golder and Associates (GAL) during the meeting. A selection of photographs taken during the visits is to be found in Appendix C.

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

2.0 UPDATE ON MINE STATUS

AEM provided an update on the mine status for information.

An organigram pertaining to the AEM dike construction and operating staff was presented. This shows primarily the hierarchy but the functional lines of communication were also discussed.

The currently projected life of mine is unchanged to 2019.

GAL conducts an annual inspection of the dikes and other geotechnically related works. The resulting report is submitted by AEM to the Water Board as part of the regulatory requirements. The Board is pleased with the comprehensive nature and the quality of the report.

3.0 RESPONSE TO REPORT NO 8

GAL has prepared a comprehensive letter response to the MDRB report No 8. The Board is content that all items have been considered effectively. Any outstanding issues are covered in the current report or will be addressed in the future.

4.0 BAY-GOOSE DIKE

4.1 Field Inspection

Dewatering of the area enclosed by the Bay-Goose Dike and the South Camp Dike was initiated on July 25th, 2011. The drawdown is a little over 1 m and the water level is now around 132.5 m.

The participants visited a view point, and proceeded along the crest of the dike from the south-west abutment to the north. Particular attention was paid to the instrumentation including the data acquisition systems.

From the outward appearance, no adverse conditions were noted. The Board is pleased that work will be undertaken shortly to add the thermal topping and re-grade the dike crest, as the uneven nature of the actual platform is not conducive to the visual identification of any phenomena such as settlement and cracking (photos #3 and #4). It was noted that, so far, the pond water has remained clear which not only reduces to need for treatment, but facilitates the visual identification of any material transport along the edge of the dike.

4.2 Studies and Reports

The Board was advised that:

i. As-Built reports will be submitted at the year end;
ii. The Operation, Maintenance and Surveillance (OMS) manual will be in place by the year end;
iii. An interim report on the mine slope stability and the set-back distance will be available by the end of October.

<u>The Board wishes to receive copies of the above when they become available.</u>

4.3 Jet Grouting

The program, which is now complete, was a challenge both technically and economically, particularly due to the winter working conditions. The Board is favourably impressed by the attention to the monitoring and interpretation of the data that was available, but finds it regrettable that systematic borehole surveys of an appropriate quality were not available to verify column overlap. Details associated with the data interpretation were discussed and this is still a work in progress. The Board is content that the jet grouting produced non-erodable elements which constitute a major addition to the composite cut-off in the target areas where the bedrock was deepest.

The Board expects the Project to conclude that closure was acceptable, to the degree that can be verified, and suitable to support the decision to initiate dewatering.

In the view of the Board, the variations in measured conductivity are not particularly material. The jet grout part of the cut-off is embedded in dense till which generally is of low permeability. The significance of the high incidence of communication, observed during drilling and grouting, is ambiguous, and the areas affected should be kept under surveillance. Regardless, diligent monitoring is integral to the dewatering process.

4.4 Curtain Grouting

The Board is generally pleased with the evolved methodology and the results achieved. The rigorous control and constant review has been highly beneficial. In the previous report, the Board cautioned the use of Celbex, but is satisfied that the application has been appropriate and productive. The Board is impressed with the use of the grouting signatures to identify "hotspots" that merit local instrumentation for the drawdown period and subsequent performance monitoring. The information will be insightful.

The Board questions whether stage 4 grouting in areas covered by the jet grouting was necessary and whether the higher than anticipated takes were not related to hydro-fracturing of the columns. However, it is believed that any cracks will not affect the efficiency of the cut-off, as they will have been sealed by the grout.

4.5 Instrumentation

The instrumentation is more comprehensive and the locations more strategically selected as compared to the initial layout at the East dike. However, observations during the course of dewatering, and subsequently, may still justify further additions.

The surveillance procedures are appropriate with continuous monitoring of piezometers and thermistors.

The Board recommends that:

i. A thermistor string be installed in the lake to determine the full depth temperature profile;
ii. The ATLAS data management software be considered for application to the dike monitoring.

It is noted that the drawdown rate is such that the dike toe will not be completely exposed before mid November, by which time the visual observation of dike behaviour will be more difficult due to snow accumulation. This justifies the decision to install the automated data acquisition system at the outset.

Survey monuments have been installed by welding extensions onto grout pipes in the central cut-off. The stick-up above the platform is at least 2 m. Care will be required to protect these monuments when the dike topping is placed. The steel pipes are presumably anchored on rock and the representativity of movement of the pipe to relate dike embankment settlement should be verified. There is less of an issue with horizontal movement. The stick-up from crest fill elevation to the reference point will need to be measured at each occasion of monument survey.

The pumping will be interrupted on a couple of occasions, with the first being in mid-October, to permit the re-location of the pumps. It is recommended that the frequency of pond level measurements be increased during these periods in order to detect and quantify any inflow. Note that some drainage of soils on the periphery of the pool will occur and should be taken into account in the analysis.

Early monitoring data indicates the possibility of seepage pathways at the location of:

i. Thermistors T3 to T6 where the Cement-Soil-Bentonite (CSB) cut-off backfill overlies Soil-Bentonite (SB) material.
ii. Thermistors T12 and T14.

Project preparedness for identifying and dealing with such incidents is obviously better than for the East Dike and the presentations made at the meeting included a list of lessons learnt and basic contingency plans. However, the East Dike experience indicates that piping episodes (internal erosion) may occur relatively suddenly even under small head differences. The Board regards the degree of preparedness to be currently inadequate and recommends that:

i. The time sequence of data gathering and reporting during drawdown, and the communication to the designer for analysis, be tightened;
ii. The merit of performing pro-active investigation of the contact between the CSB and the SB for separation and groutability is to be evaluated. This area was explored in the past and any intervention should be sufficiently delicate so as to permit the identification of change from the previous condition.

The Board also recommends that a specific risk management plan be developed to ensure the links from identification to communication to action with declared roles and responsibilities at the appropriate levels. For example: a decision to continue pumping, to stop pumping, or even to re-flood the area, should be made by the responsible persons in a timely manner and supported by the necessary data.

Following the debriefing session, GAL presented the preliminary planning for the investigation and potential remediation of the interface between the CSB and SB from Stn. 30+230 to Stn. 30+350. This involves tri-cone drilling with water flush to reach the contact, low pressure constant head permeability tests and, if required, low pressure grouting with stable mixes through a perforated casing. The Board concurs with this approach.

5.0 EAST DYKE

5.1 Field Inspection

A visit was made to the dike crest, the in-field area and the area of the Portage Pit below the East Dike.

Work is underway to re-configure the drainage of seepage at the dike toe, to capture the seepage for evacuation by pumps, and to maintain the ability to monitor the quantity and quality of the water. Currently, the visual observation of seepage is handicapped by the presence of a rockfill platform into which it flows. Plans have been made to improve the channels and to deepen the existing sumps.

From the visit into the pit, the Board was able to better appreciate the bedrock topography and presence of uniform sands in a buried channel downstream of the dike area (photos #5 and #6). The Board recommends that the extent of this channel and the significance of potential erosion of the sands on the dike integrity be evaluated. Note that the central cut-off for the dike was taken to rock but that the overburden foundation of the downstream shell could be adversely affected by erosion or mass movement.

5.2 Monitoring

Survey of the settlement monuments has started but the initial data indicates some difficulty in obtaining adequate repeatability. The survey equipment and methods should be evaluated to improve the precision.

The piezometer and thermistor records show no significant change over the preceding 12 month period but the 2 m surge in pressure and subsequent decline at piezometer P 472-C, in September of 2010 should be analysed.

The interpretation of the thermistor readings would be enhanced by the addition of a chain of thermistors in the lake upstream of the area at 60+490.

Despite the apparent stability in the recorded data, monitoring needs to be maintained at the current level. Furthermore, the Board is concerned that the current risk is not evaluated adequately to develop an appropriate action plan. This aspect is discussed further in section 7.0.

6.0 TAILINGS STORAGE FACILITY

6.1 Field visit

The Board paid a visit to Saddle Dams Nos. 1 and 2, the Stormwater Dyke, and the cofferdam.

Saddle Dam No. 1 has been completed to elevation 150 m. Only a partial beach has been formed to protect the liner against ice damage and additional spigotting is required in this area before the onset of winter (photos #7 and #8).

Work is underway to supply power to the downstream toe area to permit the installation of a pumping system to prevent the accumulation of run-off water which could create a heat source and provoke permafrost degradation beneath the dike (photo #9). The pump controls should be set to maintain a stable water elevation in the embankment with minimal fluctuation.

At Saddle Dam No. 2, work has recently been completed to raise the liner from elevation 146 m to elevation 150 m. The liner, a 60 mil Linear Low density Poly-Ethylene (LLDPE), textured on both sides, is placed on a 500gm/m^2 geotextile which in turn overlays 0-¾in and 0-6in crushed rock transition layers. The liner appears to have been well placed with little surface irregularity (photo #10).

The Stormwater dike is being raised and extended to intersect the saddle dams Nos. 2 and 3 (photo #11). The impervious element of this structure is a Coletanche type of liner. The toe of the Stormwater dike was not inspected in detail but indications are that little if any seepage emanates from the toe of the embankment (photo #12).

Construction of the cofferdam in the bed of the dewatered Second Portage Lake is underway and proceeding as planned (photo #13). Considerable inflow was observed to be emanating from what was described as un-grouted investigation boreholes (photos #14 and #15). Sumps within the rockfill of the cofferdam (photo #16) are required to take care of some of this inflow as well as run-off from the foundation downstream of the cofferdam which slopes to the upstream. The significance of these aspects on the design and construction of the central dike should be evaluated.

6.2 Monitoring

Monitoring of the Saddle dams is primarily by thermistors. The behaviour is as-anticipated, with no signs of permafrost degradation in the foundations.

6.3 Reports

As-built and OMS reports are to come.

6.4 Central Dike Design

The schedule for the design of the Central Dike and the preparation of the construction tender package was presented. The Board anticipates to be briefed on the selection of the design concept by mid-October.

6.5 Cofferdam

The Board accepts the design and construction as proposed and observed. The design and construction sequence is responsive to the difficult construction conditions.

6.6 Filling Scheme

The Board was advised of the revised filling scheme which is sensitive to beach requirements and to the reclaim water pump barge position; but involves too many moves for winter operation. This includes aspects of worker safety, ice inclusion etc.

The Board looks forward to the upcoming re-calibration based on bathymetry and the ensuing revision to deposition planning. In the meantime, attention is required to ensure that the short term activities take due consideration of the need to provide beach protection of the liners against ice damage.

The Board recognizes that the tailings planning is still formative but recommends that the project steer towards a tailings planning manual (including water budget, tailings allocation, distribution etc.) to guide the operations.

7.0 RISK MANAGEMENT

The Project is exposed to abnormal risk to its business plan arising from potentially unmanageable inflows through the East Dike at Stn. 60+490 and possibly new source zones in the Bay-Goose Dike. The Board recognizes the diligent action being taken to monitor and understand these risks. However, additional measures may be warranted because of the abrupt signature of previous inflows at East Dike.

GAL has proposed one method to temporarily arrest such inflows by a secondary dike/cofferdam downstream of the East Dike but it has not yet been implemented. Other options may be available. The planning should extend, as needed, to the Bay-Goose facility.

The Board recommends that a Risk Assessment be conducted recognizing the uncertainties involved in the forecasting the events, the time to respond, Emergency Response Plans (ERP), trigger levels, evacuation implications, roles and responsibilities. The Board is of the view that this needs to be conducted promptly to provide the appropriate guidance.

8.0 NEXT MEETING

The date for the next meeting is set tentatively for January 10/11 in Vancouver, subject to approval. It is anticipated that documentation pertaining to the Central Dike Tender package will be made available in advance.

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.

ATTACHMENT A

AGENDA FOR BOARD MEETING NO. 9

September 12th-15th, 2011

AGNICO-EAGLE MINES - MEADOWBANK DIVISION
MEADOWBANK DIKE REVIEW BOARD

Meeting #9 – September 12-15th, 2011
Meadowbank Mine Site, Nunavut

AGENDA

Monday September 12

Dr. Morgenstern arrives in Baker Lake early afternoon. AEM to provide transport from Baker Lake to site (~ 2 hrs). Mr. Rattue, Mr. Bonin, Mr. Julien and Ms. Esford arrive on site in early afternoon from Montreal on AEM Charter.

17:00 *Check-in, room assignments and site H&S orientation (AEM to provide)*

17:30 **Welcome** (AEM to confirm meeting room)

Dinner (site cafeteria)

18:30 **Review of Agenda**

18:40 **Meadowbank Mine Operation and Management update**

Tuesday September 13 – Morning Session (Office)

6:30 *Breakfast (site cafeteria)*

7:30 **MDRB Report #8**

Review and Respond to MDRB Report #8

8:30 **Bay-Goose Dike**

- Status on as-built report, dike setback study, OMS reports
- Details on Jet Grouting

9:45 *Coffee Break*

10:00 **Bay-Goose Dike (cont'd)**

- Details on Grouting
- Instrumentation installation

12:00 *Lunch (site cafeteria)*

Tuesday September 13 – Afternoon Session (Field and Office)

13:00 **Bay-Goose and East Dike Field Visit**

15:30 **Bay Goose Dike (cont'd)**

- Review of dewatering instrumentation data

18:00 *Dinner (site cafeteria)*

Wednesday September 14 –Morning Session (Office and Field)

7:30 East Dike

- Update on monitoring program (review of instrument data)
- Mitigation Plan

9:45 Coffee Break

10:00 TSF and Cofferdam Site Visit

12:00 Lunch (site cafeteria)

Wednesday September 14 – Afternoon Session (Office)

13:00 TSF

- Filling scheme
- Update on monitoring program (review of instrument data)
- OMS and As-built reports status

14:15 Coffee Break

14:30 TSF (cont'd)

- Cofferdam
- Central dike design schedule

16:00 Deliberation by the Board Members

18:00 Dinner (site cafeteria)

19:00 Preliminary Report by the Board Members

20:30 Closure

Thursday September 15

Dr. Morgenstern 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 to depart site in early afternoon for Montreal on AEM Charter.

Friday September 16

Mr. Bonin, Ms. Esford and Mr. Julien to depart site in early afternoon for Montreal on AEM Charter.

ATTACHMENT B

ATTENDANCE AT SEPTEMBER 2011 MEETING
Held at the Meadowbank Mine site, Nunavut

Attendance		
Dominique Girard (Partial)	AEM	Mine manager
Christian Provencher (Partial)	AEM	Corporate Director Mining
Stephane Robert	AEM	
Sebastien Tolgyesi	AEM	
Robert Truong	AEM	Dike Advisor
Thomas Lepine	AEM	
Erica Voyer	AEM	
Michel Julien	Golder Associates	Project Manager
Grant Bonin	Golder Associates	Grouting Specialist
Fiona Esford	Golder Associates	
Karine Doucet	Golder Associates	
Norbert Morgenstern	Self	Dike Review Board
Anthony Rattue	SNC Lavalin	Dike Review Board

ATTACHMENT C

PHOTOGRAPHS

Photo #1 Southern extremity of Bay-Goose dike

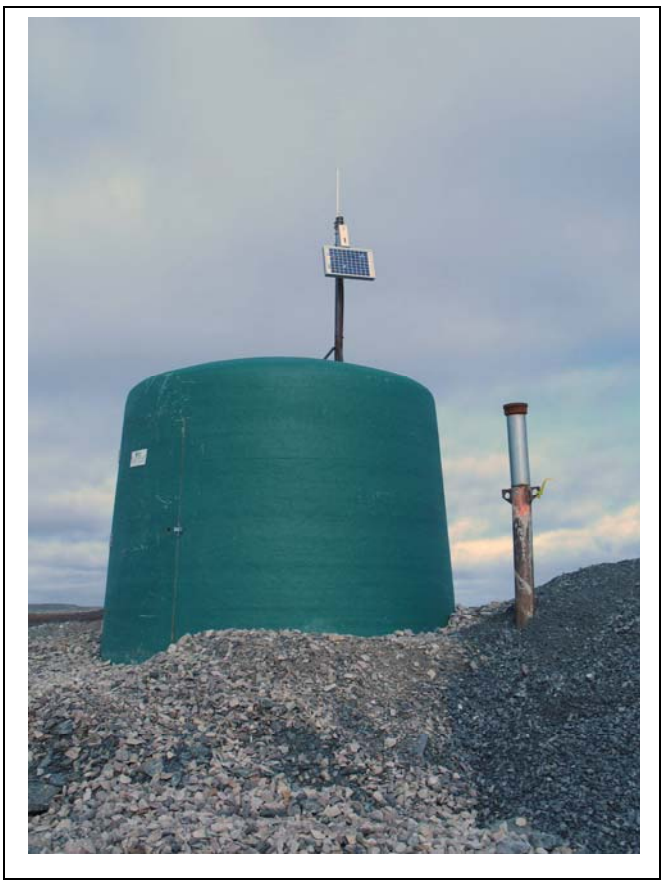


Photo #2 Instrument shelter on Bay Goose dike to house data acquisition equipment

Photo #3 Rough surface of dike crest which may prevent identification of movement

Photo #4 Cracking on crest visible because surface is more even at this point

Photo #5 Portage Pit wall situated downstream of East Dike. Note contrast between overburden on left and rock on right

Photo #6 Uniform sand deposit in floor of Portage pit

Photo #7 Saddle Dam No.1. Tailings deposit at left abutment

Photo #8 Saddle Dam No.1. Tailings deposit at right abutment not visible above water

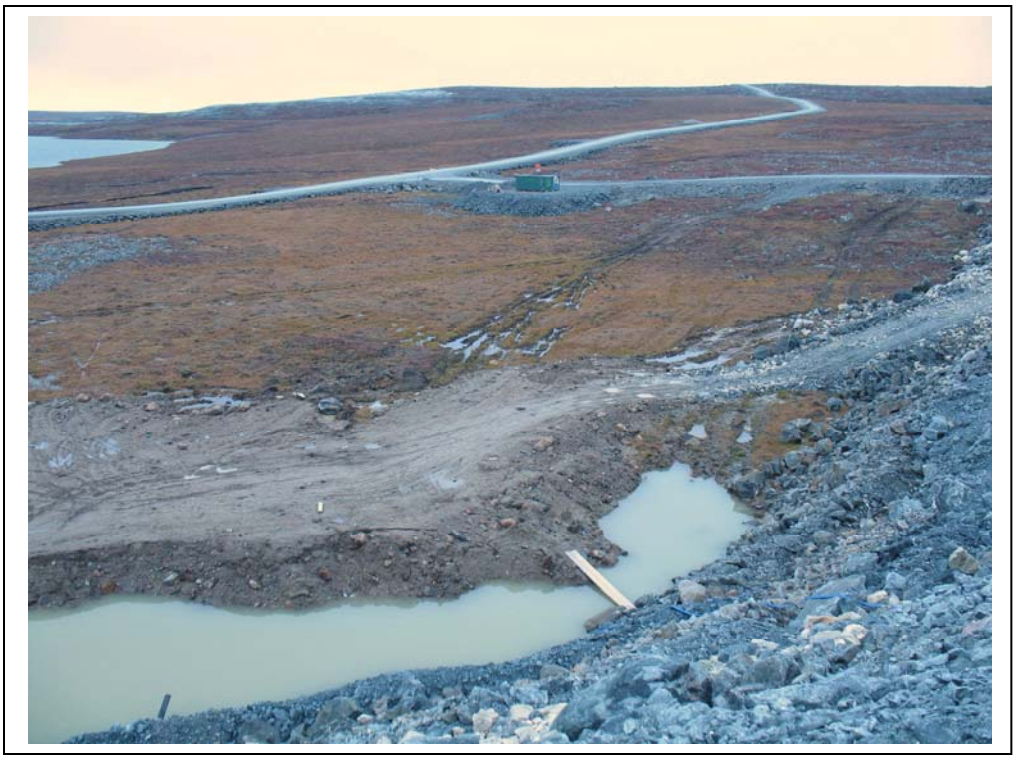


Photo #9 Saddle Dam No.1. Ponded water at downstream toe

Photo #10 Saddle dam No. 2. LLDPE liner

Photo #11 Stormwater Dike. Preparation of upstream slope to receive Coletanche liner

Photo #12 Downstream toe of Stormwater Dike

Photo #13 Cofferdam. Start of placement of impervious till zone

Photo #14 Cofferdam. Water pumped from sump inside rockfill.

Photo #15 Cofferdam. Water welling up from un-grouted investigation borehole

Photo #16 Cofferdam. Second sump in rockfill under construction.

March 28th, 2012

SUBJECT: RESPONSE TO REPORT no. 9 MEADOWBANK DIKE REVIEW BOARD

TO: Norbert R. Morgenstern and D. Anthony Rattue

FROM: Agnico-Eagles Mines, Meadowbank Division

1.0 UPDATE ON MINE STATUS

Comment: *An organigram pertaining to the AEM dike construction and operating staff was presented. This shows primarily the hierarchy but the functional lines of communication were also discussed.*

Response: An updated organigram have been created and will be presented to the MDRB Meeting # 11.

2.0 BAY-GOOSE DIKE

2.1 Field Inspection

Comment: *The Board is pleased that work will be undertaken shortly to add the thermal topping and re-grade the dike crest.*

Response: AEM will proceed with the thermal capping on the second and third quarter of 2012.

2.2 Studies and Reports

Comments: *The Board was advised that:*

i. As-Built reports will be submitted at the year-end;

ii. The Operation, Maintenance and Surveillance (OMS) manual will be in place by the year end;

iii. An interim report on the mine slope stability and the set-back distance will be available by the end of October.

The Board wishes to receive copies of the above when they become available.

Response: A copy of the As-Built report for Bay Goose Dike will be presented at the MDRB Meeting #11 as draft version. The Operation, Maintenance and Surveillance (OMS) for Bay Goose Dike will be sent to the MDRB prior to the MDRB Meeting #11. The set-back distance study will be presented and discussed at the MDRB Meeting #11.

Regional Office:
93, Rue Arseneault
Bureau 202
Val d'Or, Quebec J9P 0E9
Tel: 819-825-3744

Baker Lake Office:
P.O. Box 540
Baker Lake, Nunavut X0C 0A0
Tel: 867-793-4610 Fax: 867-793-4611

2.3 Jet Grouting

Comment: *The program, which is now completed, was a challenge both technically and economically, particularly due to the winter working conditions. The Board is favorably impressed by the attention to the monitoring and interpretation of the data that was available, but finds it regrettable that systematic borehole surveys of an appropriate quality were not available to verify column overlap. Details associated with the data interpretation were discussed and this is still a work in progress. The Board is content that the jet grouting produced non-erodable elements which constitute a major addition to the composite cut-off in the target areas where the bedrock was deepest.*
The Board expects the Project to conclude that closure was acceptable, to the degree that can be verified, and suitable to support the decision to initiate dewatering.

Response: To the degree to which it was possible, closure was considered to be acceptable; the jet grouting works carried out were believed to have provided an overlapping series of contiguous columns, based on the limited number of downhole surveys carried out within the drill rods by HBI during the jet grouting of the North Channel. Golder is presently preparing and will issue an as-built report to demonstrate and document that closure was acceptable, to the degree that can be verified, and suitable to support the decision to initiate dewatering (mid-January 2012).

Dewatering started July 25th and was completed on November 15, 2011. No seepage events occurred during the dewatering of the Bay-Goose Basin. Active surveillance of the dike and instrumentation occurred through dewatering, and will continue into operation, as outlined in the operation, maintenance, and surveillance (OMS) manual for the dewatering dikes. It should be noted that the frequency of surveillance will vary based on trends observed. Contingency equipment and materials remain on site in the event that future grouting efforts are required.

Comment: *The jet grout part of the cutoff is embedded in dense till which generally is of low permeability. The significance of the high incidence of communication observed during drilling and grouting are ambiguous; the areas affected should be kept under surveillance. Regardless, diligent monitoring is integral to the dewatering process.*

Response: Surveillance is conducted at the following zones within the Bay Goose Dike (30+400, 31+585, and 31+800). This surveillance includes:

- Daily visual inspection to detect initial changes or anomalies affecting the structure;
- Daily acquisition and analysis of instrumentation data;
- Data was generally provided to the design Engineer approximately 3 times per week during dewatering. From mid-November to end of December, data were provided weekly. Data are now provided to the design Engineer monthly, in addition to the monitoring system which can be accessed and consulted remotely;

- Note any additional development in each anomaly noted in previous inspection daily reports, map/survey the downstream area and locate all areas of seepage;

AEM is committed to reporting and rapid communication with the Designer for analysis and decision making if problem occurs or potential problems are detected through AEM's assessment of the monitoring data.

It is important to say that all others locations are also follow on a regular basis by visual inspection and acquisition and analysis of instruments data.

2.4 Curtain Grouting

Comment: *The Board questions whether stage 4 grouting in areas covered by the jet grouting was necessary and whether the higher than anticipated takes were not related to hydro-fracturing of the columns. However, it is believed that any cracks will not affect the efficiency of the cut-off, as they will have been sealed by the grout.*

Response: Communication between the steel casings (spaced at 1.5m centres) during installation was noted in the areas where jet grouting was carried out; most-notably along the bedrock / base of column interface. Therefore, it was considered that the contact grouting (both Stages 3 and 4) of the jet grouted areas was necessary. It is acknowledged that some limited hydro-fracturing of the jet grout columns may have occurred. However, the potential hydro-fractures and the majority of the observed casing-to-casing communications are considered to have been sealed by the subsequent contact grouting operations (as noted by the Board).

2.5 Instrumentation

Comment: *A thermistor string to be installed in Third Portage Lake to determine the full depth temperature profile;*

Response: A thermistor was installed in Third Portage Lake, near Sta. 31+100 on October 14th, 2011;

Comment: *The Atlas data management software to be considered for application to the dike monitoring.*

Response: The implementation of new VDV data management software has been done in Dec 2011.

Comment: *The survey monument casings appear to be anchored into bedrock; the relation between the movement of the casings and the dike embankment settlement should be verified). The horizontal movement is less problematic. The stick-up from crest fill elevation to the reference point will need to be measured at each occasion of monument survey.*

Response: AEM will continue to use the existing system until the next snow melts (Spring 2012).

AEM is in the process of implementing a new monitoring system for the survey monuments.

Comment: *During interruption of pumping, it is recommended to increase the frequency of pond level measurements in order to detect and quantify any inflow. Note that some drainage of soils on the periphery of the pool will occur and should be taken into account in the analysis.*

Response: One interruption of pumping occurred between September 21st and 23rd. The water level of Bay-Goose basin was monitored and surveyed several times per day during this period and detailed visual walkover inspections were performed. No increase in the water level was detected during the pumping interruption. Daily monitoring of the water level was performed during dewatering and is ongoing.

Comment: *Early monitoring data indicates the possibility of seepage pathways at the location of:*

i) Thermistors T3 to T6 (30+260 to 30+351): overlap location of CSB on SB;

ii) Thermistors T12 (30+650) and T14 (30+650).

The East Dike experience indicates that piping episodes (internal erosion) may occur relatively suddenly even under small head differences. The Board considers the degree of preparedness to be currently inadequate and recommended:

i) The time sequence of data gathering and reporting during drawdown, and the communication to the designer for analysis needs to be tightened;

ii) The merit of performing pro-active investigation of the contact between the CSB and the SB for separation and groutability is to be evaluated. Any intervention should be sufficiency delicate to allow identification of change from the previous condition;

Specific risk management plan be developed to ensure "proper chain of command" for identification/communication/action with a specific description of roles and responsibilities for appropriate levels provided;

Response:

- In addition to the daily monitoring of the data on site, AEM increased the frequency of data transmission to the design Engineer to three times per week between early October and mid-November. Following the completion of dewatering, the frequency has been reduced to once per week until the end of December 2011. Golder has been receiving the data once per month since the start of 2012, in addition to the monitoring system which can be accessed and consulted remotely. Golder is reviewing all data received and assessing if behavior is consistent with expectations. Golder has been producing comprehensive graphs once per week presenting the updated data. If an area of concern is identified during the review, Golder is contacting AEM via telephone or email to discuss the findings and determine a path forward.

- The implementation of new VDV data management software has been done with

Geokon in December 2011. The software will facilitate the analysis and transmission of the monitoring data.

- A tri-cone drilling investigation, including permeability testing and remedial grouting, was conducted by the grouting contractor with Golder providing QA, in late September 2011 (21st to 27th), between Sta. 30+259.25 and 30+350.75 (CSB overlying SB zone) and near Sta. 30+650.75.

- No signs of a separation between the CSB and SB were detected and grout volumes injected were minimal. A total of 19 holes were drilled to the CSB/SB interface and to bedrock, and grouted to refusal; 7 communications occurred and no high takes in grouting occurred. Bay-Goose as-built report will contain a summary of the work performed and the outcome of the investigation.

- Development of a Specific Risk Management Plan with Emergency Measures plan is ongoing (Preliminary draft was completed in internal review. Final Revision to be completed on mid-March 2012). Risk assessment and threshold values for the emergency plan will be part of the OMS for the dewatering dikes which will be provided prior to the next board meeting.

3.0 EAST DIKE

3.1 Field Inspection

Comment *The Board recommends that the extent of a buried channel and the significance of potential erosion of the sands on the dike integrity be evaluated. Note that the central cut-off for the dike was taken to rock but that the overburden foundation of the downstream shell could be adversely affected by erosion or mass movement*.

Response: In-situ verification to detect the possible potential erosion of sands at downstream of the dike area is ongoing. Weekly regular visual inspections are ongoing to detect and track any additional developments in each previously identified anomaly.

Comment

1. *The survey equipment* (for settlement monuments) *and methods should be evaluated to improve precision;*
2. *The 2m surge in pressure and subsequent decline at piezometer P-472C , in September of 2010 should be analyzed;*
3. *The interpretation of the thermistor readings would be enhanced by addition of a thermistor in the lake upstream of the area at 60+490;*
4. *Despite the apparent stability in the recorded data, monitoring needs to be maintained at the current level. Furthermore, the Board is concerned that the current risk is not evaluated adequately to develop an appropriate action plan*.

Response:

1. The implementation of new methods and appropriate survey equipment were taken into account and are ongoing (to evaluate the need for new high precision instrumentation, AEM had discussions with Diavik Mines in October to learn more about their experiences.
2. The response recorded in P-472C in September 2010 appears to have stabilized; AEM will continue to monitor the situation and will take appropriate action as required.
3. An additional chain of thermistors will be installed in the lake upstream of the area 60+490 as recommended. The installation will occur in the spring when site conditions will be suitable for installation.
4. A Risk Management Plan with Emergency Responses Plan is in preparation (Preliminary draft was completed on October 29. In internal review with Final Revision to be completed on mid-March 2012).

4.0 TAILINGS STORAGE FACILITY

4.1 Field visit

Comment:

1. *Saddle Dam 1: Only a partial beach has been formed to protect the liner against ice damage and additional spigotting is required in this area before the onset of winter;*
2. *Saddle Dam 1: The pump control* (in the downstream toe area) *should be set to maintain a stable water elevation in the embankment with minimal* fluctuation.
3. *Cofferdam: Considerable inflow was observed to be emanating from what was described as un-grouted investigation boreholes. Sumps within the rockfill of the cofferdam are required to take care of some of this inflow as well as run-off from foundation downstream of the cofferdam which slopes to the upstream. The significance of these aspects on the design and construction of the Central Dike should be evaluated.*

Response:

1. Additional spigotting was initiated on October 19. An acceptable beach has been created to prevent damage on the liner from the ice.
2. A permanent system will be installed in summer 2012. This one will minimize the fluctuation form the run-off and maintain a stable water table inside the structure.
3. The design of the Central Dike includes zoned fills and drainage elements to provide proper drainage of the downstream foundation and shell. Consideration of inflows in the anchor trench is also being evaluated.

4.4 Central Dike Design

Comment: *The Board anticipates to be briefed on the selection of the design concept by mid-October.*

Response:

- A conference call occurred November 1st, 2011 to present the Central Dike design concept to the Board;
- The Central Dike design will be discussed with the Board during the next meeting in April 2012.

4.6 Filling Scheme

Comment:

- *The Board looks forward to the upcoming re-calibration based on bathymetry and the ensuing revision to deposition planning. In the meantime, attention is required to ensure that the short term activities take in consideration the need to provide beach*

protection for the liners against ice damage;

- *The Board recognizes that the tailing planning is still formative but recommends that the project steer toward a tailing planning manual (including water budget, tailing allocation, distribution etc. …) to guide the operation.*

Response:

- Deposition planning will be revised and followed as recommended by the Boards. The revision should be completed in March 2012.

Regional Office:
93, Rue Arseneault
Bureau 202
Val d'Or, Quebec J9P 0E9
Tel: 819-825-3744

Baker Lake Office:
P.O. Box 540
Baker Lake, Nunavut X0C 0A0
Tel: 867-793-4610 Fax: 867-793-4611

5.0 RISK MANAGEMENT

Comment:

1. *The Project is exposed to abnormal risk to its business plan arising from potentially unmanageable inflows through the East Dike at Stn. 60+490 and possibly new source zones in the Bay-Goose Dike. Additional measures may be warranted because of the abrupt signature of previous inflows at East Dike;*
2. *GAL's method to temporarily arrest such inflows by a secondary dike/cofferdam has not yet been implemented. Others options may be available. The planning should extend, as needed, to the Bay Goose facility;*
3. *The Board recommends that a Risk Assessment be conducted recognizing the uncertainties involved in the forecasting the events, the time to respond, Emergency Response Plans (ERP), trigger levels, evacuation implications, roles and responsibilities. The Board is of the view that this needs to be conducted promptly to provide the appropriate guidance and involved Emergency Responses Plan (ERP)*

Response:

1. Planning of the implementation of remedial measures to temporarily arrest the inflows is ongoing along with the implementation of a year-round seepage collection and pumping system.
2. AEM option to construct the secondary cofferdam from an existing downstream road. Is under revision, final decision will be provided to the board once the concept is completed.
3. The development of the Risk Management and the Emergency Response Plan is ongoing involving all departments at Meadowbank. (Preliminary draft was completed on October 29. In internal review with Final Revision, to be completed on mid-March 2012.

6.0 RESPONSE TO REPORT NO. 8

This section provides an update to subjects previously raised by the board, to which AEM committed to address in the future.

Bay-Goose Dike	Erodability testing will be conducted on CSB samples in the coming months with varying cement contents (e.g. 6% and 4%) to assess and compare the relative impacts on potential erodibility of the material and therefore impact on the cutoff wall's performance.

East Dike

AEM will perform monitoring in 2012 and subsequent years, if deemed necessary, related to the thermistor strings in the vicinity of Stn. 60+490, to characterize the seepage window. The CPT investigation data will be added to the upcoming thermistor plots.

A seepage analysis on the East Dike instrumented section at Stn 60+490 is currently being performed and the report will be sent to the Board when it will come available

Geotechnical Team
MEADOWBANK DIVISION
AGNICO-EAGLE MINE

Regional Office:
93, Rue Arseneault
Bureau 202
Val d'Or, Quebec J9P 0E9
Tel: 819-825-3744

Baker Lake Office:
P.O. Box 540
Baker Lake, Nunavut X0C 0A0
Tel: 867-793-4610 Fax: 867-793-4611

November 1st, 2011

Mr. Dominique Girard, P. Eng.
General Manager
Agnico – Eagle Mines, Meadowbank Division
Baker Lake Office

Email: dominique.girard@agnico-eagle.com

Dear Mr. Girard,

Report No 10
Meadowbank Mine Dike Review Board
Conference Call November 1st, 2011

1.0 INTRODUCTION

A conference call was held on November 1st, to permit the design concept for the Central Dike to be presented and discussed. The two Board members, Dr. N. R. Morgenstern and Mr. D. A. Rattue, participated in this conference call.

A .pdf copy of the 2011 Central Dike Geotechnical Investigation and a PowerPoint presentation were sent out in advance of the meeting and the latter was presented, via a Webex link, during the conference call. The objectives were to review the site conditions, the design criteria and the design concept. It was pointed out by Agnico-Eagle (AEM) and Golder Associates Limited (GAL) that the concept, as presented, was preliminary and that feedback from the Board was desired before proceeding with detailed design and implementation.

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

2.0 2011 CENTRAL DIKE GEOTECHNICAL INVESTIGATION

The report on the 2011 investigation was sent out as background information and the Board has no comment thereon, other than those provided below in the section covering the presentation.

3.0 CENTRAL DIKE DESIGN CONCEPT

3.1 Central Dike General Location

The Central Dike is situated at the south-eastern extremity of the Tailings Storage Facility (TSF) and adjacent to the western limits of the North Portage Pit. The nominal distance of 114 m between the dike toe and the pit rim satisfies the set-back distance of 70 m. <u>However, the Board recommends that discussions be held with Cameron Clayton of GAL to evaluate the potential impact of adversely dipping foliation joints that were observed by Mr. Clayton during a recent visit.</u>

It was also noted that the West haul road is located about 8 m from the dike toe and is seen as a control point. However, the Board mentioned that the haul road could become a berm for the dike and permit a flatter overall downstream slope to be configured, should stability concerns deem this to be beneficial.

3.2 Geotechnical Investigation Summary

Investigations for the Central Dike have been carried out in 2002, 2003, 2006, 2010 and 2011. These have consisted of 230 percussion holes to determine sediment thickness and bedrock elevation, but also 36 rotary drill holes and 4 Sonic boreholes.

The stratigraphy includes up to 10 m of soft sediment and up to 15 m of what is likely to be an ablation till, overlying bedrock which could have significant fracture zones.

The direct visual observations that were made possible by the cofferdam construction carried out in 2011, confirm this series, though the sediment layer thickness in the area of the works was found to be significantly less than the maximum. The work also brought to light, the presence of several un-grouted exploratory holes which were the source of much of the water that entered the excavations for the cofferdam.

3.3 Design Basis

The design basis accounts for thawed conditions in the foundation and fill to prevail during operation, but for frozen conditions to set in under closure and post-closure conditions. A brief summary of the conclusions of the thermal modelling was presented but the Board questions whether volume changes (freeze consolidation of granular materials and heave in fine grained materials) and the possibility of Pingo formations have been adequately considered.

Essentially, the containment created by the construction of the Central Dike will be used for tailings deposition, though some short term limited water storage may occur at the beginning. The Board cautions that rigorous tailings management is required to ensure adequate beach formation before the first (and all subsequent) winter periods to avoid the risk of ice damage to the exposed liner.

Assurance was given that water chemistry aspects have been considered in the operation and closure planning.

3.4 History and Decision Matrix

Various concepts have been tabled since 2004. Originally the design would have been similar to the saddle dam sections that have already been constructed at the mine. However, the excavation of a key trench to rock at the upstream toe was judged to present major difficulties in terms of worker safety and schedule, because of the depth of sediments and till in this area.

A concept involving a slurry trench cut-off located on dike center line married to a horizontal geomembrane under the upstream shell, was presented to the Board in April 2011. This did not met with much enthusiasm for three reasons:

1. The interface between the geomembrane and the slurry trench was seen as a potential weak point given the high hydraulic head;
2. The horizontal liner presents a plane of sliding on which the full uplift pressure would be applied;
3. The geomembrane was inaccessible for repair and had little in the way of defensive measures

The central till core option has been discarded due to the difficulties in obtaining and placing a large quantity of till in the short construction season. Other central cut-off options require the importation of materials and/or specialist contractors and were also discarded.

3.5 Central Dike Conceptual Design

The current concept takes into consideration the presence of the cofferdam, which is incorporated into the upstream toe of the embankment. A key trench is to be excavated to rock at the downstream toe of the cofferdam and a geomembrane liner embedded in a till plug placed in this key trench. The liner follows the slope and crest of the cofferdam and is connected to a geomembrane placed on the upstream face of the Central Dike embankment. Geotextile layers and bentonite enriched crushed stone are incorporated to provide protection and a back-up for the geomembrane. The upstream geomembrane is also tied into the cofferdam till blanket. A filter blanket is included under the downstream shell of the dike to protect the foundation materials from erosion and piping.

3.6 Risk Evaluation

A risk evaluation has been carried out and the following items have been identified, by AEM and GAL, as presenting a high degree of risk:

1. RISK-Seepage through the dike. MITIGATION-Bentonite enriched 0-19 mm material beneath the embankment and a tailings beach against the face are included.
2. R-Seepage into the key trench excavation. M-Early dewatering prior to excavation, adequate pumping capacity and lowering the water table upstream of the cofferdam are envisaged.
3. R-Settlement of the till and sediments. M-Sediments will be removed and the till foundation compacted.
4. R-Presence of pervious layers and lenses in the till. M-The concept is based on taking the key trench down to rock.
5. R-Tight construction schedule. M-Some winter work is envisaged.

3.7 Additional observations and recommendations by the Board

The need for rigorous tailings management has already been mentioned in section 3.3. Otherwise, the Board views favourably the detailing at the membrane contacts on the upstream face.

Seepage into the key trench is indeed a concern, as is the stability of the cofferdam alongside the key trench. The Board would favour a greater separation of these two elements to facilitate the installation of dewatering sumps and to position the key trench where the rock elevation is higher. GAL should be aware, based on their experience

elsewhere, that very detailed construction planning will be needed to manage seepage under the expected conditions.

Moving the key trench towards the dike axis would permit remedial grouting which otherwise would not be possible.

The Board's previous concern of sliding stability along a horizontal membrane is still applicable and the detailed design needs to address this issue. For example a single plane can be avoided by installing the geomembrane on two levels (cofferdam crest level for the upstream part and at an intermediate elevation between the key trench and the cofferdam).

Embedding the membrane in till at the key trench is a more satisfactory solution than at the top of a slurry trench.

The Board recommends careful planning of winter activities so as not to subject the foundation till to freezing with the subsequent risk of thaw settlement after the embankment has been constructed.

The Board is pleased to see the inclusion of a downstream filter blanket but would like to see, at the next meeting, the design parameters thereof.

There was mention of the intent to use mine equipment, where possible, to carry out some of the work. The Board wishes to emphasize the need to pay attention to the control of segregation and the adequate degree of compaction of the materials in the embankment below the geomembrane liner. Layer thickness in zone 5 rockfill must be limited in the vicinity of the liner and consequently the appropriately sized construction equipment must be used.

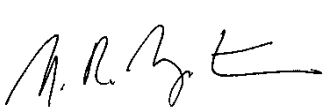
4.0 NEXT MEETING

The date for the next meeting was set tentatively for January 10/11 in Vancouver, but this may be delayed according the availability of the various parties. It is anticipated that further discussion on the detailed design of the Central Dike will take place at that time.

5.0 ACKNOWLEDGEMENTS

The Board once again wishes to thank the personnel of AEM and GAL for their participation in the conference call, and for the documentation and presentations made by AEM and GAL.

Signed:



Norbert R. Morgenstern, P.Eng

D. Anthony Rattue, P.Eng.