

MINUTES OF MEETING



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MEETING DATE: February 19, 2008
2:00pm-2:30pm

JOB NO: 07-1413-0119/2100

LOCATION: Conference Call

PREPARED BY: Dan Walker &
Lynn Wilson

Doc No: 617

SUBJECT: Meadowbank Gold Project,
Nunavut

REPORT DATE: February 22, 2008

**RE: TYPE A-WATER LICENSE APPLICATION REVIEW COMMENTS AND
DISCUSSION**

ATTENDEES: **AEM:** Larry Connell,
INAC: Jim Rogers, David Abernethy
DFO: David Balint
EBA: Mark Watson
Golder: Terry Eldridge, Cam Clayton, Ben Wickland, Dan Walker and
Lynn Wilson

OTHER File
DISTRIBUTION:

ITEM NO.	ITEM	ACTION BY	DUE DATE
1.0	CALL PURPOSE Review, comment and discuss the technical review of Type A Water License Application completed by EBA. Focussing on the first four dike-related sections. Two conference calls were arranged to discuss EBA review. The following is the second of two.	Info.	



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	*NOTE: Call was recorded. The call is stored in playback for 1 week. Participants can connect to the recorded conference using the playback pass code 246884# using the same conference call number. The system generated the following conference file number when the recording started – 60780301#. After entering the play back pass code the participant presses *3 and then enters the conference file number to play back the correct conference call recording.		
2.0	COMMENTS Ben Wickland (Golder) and Mark Watson (EBA) held a conference call on Thursday February 14, 2008 to discuss dike review comments by EBA. The intent of this call is to summarize those discussions.		
3.0	DISCUSSION <i>Mitigative Measures for Seepage (Comment 1.1.1)</i> EBA: Mitigative measures for seepage from the tailings facility (Comment 1.1.1) Golder: Analyses are underway. Expected deliverable date is early July. Golder: Contingency measures have been provided should permafrost not develop as predicted. Golder to provide reference. Golder: Grouting beneath the dam is the primary control on seepage, and is a conventional approach. Freezing is an added benefit on top of the conventional approach. <i>Grouting, Specifications and Drawings</i> Golder: Conventional cement based grouts, using primary, secondary, etc, and split spacing will be used. We are aware there is a fault, grouting will be deeper in the fault and will be grouted to ground response. DFO: Have details on grouting been provided? Golder: Application Doc 420 provides detailed design and grouting plan.	Mark Watson (MW) Ben Wickland (BEW) Dan Walker (DRW) BEW Terry Eldridge (TLE) David Balint (DB) DRW	

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	<i>Dewatering Dike (Comment 1.1.2)</i>		
	EBA: Dike construction will involve dumping of rockfill in the lakes. Will this involve extending the leading edge of the rockfill embankment on the outside?	MW	
	Golder: It will be simpler to construct each component in sequence. Anticipate the rockfill will be completed prior to placement of till.	BEW	
	EBA: That addresses that concern	MW	
	<i>Use of Cement in Cutoffs (Comment 1.2.1)</i>		
	EBA: Next issue concerns cement in cutoffs and piping potential through dikes.	MW	
	Golder: Cutoff design and requirement for cement is based on hydraulic gradient, following precedent in literature. Still deciding on how best to use cement on low gradients, and ways of preparing bedrock surface. Bay Zone Dike includes cement	TLE	
	EBA: Should be constructing East Dike with a similar cutoff to Bay Zone and Goose Dikes to gain experience?	MW	
	Golder: Contemplating 3 types of grouting: Soil Bentonite for shallow dikes, Soil Cement Bentonite for deeper dikes, and Jet Grouting for deepest section.	TLE	
	Golder: Cutoff design is based on hydraulic gradient, or water depth. Soil-bentonite in 0 to 8 m depths, soil-cement-bentonite in 8 to 16 m depths, and jet grouting greater than 16 m.	BEW	
	EBA: Bay Zone may use a mix of cutoff types?	MW	
	Golder: most likely yes, but it may be more efficient from a construction perspective to use the same type throughout. Needs to be addressed with the contractor.	TLE	
	Golder: Details to be worked out closer to the time and pending on what		

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	contractor will have on site. May be too early to discuss this issue to this level of detail.	BEW	
	EBA: Bedrock face contact is not only issue. Piping may also occur elsewhere where coarse materials exist.	MW	
	Golder: Experience at Diavik indicates trenching may be a problem if large boulders are present in the base of the trench. Propose to pre-dig along alignment so not working with native till with boulders	BEW	
	Golder: Plan to Dump two rockfills, then excavate between them to the bedrock.	TLE	
	Golder: This removes the issue of boulders in foundation soils.	BEW	
	<i>Dike Instrumentation (Comment 1.2.2)</i>		
	EBA: comments were intended to be constructive to assist with instrument installation. Choice of drill rigs, cutoff systems, vibrating wire piezometers need to be thought out for all appropriate settings.	MW	
	Golder: Comments were found to be constructive and practical. Installation method must be reviewed prior to installation. Are any comments related to the design, e.g. specifically to the type or number of instruments proposed?	BEW	
	Golder: Does having a commitment to having all methods reviewed prior to installation satisfy EBA's comments?	DRW	
	EBA: Yes agreed.	MW	
	AEM: Yes agreed.	Larry Connell (LC)	
	INAC: Waterboard more interested in confidence on design and there is sufficient instrumentation. NWB needs to know there is confidence in what is being installed is adequate.	Jim Rogers (JR)	
	Golder: Agreed. Golder has proposed instrumentation including piezometers, inclinometers, water quality etc. Is there anything else that	TLE	

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	should be included rather than details on installation for what has been proposed? EBA: A bit more redundancy including different types of the same instrument as one may work better than the other. Golder: It should be noted that this is not the only chance to put instrumentation in the dike. More can be installed later if warranted Golder: Instrumentation will be replaced if failure occurs. Golder: Instrumentation that has been proposed is consistent with current practice	MW TLE BEW TLE	
	OTHER ITEMS INAC: Are minutes being sent to Richard Dwyer at NWB? AEM: Yes, will send to Phyllis, Richard, David and Dionne	JR LC	
	NEXT MEETING Not scheduled.		

DRW/lw

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