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Peer Review Report

Canadian Malartic Project

New Polishing Pond

Osisko Canadian Malartic Project

November 2008

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Corporation Minière Osisko
2140 Rue St. Mathieu
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November 24, 2008

Attn: Paul Johnson, Ing.
Manager, Mining

Re — Peer Review – Canadian Malartic Project
Polishing Pond

Dear Mr. Johnson,

1.0 Introduction

Further to your request I have reviewed the following report by Golder Associates: "Etudes de Conception – New Polishing Pond Basin Project – Canadian Malartic". I inspected the site with you on October 28, 2008.

Figure 1 shows a plan of the proposed new polishing pond. It is adjacent to dike 5 of the old tailings pond and the proposed thickened tailings storage pile.

Five dikes are proposed — EM-A, EM-B, EM-C, EM-D and EM-E. The west end of the proposed polishing pond will abut against the dike of the original tailings pond. The site is approximately 2.5km south-east of Malartic. The property is owned by Osisko and is not in the Agricultural Zone.

2.0 Geotechnical Investigation

Twenty-one bore holes to obtain soil samples and perform in situ soil tests were drilled. Five holes were developed as water observation holes.

The pond capacity will be about 6 million cu. metres and cover 13.8 hectares with a maximum pond elevation of 325 m. Gentle slopes will enclose the majority of

the pond. The existing site contains surficial marshy ground. Raymond stream, which presently flows through the area, will be diverted.

Soil sampling density, CPT tests and penetration tests were performed as well as Nilcon seismometer tests. Rock was cored where encountered. Golder Associates supervised the field program and performed the required soil testing. Rock cores were logged and photographed. 5 piezometers were installed in selected bore holes. These piezometers must be read and reported during construction, spring melt and high precipitation periods.

A major test pit program was performed to locate borrow sources for the construction of the dikes.
The site geotechnical investigation and evaluation performed by Golder Associates meets the requirements of standard engineering practice.

3.0 Site stratigraphy

The site is marshy with a surface zone of peat. Underlying the peat is soft silty clay to clay silt. In some locations this zone is underlain by silty sandy gravel of loose to high density – a moraine-type material. Where the clay is present it is compressible and will consolidate under the load of the dike. The final construction elevation must allow for this settlement.

Below the granular moraine is fine-grained greywacke bedrock. The water table is shallow ranging from 0.99 to 4.26m in the bore holes.

4.0 Design Parameters

The design parameters for the new polishing pond are summarized as follows:

- Operational level for the pond – elevation 325m.
- Freeboard – a minimum of 1.5m above the operational level of the pond. Top of dam elevation 326.5m except dike EM-B which is 327.0m.
- All organic matter including peat will be removed below the dikes. If bedrock is encountered it will be treated, if necessary, to minimize seepage.
- The spillway sill will be fixed at the elevation of 325.8m.
- The crest of the dikes will only be used for traffic of light vehicles.
- A small dike to the west of EM-C called EM-C' will be required where natural topography does not exceed el. 326.5m.

Table 1 summarizes the dike properties.

Table 1 — Dike Characteristics (Golder Associates)

Digue	Localisation	Élévation minimale estimée du terrain naturel sans décapage, m	Nature de la fondation estimée (après décapage)	Hauteur maximale estimée de la digue (sans décapage), m	Tête d'eau anticipée, m
EM-A	Située à l'extrémité est du bassin	312,0	Socle rocheux / till glaciaire ou fondation argileuse	14,5	13,0
EM-B	Située au sud, dans la vallée principale	316,5	Fondation argileuse au centre et till glaciaire aux extrémités	10,0	8,5
EM-C	Située au nord	321,0	Socle rocheux	5,5	4,0
EM-D	Située au sud-ouest, dans une vallée secondaire	324,5	Fondation argileuse	2,0	0,5
EM-E	Située au sud-ouest, dans une vallée secondaire	324,0	Fondations silteuse et argileuse	2,5	1,0
EM-C`	Digue secondaire située dans une dépression à l'ouest de la Digue EM-C	325,0	Mort-terrain	1,5	0,0

5.0 Dam Details

Specific requirements for the dams are summarized:

5.1 Dikes EM-A and EM-B

Dike EM-A is the highest structure – 14.5m. The upper rock will require grouting to make the rock less permeable and reduce potential seepage. Figure 2 shows a typical cross=section of Dike EM-A.

Both dikes involve a low permeability silt clay core with a downstream sand filter. Note – this filter layer should have a collector drain pipe along the base and a drain outlet. Geotextile is proposed both upstream and downstream of the core. The outer shell will be compacted tailings.

The downstream slope (2H:1V) should be protected from erosion - either vegetated with erosion-resistant growth or covered with fine-graded waste rock.. The upstream slope (2H:1V) should be covered with boulders placed on a bed of sandy gravel. This cover is to resist wave and ice action.

The core of EM-A is to be founded on bedrock. If the bedrock is fractured it will be grouted with low-pressure grout where the water depth exceeds 4m. Both dikes require stabilizing toe berms.

Dike EM-B is constructed on soft silty clay which will settle under the load of the dike. To compensate, this dike will be constructed 0.5m higher to allow for the settlement.

5.2 Dikes EM-C, EM-D, EM-E

These dikes are conventional with low permeability till core and downstream filter chimney drains.
Dike EM-C also requires an upstream filter drain. Geotextile is also required for additional protection.

Dikes should only be constructed during the late spring, summer and early fall – during non-freezing periods.

5.3 Dike 5

This dike requires strengthening of the toe with waste rock placed on a sandy gravel bedding placed up to el. 325.6m.

6.0 Borrow Search

An extensive search for borrow materials was made using test pits to locate low-permeability silty clay or silty till material for core and filter construction.

A till borrow pit was located west of Lake Mouvier Road. A silty clay deposit was located north-east of the Est-Malartic mine site. A borrow pit of granular materials was located north of the existing polishing pond. Gravel and rock can be obtained from quarrying at the future plant site and from waste rock from the mine. The location of borrow pits is shown in Figure 3.

7.0 Seepage and Stability Analysis

Seepage analysis was conducted using Seep/W software based on design sections. This estimated the position of the water table.

Stability analyses were carried out using Slope/W stability software for static pseudo-static and rapid drawdown conditions. Minimum safety factors are 1.3 for static and rapid drawdown conditions and 1.1 for pseudo-static conditions. For pseudo-static conditions a horizontal seismic acceleration of 0.075g with a return period of 1 in 1000 years was used. Safety factors are summarized in the original Golder design report. (Appendix G).

8.0 Design Flood and Spillway

The intensity of a 24 hour precipitation event with a return period of 1000 years has been calculated as 89.6mm. This will increase the pond level by 0.2m in the pond.

To control this volume the sill of the spillway has been established at elevation 325.5m.

An emergency spillway is presently planned at Dike EM-C and EM-C'.

9.0 Conclusions

The proposed design of the polishing pond and related dikes is reasonable. By ensuring the following details the design and construction will meet the required standard of engineering practice:

- Construct the dikes during the drier summer months.
- Monitor piezometers during construction, spring melt and periods of heavy precipitation.
- Field testing and monitoring of dike construction to be provided and reported to Osisko.

— Dike EM-B to be constructed to a higher elevation to allow for foundation settlement.
— If fractured, pervious bedrock is encountered below the dikes EM-A or EM-B the bedrock must be treated. Grouting must be low pressure.
— Downstream filter zones require to be drained.

C. O. Brawner, P. Eng.
FCAE, FEIC, FCIM

715 000 m.E. 715 500 m.E. 716 000 m.E. 717 000 m.E. 717 500 m.E. 718 000 m.E. 718 500 m.E. 719 000 m.E.

5 333 000 m.N.
5 332 500 m.N.
5 332 000 m.N.
5 331 500 m.N.

BASSIN DE SÉDIMENTATION
BASSIN DE POLISSAGE
DÉCHET MINIER
PIPELINE
DIGUE EM-C
DIGUE EM-C'
NOUVEAU PARC À RÉSIDUS MINIERS
NOUVEAU BASSIN DE POLISSAGE
DIGUE 5
DIGUE EM-A
DIGUE EM-B
DIGUE EM-E
DIGUE EM-D
B.C.

LÉGENDE:

- Ligne d'eau (325 m)
- ⊠ Usine
- → Position du déversoir d'urgence proposé
- --→ Position alternative du déversoir d'urgence
- Fossé proposé

SOURCE:

DESSIN INTITULÉ "Topo_Malartic_3D.DWG" FOURNI PAR OSISKO

Golder Associés
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Tél.: (514) 383-0990 Fax: (514) 383-5332

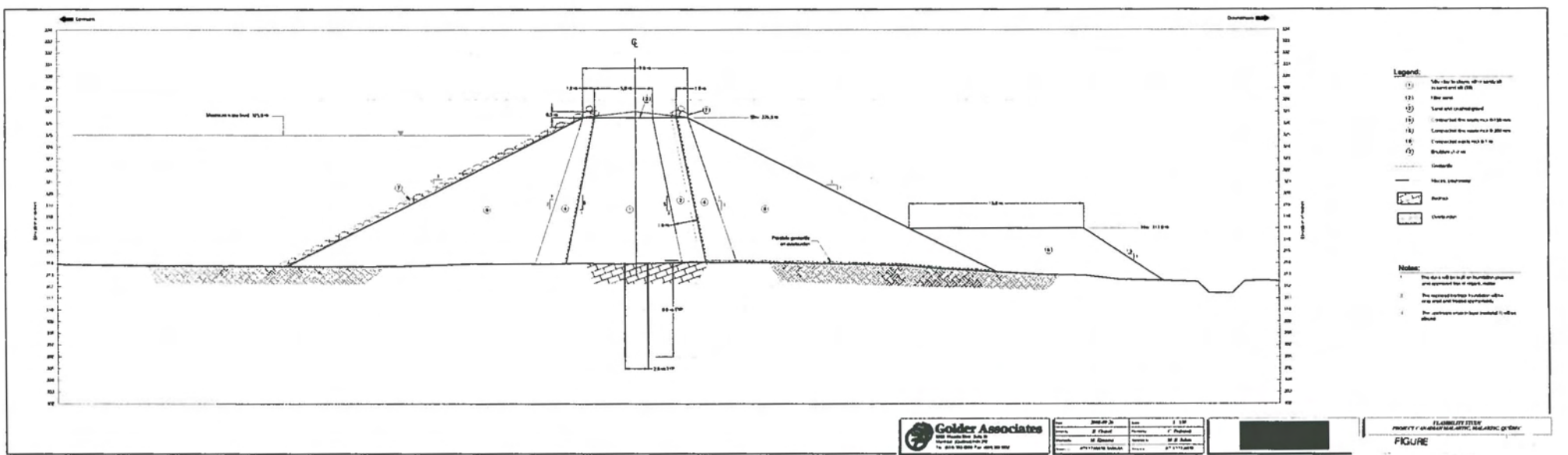
Date:	2008-08-15	Échelle:	1 : 10 000
Dessiné par:	R. Gravel	Projeté par:	S. Beaulieu
Vérifié par:	S. Beaulieu	Approuvé par:	M. R. Julien
No. de dessin:	0712210028-3302-016	No. de projet:	07-1221-0028

OSISKO

ÉTUDE DE CONCEPTION
NOUVEAU BASSIN DE POLISSAGE,
PROJET CANADIAN MALARTIC, MALARTIC, QUÉBEC

PLAN DU DÉVERSOIR D'URGENCE ET DES FOSSÉS PROPOSÉS

FIGURE 1



Section A-A Dike EM-A

712 000 m.E. 713 000 m.E. 714 000 m.E. 715 000 m.E. 716 000 m.E. 717 000 m.E. 718 000 m.E. 719 000 m.E.

5 335 000 m.N. 5 334 000 m.N. 5 333 000 m.N. 5 332 000 m.N.

Légende:

- Dépôt potentiel d'argile
- Dépôt potentiel de sable
- Dépôt potentiel de till
- Zone d'exploitation de la carrière d'enrochement

Datum

UTM (NAD83)

Source:

Plan # Topo_Malartic_3D.dwg fourni par Osisko exploration

Chemin du Lac-Mourier

ANCIEN PARC A RESIDUS

BASSIN DE SÉDIMENTATION

BASSIN DE POLISSAGE

NOUVEAU PARC A RÉSIDUS MINIERS

NOUVEAU BASSIN DE POLISSAGE

DIGUE 5

DIGUE EM-C

DIGUE EM-E

DIGUE EM-D

DIGUE EM-B

DIGUE EM-A

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ÉTUDE DE CONCEPTION
NOUVEAU BASSIN DE POLISSAGE, PROJET CANADIAN MALACTIC, MALACTIC, QUÉBEC

VUE EN PLAN DES POSITIONS DES BANCS D'EMPRUNT

FIGURE 3