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Project Memorandum

To:	**KGHM Ajax Mining Inc.**	**Doc. No.:**	**BGC-007**
Attention:	**Nettie Ore**	**cc:**	
From:	**Cassandra Koenig**	**Date:**	**April 22, 2016**
Subject:	**Ajax Project EA/EIS - Responses to Information Requests from ECCC on Post-Closure Net Groundwater Flux**		
Project No.:	**1125011**		

1.0 INTRODUCTION

The *Ajax Project Environmental Assessment Certificate Application / Environmental Impact Statement for a Comprehensive Study* was issued in September 2015 (KAM, 2015). Comments, Permit Conditions, and Permit Information Requirements (IRs) were provided to KAM on February 22, 2016 by the Ministry of Forests, Lands & Natural Resource Operations (FLNRO) and Environment and Climate Change Canada (ECCC) following a review of the Application and supporting documents. This memorandum documents the response to IR# ECCC-019.

2.0 PERMIT INFORMATION REQUIREMENT RESPONSES

2.1. Information Requirement Issue ID # ECCC-019

This net groundwater flux figure [Figure 6.6-14] doesn't show a high discharge flux rate (e.g., purple) for the open pit as expected from the text. MRSFs are light green, as expected from text description. TSF shows dark green in area of north embankment. This high groundwater recharge flux is not expected based on the description in the text. Resolve or explain the groundwater flux presented in the figure compared to the description in the text.

Response:

Discharge to the open pit is predicted to occur at a low to negligible rate throughout most of the pit footprint as shown in Figure 6.6-14 of the EA/EIS Application due to reduced groundwater levels around the pit and the generally low hydraulic conductivity of the bedrock. Zones of higher discharge are restricted to the footprint of the simulated pit lake (i.e., simulated stage of 500 masl) and along the southwestern pit wall. The reviewer is correct that these zones did not get incorporated into Figure 6.6-14 of the EA/EIS. This figure has been updated and is included here as Drawing 01.

Seepage from the TSF is predicted to vary across its footprint in response to hydraulic gradients. Higher seepage rates (and thus darker green colors) are predicted adjacent to embankments

where larger hydraulic gradients are present due to the presence of the low hydraulic conductivity embankment liner simulated using the horizontal flow barrier package (Section 6.4.7, Appendix 6.6-D). Lower seepage rates (i.e., approaching zero) are predicted in the central portion of the TSF where lower hydraulic gradients are predicted.

3.0 CLOSURE

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Yours sincerely,

BGC ENGINEERING INC.
per:

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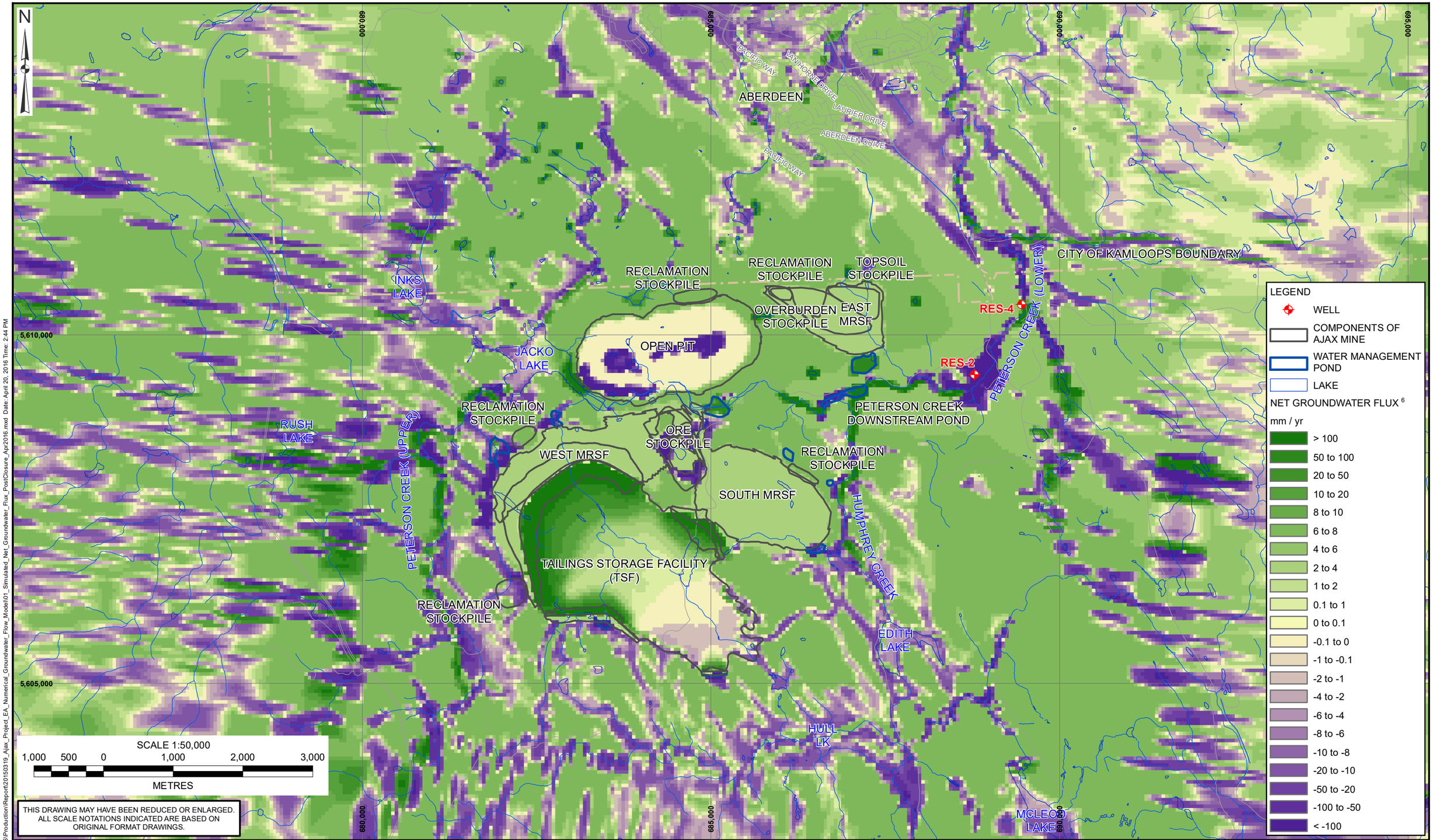
CK/TWC/vg



THIS DRAWING MAY HAVE BEEN REDUCED OR ENLARGED. ALL SCALE NOTATIONS INDICATED ARE BASED ON ORIGINAL FORMAT DRAWINGS.

NOTES:
1. ALL DIMENSIONS ARE IN METRES UNLESS OTHERWISE NOTED.
2. THIS DRAWING MUST BE READ IN CONJUNCTION WITH BGC'S REPORT TITLED "AJAX PROJECT ENVIRONMENTAL ASSESSMENT NUMERICAL GROUNDWATER FLOW MODEL," AND DATED APRIL 2016.
3. GENERAL ARRANGEMENT OF MINE SITE FACILITIES PROVIDED BY KAM ON APRIL 15, 2015.
4. PROJECTION IS NAD 1983 UTM ZONE 10N.
5. THESE RESULTS ARE BASED ON CLOSURE MODEL WITH PIT LAKE ELEVATION OF 500 MASL.
6. POSITIVE NUMBERS INDICATE NET GAIN TO THE GROUNDWATER SYSTEM (RECHARGE) AND NEGATIVE NUMBERS INDICATE NET LOSS TO THE GROUNDWATER SYSTEM (DISCHARGE).

SCALE:	1:50,000
DATE:	APR 2016
DRAWN:	MIB
CHECKED:	RC/BM
APPROVED:	TWC

BGC ENGINEERING INC.
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CLIENT: KGHM AJAX MINING INC.

PROJECT: AJAX PROJECT ENVIRONMENTAL ASSESSMENT NUMERICAL GROUNDWATER FLOW MODEL

TITLE: SIMULATED NET GROUNDWATER FLUX (POST-CLOSURE)

PROJECT No.:	DWG No:
1125007-04	01

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