



MEADOWBANK DIVISION

Monitoring Program Summary Report

October 2013

Type A Water License 2AM-MEA0815

Table of Contents

SECTION 1 • BACKGROUND..... 1

SECTION 2 • WATER MANAGEMENT 2

2.1 WATER USAGE2

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE2

2.3 SEWAGE TREATMENT PLANTS.....2

2.4 PORTAGE ATTENUATION POND EFFLUENT3

2.5 NON CONTACT WATER4

2.6 VAULT DEWATERING5

SECTION 3 • SPILL MANAGEMENT 7

SECTION 1 • BACKGROUND

As required under Part I, Item 25 of Type A Water License 2AM-MEA0815, this report documents the water management and monitoring activity at the mine site for the month. This includes water usage, Portage Attenuation Pond discharge water quality, Vault Dewatering water quality and sewage treatment plant discharge water quality (to onsite storm water management pond).

In addition, a summary of spills/actions for the month is included.

SECTION 2 • WATER MANAGEMENT

2.1 WATER USAGE

Freshwater usage for October 2013 is summarized in Table 2.1 below. Total freshwater used for the month was 66,541 m³. The yearly freshwater used exceeds our License limit of 700,000 m³. The total freshwater used to date is 1,486,635 m³. The total amount of reclaim water used in the mill for October was 240,044 m³.

On April 23rd, 2013 Agnico Eagle Mines (AEM) Meadowbank Division submitted a request to the Nunavut Water Board for an amendment to increase the freshwater use rate at the Meadowbank Gold Project. AEM received on October 1st, 2013 a correspondence from NIRB advising that freshwater use amendment is exempt from screening (Appendix 1). Water license amendment pre-hearing conference and technical meeting was held in Baker Lake on October 16th and 17th. Overall, the meeting went well and few comments or issues were identified related to the water use increase. The final hearing will be a written hearing and is planned to be held in January 17th, 2014.

Table 2-1: Freshwater Usage (m³)

	October
Freshwater Storage Tank	66,541
Emulsion Plant	197
Water Truck	0
Total	66,738
Year to date total	1,486,635

2.2 WASTE ROCK STORAGE FACILITY SEEPAGE

In October, AEM continue to implement the action plan and monitored RSF seepage until October 5th because of freezing conditions. On October 6th, the pump was removed and no more pumping was done. The seepage area is now frozen and monthly visual inspections are undertaken. On October 15th, AEM received Golder's preliminary evaluation on seepage causes and recommendations for solutions. A final report will be prepared and submitted to government agencies in December.

2.3 SEWAGE TREATMENT PLANTS

One (1) effluent wastewater sample was taken from the onsite sewage treatment plant (STP's) in October.

The Seprotech STP results are shown in Table 2.3.1 below; the LJ-Mix STP results are shown in Table 2.3.2. The results of the discharge indicate the system was working well. The effluent is discharged to the onsite storm water pond and is not discharged to the natural environment.

Table 2.3.1: Seprotech Effluent Results

Parameters	Units	October 14, 2013
Ammonia	mg N/L	0.05
Ammonia-Ammonium	mg N/L	18.1
Total Kjeldahl Nitrogen	mg N/L	25.0
BOD-5	mg/L	29
COD	mg/L	28
Total Suspended Solids	mg/L	28
Nitrate	mg N/L	21.30
Nitrite	mg N/L	0.56
pH *	Units	6.80
Fecal Coliform	UFC/100 mL	40
Total Coliform	UFC/100 mL	1300

*Parameter measured by STP operators

Table 2.3.2: LJ-Mix Effluent Results

Parameters	Units	October 14, 2013
Ammonia	mg N/L	<0.01
Ammonia-Ammonium	mg N/L	19.0
Total Kjeldahl Nitrogen	mg N/L	26.0
BOD-5	mg/L	7
COD	mg/L	26
Total Suspended Solids	mg/L	15
Nitrate	mg N/L	40.30
Nitrite	mg N/L	0.03
pH *	Units	5.40
Fecal Coliform	UFC/100 mL	<4
Total Coliform	UFC/100 mL	<1000

*Parameter measured by STP operators

2.4 PORTAGE ATTENUATION POND EFFLUENT

Three weekly effluent samples were taken from the Actiflo Water Treatment Plant (ST-9) in October. All the results were in compliance with Water License Part F, Item 2 for effluent quality limits except for aluminium concentration. On October 2nd and 7th, 2013 the aluminum concentration was 2.16 mg/L and 1.96 mg/L, respectively, exceeding the license limit of 1.5 mg/L as a maximum grab sample. AEM did not exceed the monthly average concentration limit. The source of the elevated level of aluminium appears to be from the coagulant used in the water treatment plant, and the fact that the WTP was started and stopped several time before October 18th. This makes it difficult to optimize coagulant dosage. Discharge from Portage Attenuation Pond was stopped for this year on October 18th, 2013.

The sample results are shown in Table 2.4.1 below.

Table 2.4.1: ST-9 - Effluent Monitoring

Date	Parameters	Units	Max. grab conc.	02-Oct-13	07-Oct-13	16-Oct-13	Monthly Average	Max. avg. conc.
	pH*		6.0-9.0	7.18	7.37	6.94	7.16	6.0-9.0
	TSS	mg/L	30	7	4	7	6	15
	Turbidity*	NTU	15	3.86	3.69	3.48	3.68	15
	Aluminium	mg/L	1.5	2.16	1.96	0.074	1.40	1.5
	Dissolved Aluminium	mg/L	1.0	0.029	0.07	0.032	0.043	1.0
	Arsenic	mg/L	0.6	0.0052	0.0014	0.0020	0.0029	0.3
	Cadmium	mg/L	0.004	<0.00002	<0.00002	<0.00002	0.00001	0.002
	Cyanide Total	mg/L	1.0	0.360	0.246	0.379	0.328	0.5
	Copper	mg/L	0.2	0.0044	0.0045	0.0035	0.0041	0.1
	Mercury	mg/L	0.0008	<0.00001	<0.00001	<0.00001	0.000005	0.0004
	Ammonia nitrogen	mg N/L	32	10.6	12.1	12.2	11.6	16
	Nickel	mg/L	0.4	0.0658	0.0678	0.0961	0.0766	0.2
	Nitrate	mg N/L	40	3.4	3.1	5.9	4.1	20
	Lead	mg/L	0.2	<0.0003	<0.0003	<0.0003	0.00015	0.1
	Phosphorus	mg/L	2.0	0.02	<0.01	<0.01	0.01	1.0
	Zinc	mg/L	0.8	<0.001	0.003	<0.001	0.001	0.4
	Chloride	mg/L	2000	111	102	104	106	1000
	C10-C50	mg/L	6	<0.1	0.1	0.3	0.15	3

*Parameter measured by Environmental Technicians on field

2.5 NON CONTACT WATER

In October, there was water discharged through the non-contact water diversion ditches only in the beginning of the month due to freezing conditions. Portage Area East diversion ditch (ST-5) results are shown in Table 2.5.1 below and Portage Area West diversion ditch (ST-6) results are shown in Table 2.5.2.

TSS results didn't exceed the maximum average concentration (15 mg/L) and maximum allowable grab sample concentration (30 mg/L) permitted by the Water License, Part F, Item 4. Furthermore, to comply with Water License Part D, Item 22, frequent visual inspections were conducted to prevent entry of sediments into the receiving environment.

Table 2.5.1: Portage Area East Diversion Ditch (ST-5) Results

Parameters	Units	October 6, 2013
Total Suspended Solids	mg/l	14

Table 2.5.2: Portage Area West Diversion Ditch (ST-6) Results

Parameters	Units	October 6, 2013
Total Suspended Solids	mg/l	2

2.6 VAULT DEWATERING

In October, a total of 309,649 m³ of water was discharged to Wally Lake. The total discharge to date is 2,329,343 m³. Daily and weekly discharge samples were taken at the intake of the pumps until October 22nd, 2013 on which the dewatering was stopped for this year.

As per Water License Part D Item 16, the effluent from Vault Lake pit dewatering shall not exceed the following quality limits:

Parameter	Maximum Monthly Mean	Short Term Maximum
Total Suspended Solids	15.0 mg/L	22.5 mg/L
Turbidity	15 NTU	30 NTU
pH	6.0 to 9.0	6.0 to 9.0
Total Aluminium	1.5 mg/L	3.0 mg/L

The pH and Aluminum concentrations at the water intake pump were as follows:

- pH 24 hour minimum/maximum: 7.07 / 7.68 (Limit is 6-9 units)
- pH 30 days minimum/maximum: 7.08 / 7.30 (Limit is 6-9 units)
- Al 24 hour maximum concentration: 0.462 mg/L (Limit is 3.0 mg/L)
- Al 30 days maximum concentration: 0.151 mg/L (Limit is 1.5 mg/L)

The turbidity and Total Suspended Solids (TSS) concentrations at the water intake pump were as follows:

- NTU 24 hour maximum concentration: 17.29 NTU (Maximum Limit is 30 NTU)
- TSS 24 hour maximum concentration: 19.2 mg/L (Maximum Limit is 22.5 mg/L)
- NTU 30 days mean maximum concentration: 6.16 NTU (Maximum Limit is 15 NTU)
- TSS 30 days mean maximum concentration: 5.69 mg/L (Maximum Limit is 15 mg/L)

Table 2.6.1 summarizes the dewatering monitoring results for pH, aluminum, turbidity and TSS for the month.

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report

Table 2.6.1: Vault Lake Dewatering Monitoring

Date	ST-DD-3				ST-DD-4				ST-DD-5				Both pump							
	Turbidity	TSS	pH	Total Aluminium	Turbidity	TSS	pH	Total Aluminium	Turbidity	TSS	pH	Total Aluminium	NTU 24-hour Mean	NTU 30-day Mean	TSS 24-hour Mean	TSS 30-day Mean	pH 24-hour Mean	pH 30-day Mean	Al 24-hour Mean	Al 30-day Mean
	NTU	mg/L		mg/L	NTU	mg/L		mg/L	NTU	mg/L		mg/L	30	15	22.5	15	6.0 - 9.0	6.0 - 9.0	3.0	1.5
2013-10-01	5.47	5.5	7.38		3.24	2.0	7.40		3.12	2.8	7.47		3.94	2.09	3.42	2.65	7.42	7.11		0.029
2013-10-02	3.21	3.2	7.07	0.114	2.68	3.0	7.13	<0.006	3.98	5.0	7.32	<0.006	3.29	2.21	3.74	2.77	7.17	7.12	0.042	0.033
2013-10-03		Not in operation				Not in operation			5.00	5.7	7.30		5.00	2.33	5.70	2.91	7.30	7.12		0.033
2013-10-04	17.29	17.3			11.98	12.8			5.14	3.8			11.47	2.77	11.30	3.42		7.10		0.033
2013-10-05		Not in operation			9.59	7.0			3.30	2.0			6.45	3.05	4.50	3.53		7.08		0.041
2013-10-06	8.46	8.5	7.57		8.76	8.3	7.58		3.14	1.8	7.66		6.79	3.32	6.19	3.75	7.60	7.14		0.041
2103-10-07		Not in operation			12.60	19.2			2.88	2.0			7.74	3.54	10.60	4.07		7.16		0.041
2013-10-08		Not in operation				Not in operation			2.27	2.1			2.27	3.56	2.10	4.09		7.17		0.041
2013-10-09		Not in operation				Not in operation			4.53	4.3	7.42	0.169	4.53	3.64	4.30	4.19	7.42	7.18	0.169	0.057
2013-10-10		Not in operation				Not in operation			5.53	6.2			5.53	3.71	6.20	4.28		7.19		0.057
2013-10-11		Not in operation				Not in operation			Not in operation					3.80		4.39		7.22		0.057
2013-10-12		Not in operation				Not in operation			9.29	7.7			9.29	3.90	7.70	4.45		7.22		0.057
2013-10-13		Not in operation				Not in operation			9.34	4.2			9.34	4.09	4.20	4.56		7.22		0.057
2013-10-14		Not in operation				Not in operation			8.92	7.5			8.92	4.10	7.50	4.66		7.25		0.057
2013-10-15	16.12	16.1				Not in operation			10.82	6.4	7.64		13.47	4.63	11.26	4.97	7.64	7.27		0.057
2013-10-16	16.32	16.3	7.17	0.462		Not in operation			9.79	4.4	7.13		13.06	5.02	10.36	5.27	7.15	7.26	0.462	0.102
2013-10-17	12.71	12.7				Not in operation			10.38	5.6		0.337	11.55	5.37	9.16	5.56		7.26	0.337	0.125
2013-10-18	11.72	11.7	7.17			Not in operation			7.48	5.2	7.30		9.60	5.66	8.46	5.80	7.24	7.25		0.125
2013-10-19		Not in operation				Not in operation			8.62	6.4			8.62	5.84	6.40	5.81		7.28		0.151
2013-10-20		Not in operation				Not in operation			10.73	5.2			10.73	5.98	5.20	5.74		7.28		0.151
2013-10-21		Not in operation				Not in operation			9.42	3.6	7.68		9.42	6.14	3.60	5.57		7.30		0.151
2013-10-22		Not in operation				Not in operation			7.23	11.6			7.23	6.16	11.60	5.69		7.30		0.151

SECTION 3 • SPILL MANAGEMENT

AEM has developed a system of tracking spills on-site. Table 3.1 summarizes the AEM spill reports for the month. Five (5) spills occurred on site and none (0) was reported to the GN spill hotline. AEM contained and cleaned up all the spills.

Table 3-1: Summary of AEM Internal Spill Reports

Date of Spill	Hazardous Material	Quantity (L/Kg)	Location	Cause of spill	Clean-up action taken	Reported to Spill Hot Line
2013-10-02	Oil	60	Container inventory pad	A drum in a sea can coming from Becancour had existing small hole mid-way thru the drum.	We took out all the drums from the container, cleaned the floor and scraped all ground gravel and disposed in an empty drum.	No
2013-10-05	Oil	90	Baker Lake spud barge	Hazmat contractor, who prepared the containers, forgot to put the cap on one of the 1040 Liters totes. When the container was move with the container handler, oil spilled out of the tote. About 200-300 liters was spilled but only 90 went outside sea can.	Sea can was put on ground and pads were put to contain spill. Sea can was emptied.	No
2013-10-09	Oil	1	Dorm 12	Steering hydraulic filter from a Kubota was not tight.	Stopped the Kubota, called maintenance and cleaned up the spill. The contaminated material was brought in the contaminated soil roll off.	No
2013-10-16	Diesel	30	Meadowbank refueling station	Unknown. Probably overfilling.	Cleaned up contaminated material	No
2013-10-22	Hydraulic oil	80	Waste dump PAG side	Broken hydraulic hose on 980 loader.	Equipment was shut down and hose was repaired. Contaminated Material was picked up with the 980 Loader and taken to the contaminated soil pad.	No

Appendix 1
NIRB correspondence regarding freshwater use
amendment



NIRB File No.: 03MN107

NWB File No.: 2AM-MEA0815

KivIA Production Lease No.: KVPL308D280

AANDC File No.: 5510-5-3

DFO File No.: NU-03-0191

EC File No.: 4703 001 015 120

NRCAN File No.: F74222

October 1, 2013

Thomas Kabloona
Chairperson of the Nunavut Water Board
c/o Phyllis Beaulieu
Manager of Licensing
P.O. Box 119
Gjoa Haven, NU X0B 1J0

Sent via email: licensing@nunavutwaterboard.org

Re: Application Exempt from the Requirement for Screening pursuant to Section 12.4.3 of the NLCA: Agnico-Eagle Mines Ltd.'s Application to Amend Type A Water Licence for the Meadowbank Gold Project, Kivalliq Region

Dear Phyllis Beaulieu:

On April 23, 2013 the Nunavut Impact Review Board (NIRB or Board) received correspondence from Agnico-Eagle Mines Ltd. (AEM) advising of its intention to apply with the Nunavut Water Board (NWB) for an amendment to its Type A Water Licence (2AM-MEA0815) for the Meadowbank Gold Project (NIRB File No. 03MN107). On July 15, 2013 the NIRB received correspondence from the NWB which acknowledged AEM's amendment application and requested that the NIRB confirm whether any screening, reconsideration or review of the proposed amendment would be required.

PROCESS OVERVIEW

The NIRB Project Certificate [004] issued for the Meadowbank Gold Project on December 31, 2006 was the product of the Board's extensive public review of the potential impacts associated with the project proposal filed by the original proponent of the project, Cumberland Resources Ltd. in March 2003. The NIRB's Review provided opportunities for public input through written

submissions, community meetings and participation in a Public Hearing. The scope of the NIRB's Review was based on the project as proposed in 2003 and as reviewed by the Board between 2003 and 2006. To determine the impact assessment requirements applicable to AEM's current amendment request, the NIRB had to consider two possible avenues under the Nunavut Land Claims Agreement (NLCA).

If the NIRB determined that the proposed amendment is within the scope of the Meadowbank Gold Project as previously reviewed by the Board and as addressed by the existing terms and conditions of the NIRB Project Certificate [004], the amendment would be exempt from the requirement for screening by the NIRB as set out in Article 12, Section 12.4.3 of the NLCA:

12.4.3 Any application for a component or activity of a project proposal that has been permitted to proceed in accordance with these provisions shall be exempt from the requirement for screening by NIRB unless:

- (a) such component or activity was not part of the original proposal; or*
- (b) its inclusion would significantly modify the project.*

Alternatively, if the NIRB determined that the amendment request represents a significant change to the project as previously reviewed, the Board would then evaluate whether the significant changes to the project warrant a formal reconsideration of the terms and conditions of the existing NIRB Project Certificate [004] pursuant to Section 12.8.2 of the NLCA:

12.8.2 NIRB may on its own account or upon application by a DIO, the proponent, or other interests, reconsider the terms and conditions contained in the NIRB certificate if it is established that:

- (a) the terms and conditions are not achieving their purpose;*
- (b) the circumstances relating to the project or the effect of the terms and conditions are significantly different from those anticipated at the time the certificate was issued; or*
- (c) there are technological developments or new information which provide a more efficient method of accomplishing the purpose of the terms and conditions.*

Given the integrated regulatory process established by the NLCA Article 12, Sections 12.10.1 and Article 13, Section 13.5.4, the NWB cannot approve the issuance of an amended licence until the NIRB has confirmed that the assessment provisions of Article 12 of the NLCA have been satisfied.

PROCEDURAL HISTORY

AEM has applied for an amendment to the Type "A" Water Licence as issued by the NWB for the Meadowbank Gold Project to allow for increased fresh water use as projected requirements have exceeded and continue to exceed the previously permitted rate. The amendment application indicates that increased freshwater use is required owing to higher than anticipated rates of ore processing, and an adjustment of the initial water balance model, resulting in a deficit of reclaimed water. AEM has applied for a water licence amendment to increase the freshwater

drawdown and use from the Third Portage Lake from the originally permitted 700,000 cubic metres per year (m³/yr) to 1,870,000 m³/yr in 2013, and 1,150,000 m³/yr for the years 2014 through 2018.

The complete amendment application is available online from the NIRB's public registry at the following location:

<http://ftp.nirb.ca/03-MONITORING/03MN107-MEADOWBANK%20GOLD%20MINE/06-AUTHORIZATIONS/Nunavut%20Water%20Board/01-LICENCE/03-AMENDMENTS/2013%20Amendment/>.

On August 6, 2013 the NIRB invited interested parties and agencies with jurisdictional authority and/or licences and approvals associated with the Meadowbank Gold Project to provide their comments to the Board with respect to AEM's proposed Water Licence (No. 2AM-MEA0815) amendment application on or before August 20, 2013. The Board requested that parties provide their views on the following points in particular:

- Whether or not the proposed amendment is within the scope of the project as originally reviewed by the NIRB in 2006 and as addressed by the existing terms and conditions of the NIRB Project Certificate [004];
- Whether or not the proposed amendment triggers a requirement for reconsideration of the terms and conditions of the NIRB Project Certificate [004] as set out in NLCA Sections 12.8.2 (a), (b), or (c) and, if so, which of the circumstances supporting reconsideration under the NLCA provides the basis for the reconsideration;
- Whether, if a reconsideration of Project Certificate [No. 004] is triggered under Section 12.8.2 of the NLCA, there are specific terms and conditions that should be reconsidered;
- Whether a reconsideration under 12.8.2 is likely to arouse significant public concern and, if so, describing the basis for the concern;
- Whether parties require additional information to support the consideration of the proposed amendment application and the Board's request for comments; and
- Any matter of importance to the Party related to the amendment application as presented by AEM that should be considered by the NIRB in making its determination.

Due to an administrative error, a number of parties on the NIRB distribution list did not receive the request for comments as initially distributed. Follow-up correspondence was sent to all parties extending the comment deadline and requesting that parties provide comment submissions by September 3, 2013. On or before September 3, 2013, the NIRB received comment submissions from the following interested parties:

- *Aboriginal Affairs and Northern Development Canada*
- *Environment Canada*
- *Fisheries and Oceans Canada (request for clarification and comments)*

All comments provided to NIRB regarding this amendment can be viewed on the NIRB's online public registry and are available at the following link:

NIRB ASSESSMENT AND DECISION

After a thorough assessment of all materials provided to the Board and comments received, the NIRB is of the understanding that the proposed amendment application by AEM does not change the general scope of the Meadowbank Gold Project as previously reviewed by the Board, and the exceptions noted in NLCA 12.4.3(a) and (b) do not apply. Therefore, this amendment application is exempt from the requirements for screening pursuant to Section 12.4.3 of the NLCA and the amendment activities therein remain subject to the terms and conditions of the NIRB Project Certificate [004].

The NIRB's Monitoring Officer for the Meadowbank Project Certificate will give further consideration to whether any additional monitoring/reporting requirements may be necessary in light of the proposed amendment as per the Sections 12.7.1 and 12.7.2 of the NLCA, following receipt of further clarification from the Proponent on a number of items.

Should you have any questions or require clarification related to the NIRB's monitoring program for the Meadowbank Gold Project, please contact Sophia Granchinho, Senior Technical Advisor and Monitoring Officer at (867) 793-4633 or sgranchinho@nirb.ca.

Sincerely,



Ryan Barry
Executive Director
Nunavut Impact Review Board

cc: Stéphane Robert, Agnico-Eagle Mines Ltd.
Kevin Buck, Agnico-Eagle Mines Ltd.
Karén Kharatyan, Nunavut Water Board
Meadowbank Distribution List