

July 28, 2010

Via Email and Xpresspost

Mr. Richard Dwyer Licensing Administrator Nunavut Water Board P.O. Box 119 Gjoa Haven, NU X0B 1J0 Phone: (867) 360-6338

licensingadmin@nunavutwaterboard.org

Dear Mr. Dwyer,

## Re: Water License 2AM-MEA0815 June Monitoring Program Summary Report

As required by Water License 2AM-MEA0815 Part I Item 25, please find the June 2010 Monitoring Program Summary Report enclosed.

Should you have any questions regarding this submission, please contact me directly at 819-763-0229 or via email at <a href="mailto:stephane.robert@agnico-eagle.com">stephane.robert@agnico-eagle.com</a>.

Regards,

Stéphane Robert

**Environment Superintendent** 

Encl (1)

cc: Lou-Ann Cornacchio, Indian and Northern Affairs Canada

David Abernethy, Indian and Northern Affairs Canada Bryan Rainer, Indian and Northern Affairs Canada Stephen Hartman, Kivalliq Inuit Association



# MEADOWBANK GOLD PROJECT

# **Monitoring Program Summary Report**

**June 2010** 

Type A Water License 2AM-MEA0815

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### 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 of June 2010. This activity includes: water usage and sewage treatment plant, dewatering and dike construction monitoring.

Additionally, a summary of the AEM internal spill reporting for the month is included.

#### **SECTION 2 • WATER MANAGEMENT**

#### 2.1 WATER USAGE

Freshwater usage for the month totals 102,032 m³ and is summarized in Table 2.1 below. The consumption of fresh water for the mill was 99,381 m³ and the consumption of reclaim water was 247,991 m³. We working actually on our water balance and an amendment of the License on the fresh water usage will be made beginning of August.

Table 2-1: June 2010 Freshwater Usage

	Water usage (m <sup>3</sup> )
Camp	2,496
Batch Plant	0
Mill & Dust control	99,381
Emulsion Plant	155
Total for the site	102,032
Year to date	612,650
Limit -m3/year	700,000

#### 2.2 SEWAGE TREATMENT PLANT MONITORING

Four water samples were taken at the effluent of the sewage treatment plants (STP). The results showed the system is working well.

Table 2-2: June 2010 STP Effluent Results

Parameter	07	-Jun-10	14-Jun-10	21-Jun-10	28-	Jun-10
NH3-NH4 (mg/L)		20.5	22.1	30.8		23.3
BOD-5 (mg/L)		14	7	9		9
COD (mg/L)		75	72	75		94
TSS (mg/L)		37	24	38		34
NO2-NO3 (mg N/L)		47.0	46.3	53.4		48.7
pH (mg/L)		3.91	3.87	4.16		4.03
P tot (mg P/L)		28.4	13.8	17.4		16.9
Fecal Coliform (UFC/100mL)	<	1 000	20	10	<	4
Total Coliform (UFC/100mL)		30 000	1,000	100	<	100
Atypical Colony (UFC/100mL)		1 000	14,000	700		200

#### 2.3 DEWATERING OF SECOND PORTAGE ARM

Water quality monitoring for the Second Portage Arm dewatering project continued throughout June.

The pH and Aluminum concentrations at the outlet of the TSS treatment plants were as follows:

- pH 24 hour minimum/maximum: 6.54/6.68 units (Limit is 6-9 units)
- Al 24 hour maximum concentration: 1.21 mg/L (Limit is 1.5 mg/L)

The outlet monitoring results demonstrate that the limits of the license were respected. Table 2.3 summarizes the June dewatering monitoring results for pH and Aluminum.

	DD-V	VTP-01	DD-V	VTP-02	Both WTP Outlets						
Date	рН	Total Al	рН	Total Al	pH 24- hour Mean	Al 24- hour Mean					
	units	mg/L	units	mg/L	units	mg/L					
2010-06-02											
2010-06-09		1.31		1.10		1.21					
2010-06-14			6.54	1.06	6.54	1.06					
2010-06-16											
2010-06-21				0.687		0.687					
2010-06-28			6.68	1.000	6.68	1.000					

Table 2-3: June 2010 Dewatering Monitoring - pH and Al

The turbidity and Total Suspended Solids (TSS) concentrations at the outlet of the TSS treatment plants were as follows:

- NTU 24 hour mean maximum concentration: 12.1 NTU (Maximum Limit is 30 NTU)
- TSS 24 hour mean maximum concentration: 32 mg/L (Maximum Limit is 22.5 mg/L)
- NTU 30 days mean concentration: 7.5 NTU (Maximum Limit is 15 NTU)
- TSS 30 days mean concentration: 15.5 mg/L (Maximum Limit is 15 mg/L)

The results demonstrate that on June 18 the 24-hour mean TSS concentration exceeded the criteria (32 mg/L), and the 30-day mean TSS concentrations marginally exceeded the regulatory limit on June 28 (15.5 mg/L). Table 2.4 summarizes the June dewatering monitoring results for turbidity and TSS. Because of an increase in the TSS in the water to treat, the treatment plant has difficulty to maintain is full performance. At the end of June, we decrease the flow entering the TSS treatment plant to help in the performance of the Treatment plant.

Table 2-4: June 2010 Dewatering Monitoring – TSS and Turbidity

	DD-WTP-01(Out)		DD-WTF	DD-WTP-02(Out)		Both WTP Outlets			
Date	24-hour Mean	Lab TSS	24-hour Mean	Lab TSS	NTU 24- hour Mean	TSS 24- hour Mean	NTU 30- day Mean	TSS 30- day Mean	
	NTU	mg/L	NTU	mg/L	NTU	mg/L	NTU	mg/L	
2010-06-01	6.5	13	6.1	12	6.3	13	6.7	8	
2010-06-02	5.6	19	5.0	9	5.3	14	6.6	8	
2010-06-03	8.5	25	6.4	19	7.4	22	6.6	9	
2010-06-04	5.9	11	7.4	14	6.7	13	6.6	9	
2010-06-05	6.4	11	10.7	19	8.6	15	6.7	9	
2010-06-06	5.2	8	5.3	11	5.2	10	6.6	9	
2010-06-07	Not in or	peration	Not in o	peration					
2010-06-08	8.7	10	9.0	20	8.9	15	6.7	9	
2010-06-09	9.8	14	9.7	20	9.8	17	6.8	9	
2010-06-10	8.6	13	7.7	18	8.1	16	6.9	10	
2010-06-11	6.2	11	3.6	15	4.9	13	6.8	10	
2010-06-12	Not in op	peration	7.6	15	7.6	15	6.9	10	
2010-06-13	Not in op	peration	9.0	18	9.0	18	6.9	10	
2010-06-14	Not in op	peration	9.1	22	9.1	22	7.0	11	
2010-06-15	Not in op	peration	6.6	13	6.6	13	6.9	11	
2010-06-16	Not in op	peration	7.6	17	7.6	17	6.9	12	
2010-06-17	Not in op	peration	9.5	18	9.5	18	7.1	12	
2010-06-18	Not in op	peration	0.6	32	0.6	32	6.9	13	
2010-06-19	Not in op	peration	5.7	22	5.7	22	6.9	14	
2010-06-20	Not in op	peration	7.8	18	7.8	18	7.1	14	
2010-06-21	Not in op	peration	5.6	12	5.6	12	7.0	14	
2010-06-22	Not in op	peration	8.2	13	8.2	13	7.0	14	
2010-06-23	Not in op	peration	9.6	13	9.6	13	7.1	14	
2010-06-24	Not in or	peration	7.7	11	7.7	11	7.1	14	
2010-06-25	Not in or	peration	8.0	13	8.0	13	7.1	15	
2010-06-26	Not in or	peration	9.2	13	9.2	13	7.2	15	
2010-06-27	Not in or	peration	12.1	19	12.1	19	7.3	15	
2010-06-28	Not in or	peration	9.1	12	9.1	12	7.5	15.5	
2010-06-29	Not in or	peration	6.9	**	6.9		7.5		
2010-06-30	Not in or	peration	7.2	3	7.2	3	7.5	15	

#### 2.4 DIKE CONSTRUCTION MONITORING

The monitoring of the causeway for the Bay Goose dike continued throughout June. On June 25 the causeway was completed and monitoring was stopped as of June 26.

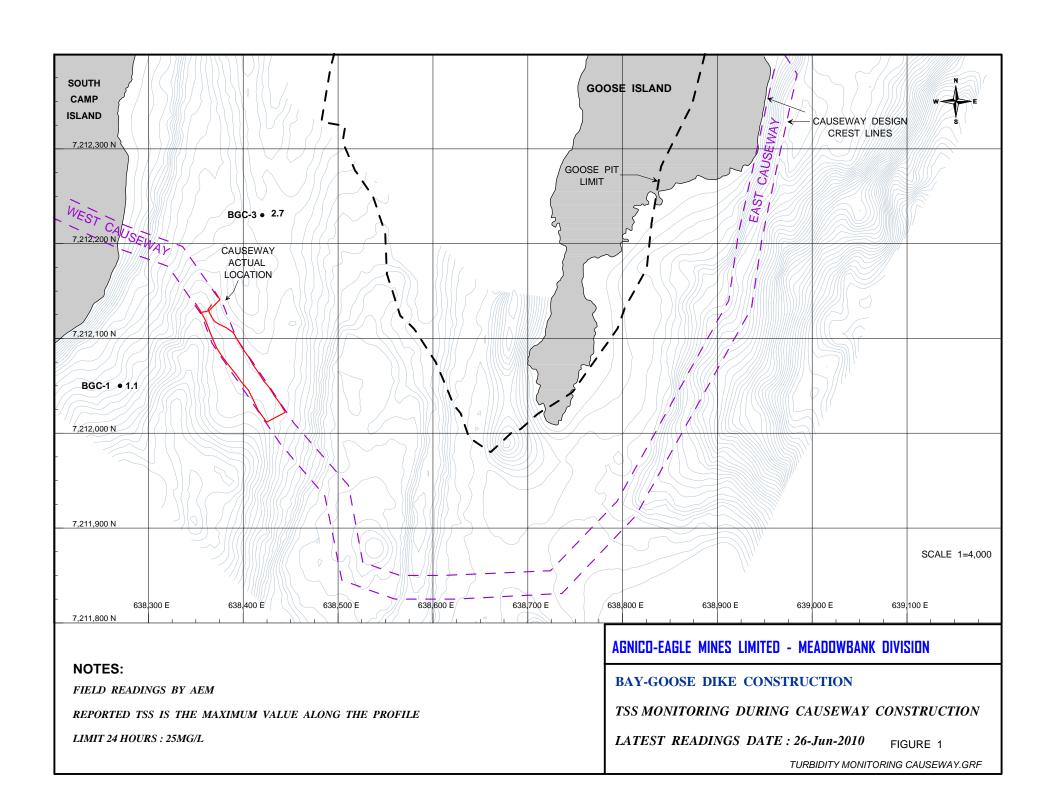
The TSS concentrations for the Bay Goose dike construction were as follows:

 Maximum short-term (24 hour) TSS concentration from the 2 causeway monitoring stations (BGC1, BGC3) on the Bay Goose dike was 20.3 mg/L (Maximum Limit is 25 mg/L)

The June 2010 dike construction monitoring results are provided in Table 2.5 and the station locations are shown on Figure 1.

Table 2-5: June 2010 Dike Construction Monitoring Results

	BGC-1		Coordinates		BGC-3		Coordinates	
	Max	Max			Max	Max		
Date	NTU	TSS	Easting	Northing	NTU	TSS	Easting	Northing
	of day	of day			of day	of day		
	NTU	mg/L			NTU	mg/L		
2010-06-01	37.5	9.9	638,349	7,212,007	1.3	0.3	638,475	7,212,169
2010-06-02	48.1	12.8	638,349	7,212,007	2.4	0.6	638,475	7,212,169
2010-06-03	45.5	12.1	638,349	7,212,007	2.5	0.6	638,475	7,212,169
2010-06-04	74.5	20.3	638,349	7,212,007	1.8	0.4	638,475	7,212,169
2010-06-05	42.6	11.3	638,349	7,212,007	1.7	0.4	638,475	7,212,169
2010-06-06	65.8	17.8	638,311	7,212,022	3.1	0.7	638,475	7,212,169
2010-06-07	33.0	8.7	638,311	7,212,022	3.4	8.0	638,475	7,212,169
2010-06-08	66.2	17.9	638,311	7,212,022	3.3	8.0	638,475	7,212,169
2010-06-09	32.6	8.6	638,311	7,212,022	2.5	0.6	638,475	7,212,169
2010-06-10	50.6	13.5	638,311	7,212,022	3.0	0.7	638,475	7,212,169
2010-06-11	30.4	7.9	638,311	7,212,022	5.2	1.3	638,475	7,212,169
2010-06-12	34.0	8.9	638,311	7,212,022	2.7	0.6	638,475	7,212,169
2010-06-13	35.2	9.3	638,311	7,212,022	2.9	0.7	638,475	7,212,169
2010-06-14	30.5	8.0	638,311	7,212,022	3.1	0.7	638,475	7,212,169
2010-06-15	35.6	9.4	638,311	7,212,022	4.2	1.0	638,475	7,212,169
2010-06-16	30.1	7.9	638,311	7,212,022	5.9	1.4	638,475	7,212,169
2010-06-17	26.6	6.9	638,311	7,212,022	4.2	1.0	638,475	7,212,169
2010-06-18	21.8	5.6	638,311	7,212,022	4.0	1.0	638,475	7,212,169
2010-06-19	74.5	20.3	638,311	7,212,022	3.8	0.9	638,475	7,212,169
2010-06-20	68.2	18.5	638,311	7,212,022	3.7	0.9	638,475	7,212,169
2010-06-21	36.6	9.7	638,311	7,212,022	3.2	8.0	638,475	7,212,169
2010-06-22	3.6	0.9	638,270	7,212,050	4.0	1.0	638,420	7,212,230
2010-06-23	3.7	0.9	638,270	7,212,050	4.6	1.1	638,420	7,212,230
2010-06-24	3.3	0.8	638,270	7,212,050	3.0	0.7	638,420	7,212,230
2010-06-25	3.2	0.8	638,270	7,212,050	4.6	1.1	638,420	7,212,230
2010-06-26	4.6	1.1	638,270	7,212,050	10.7	2.7	638,420	7,212,230



# SECTION 3 • SPILL MANAGEMENT SUMMARY

AEM has developed a system of tracking spills on-site. Table 3.1 summarizes the AEM internal spill reports for June. One spill was reported to the GN spill hotline.

Table 3-1: Summary of June 2010 AEM Internal Spill Reports

Date of Spill	Hazardous Material	Quantity	Location	Cause of spill	Clean-up action taken	Reported to Spill HotLine
2010-06- 05	Fuel	45 gallons	Piping laydown	A drum fell	Contaminated soil was taken to Quarry 22	Υ
2010-06- 10	Hydraulic oil	50 L	Behind white coverall	A crane was parked for winter and slowly leaked the oil	Moved the crane; contaminated soil was taken to Quarry 22	N
2010-06- 10	Fuel	Unknown small quantity	East dike	Leak from a secondary containment under a generator	Moved the generator and secondary containment (white coverall); contaminated soil was taken to Quarry 22	N
2010-06- 12	Fuel	3 L	South side of the power plant	The genset fell from a block and fuel leaked out	Contaminated soil was taken to containment area box	N
2010-06- 13	Oil	5 L	Heavy equipment parking lot	Leak from a broken drill	Contaminated soil was taken to Quarry 22	N