

July 28, 2009

*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

Dear Mr. Dwyer,

**Re: June 2009 Monitoring Program Summary Report**

As required by Water license 2AM-MEA0815 Part I Item 25, please find enclosed the June 2009 Monitoring Program Summary Report.

Should you have any questions regarding this submission, please contact me directly at 819-759-3700 ext. 814 or via email at [stephane.robert@agnico-eagle.com](mailto:stephane.robert@agnico-eagle.com).

Regards,



Stéphane Robert  
Environment Superintendent

*Encl (1)*

*cc: Kevin Buck, Indian and Northern Affairs Canada  
David Abernethy, Indian and Northern Affairs Canada  
Andrew Keim, Indian and Northern Affairs Canada  
Stephen Hartman, Kivalliq Inuit Association*



## MEADOWBANK GOLD PROJECT

# **Monitoring Program Summary Report**

**June 2009**

Type A Water License 2AM-MEA0815

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## **SECTION 1 • BACKGROUND**

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As required under Part I, Item 25 of Type A Water License 2AM-MEA0815, this report documents the water management, monitoring activity and analytical monitoring along the All Weather Private Access Road (AWPAR) and mine site for the month of June 2009.

It should be noted that the Meadowbank Project is in the construction phase and is not scheduled to commence operations until early 2010. Consequently many of the license specified reporting locations or requirements are associated with facilities that are not yet constructed and thus reporting cannot be fully initiated until these facilities are constructed and commissioned.

The dewatering of the northwest arm of Second Portage Lake continued through June. During this phase of construction no other water has been pumped, discharged or transferred, rather all site contact run-off are contained and directed to the Stormwater Management Pond (Tear Drop Attenuation Pond). The monitoring points covered by this monthly report will expand as the facilities are constructed. Additionally, for the NWB to review, Section 4 summarizes the AEM internal spill reporting for June.

## **SECTION 2 • WATER QUALITY MONITORING**

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### **2.1 AWPART MONITORING**

All crossings and representative contact pools along the All Weather Private Access Road (AWPAR) were monitored for turbidity and general water quality parameters (i.e. temperature, pH, dissolved oxygen) using field meters. Monitoring measurements taken at the crossings did not indicate any water quality issues that have a potential to impact nearby receiving environments (i.e. turbidity below 1 NTUs at all crossings).

### **2.2 DEWATERING OF SECOND PORTAGE ARM**

The dewatering of the northwest arm of Second Portage Lake continued through June. Total Suspended Solids (TSS) and turbidity were monitored daily at each of the intake pumps and once per week in Third Portage Lake (TPL) and Second Portage Lake (SPL) near the receiving outlets. In mid June, the pumps were shut down for a few days after reaching the limit for turbidity. The results from the external lab confirmed that AEM's field turbidity readings were significantly higher than those measured in the lab. After two days of investigation, AEM determined that the methodology used for the field measurement of turbidity was not accurate. The pumps were restarted and stopped again on June 29 because the 30 day mean limit for turbidity (15 NTU) was reached. Tables 2.1 to 2.3 list the June monitoring results. The results respect the maximum monthly mean effluent quality limits (15 mg/L for TSS, 15 NTU for turbidity, 1.5 mg/l for Aluminum and 6 to 9 for pH).

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**Table 2.1: Monitoring Results Dewatering at TPL June 1 – 30, 2009**

Date	Intake 1		Intake 2		Intake 3		Intake 4		TPL Outlet		All Pumps not running	All TPL Water Intake Pumps			
	24-hour Mean	Lab TSS	24-hour Mean	Lab TSS	24-hour Mean	Lab TSS	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	NTU	mg/L					
6/1/2009											x			3	2.2
6/2/2009			3.1	2	2.8	2						3	2.0	3	2.2
6/3/2009	3.5	1	4.1	2	3.8	2	3.2	2				4	1.8	3	2.2
6/4/2009	4.4	3	4.1	5	4.0	2	4.1	4				4	3.5	3	2.3
6/5/2009	4.7	3	4.4	3	4.2	2	4.4	4				4	3.0	3	2.4
6/6/2009	7.0	3	7.0	3	6.8	4	6.7	4				7	3.5	4	2.2
6/7/2009	8.0	4	8.0	3	7.4	3	7.3	7				8	4.3	4	2.2
6/8/2009	8.1	3	7.4	3	7.5	5	8.1	5				8	4.0	4	2.2
6/9/2009	13.2	2	10.3	2	10.4	2	11	2				11	2.0	4	2.2
6/10/2009	11	2	12.8	2	11.2	1	40.1	3				19	2.0	5	2.1
6/11/2009	14.1	5	13.6	4	13	4	15	5				14	4.5	5	2.2
6/12/2009	15	4	14.5	4	13.4	4	11.5	5				14	4.3	6	2.4
6/13/2009	13.7	4	13.3	5	12.1	4	14.4	5				13	4.5	6	2.5
6/14/2009	14.6	5	14.6	6	14	5	14.4	4				14	5.0	6	2.6
6/15/2009	15.9	6	13.4	6	14.6	6	13.7	6				14	6.0	7	2.8
6/16/2009	18	7	16.9	6	17.9	8	18.2	7				18	7.0	7	3.0
6/17/2009									0.7	1	x			7	3.0
6/18/2009											x			7	3.0
6/19/2009											x			7	3.0
6/20/2009	19.2	7	18.2	8	15.1	6	17.1	8				17	7.3	8	3.1
6/21/2009	19.8	10	19.3	10	21.6	10	19.6	9				20	9.8	8	3.4
6/22/2009	20.4	9	18.7	9	17.9	8	18.9	9				19	8.8	9	3.7
6/23/2009	25.6	7	20.4	5	20.8	8	21	7				22	6.8	9	3.8
6/24/2009	20.3	8	16.9	7	17.4	7	16.6	8				18	7.5	10	4.0
6/25/2009	20.7	8	17.1	8	17.9	8	18.8	10				19	8.5	10	4.3

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6/26/2009	22.3	7	17.6	8	17.3	7	13.5	6				18	7.0	11	4.4
6/27/2009	23.3	8	22.4	7	23.2	8	22.3	9	1.13	1.1		23	8.0	11	4.6
6/28/2009	24	8	19.2	7	19.8	8	21.4	6				21	7.3	12	4.8
6/29/2009	25.5	9	22.1	8	21.5	7	22.8	8				23	8.0	13	5.0
6/30/2009											x			13	5.1

**Table 2.2: Monitoring Results Dewatering at SPL June 1 – 30, 2009**

Date	Intake 5		Intake 6		SPL Outlet		All pumps not running	All SPL Water Intake Pumps			
	24-hour Mean	Lab TSS	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					
6/1/2009	2.9	3	4.5	4				4	3.5	3	3.3
6/2/2009	2.8	2	3.4	1				3	1.5	3	3.3
6/3/2009	3.2	2	4.3	4				4	3.0	3	3.3
6/4/2009	2.9	5	5.0	5				4	5.0	3	3.3
6/5/2009	3.2	2	5.3	3				4	2.5	3	3.3
6/6/2009	5.1	3	7.5	3				6	3.0	3	3.3
6/7/2009	6.6	3	6.6	2				7	2.5	3	3.3
6/8/2009	6.1	4	5.8	2				6	3.0	3	3.4
6/9/2009	8.9	1	7.5	1				8	1.0	4	3.3
6/10/2009	10.3	2	10.3	2				10	2.0	4	3.3
6/11/2009	11.8	2	11.4	3				12	2.5	4	3.3
6/12/2009	13	3	11.8	3				12	3.0	5	3.4
6/13/2009	13.4	5	13.2	5				13	5.0	5	3.5
6/14/2009	13.1	4	15.2	4				14	4.0	5	3.6
6/15/2009	14	6	13.7	5				14	5.5	6	3.8
6/16/2009	15.8	6	14.4	5				15	5.5	6	3.9
6/17/2009	15.5	5	27	6	5.82	3		21	5.5	7	4.1
6/18/2009	18.5		17.8					18		7	4.1
6/19/2009	15.6	6	15.4	4				16	5.0	8	4.0

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6/20/2009	14.4	6	18.9	10				17	8.0	8	4.2
6/21/2009	16.36	7	17.3	7				17	7.0	9	4.3
6/22/2009	15.5	6	15.6	7				16	6.5	9	4.4
6/23/2009	22.5	7	22.3	6				22	6.5	10	4.5
6/24/2009	16.9	7	17.5	8				17	7.5	10	4.6
6/25/2009	15.7	7	17.9	7				17	7.0	11	4.6
6/26/2009	17.2	6	27.9	11				23	8.5	11	4.9
6/27/2009	18.8	5	33	12	4.65	3.7		26	8.5	12	5.1
6/28/2009	16.5	6	35.1	13				26	9.5	13	5.2
6/29/2009	17.2	8	46.3					32	8.0	14	5.1
6/30/2009							x			14	5.1

**Table 2.3: Monitoring Results Dewatering pH and Aluminum June 1 – 30, 2009**

Date	Intake 1		Intake 2		Intake 3		Intake 4		Intake 5		Intake 6	
	pH	Total Al	pH	Total Al	pH	Total Al	pH	Total Al	pH	Total Al	pH	Total Al
	units	mg/L	units	mg/L	units	mg/L	units	mg/L	units	mg/L	units	mg/L
6/8/2009	7.08	0.237	6.98	0.191	6.98	0.223	7.00	0.221	6.98	0.223	6.98	0.223
6/15/2009	6.78	0.340	6.72	0.278	6.73	0.313	6.75	0.289	6.81	0.304	6.75	0.308
6/22/2009	6.94	0.412	6.95	0.389	6.94	0.453	6.98	0.439	6.97	0.335	6.95	0.322
6/29/2009	6.95		6.94		6.94		6.95		6.92			



## SECTION 3 • WATER MANAGEMENT

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### 3.1 WATER USAGE

Under Water License 2AM-MEA0815, the total water consumption limit for the Meadowbank Project is 700,000 m<sup>3</sup>/year or 58,333 m<sup>3</sup>/month for the batch plant, domestic and milling water use. During the month, the number of people on site by day was 413. The total consumption of water for the camp, the batch plant and the mine site was 4,600 m<sup>3</sup> for the month, an average of 153 m<sup>3</sup> per day.

**Table 3.1: June 2009 Water Consumption**

	<b>Water Usage (m<sup>3</sup>)</b>
Batch Plant	570
Water Treatment Plant	2,070
Water for Dust Control	1,960
<b>Total for the Site</b>	<b>4,600</b>

### 3.2 SEWAGE TREATMENT PLANT MONITORING

At the sewage treatment plant, two systems are now in operation, the Seprotech L333 and the two Little John LJ100s. Five water samples were taken at the effluents. The results show that the two sewage treatment plants are working well.

**Table 3.2: June 2009 STP Effluent Results**

<b>Station: STP-OUT</b>					
<b>Parameter</b>	<b>6/1/2009</b>	<b>6/8/2009</b>	<b>6/15/2009</b>	<b>6/22/2009</b>	<b>6/29/2009</b>
NH <sub>3</sub> -NH <sub>4</sub> (mg/L)	29.2	23.8	25.8	30.6	20.7
BOD-5 (mg/L)	12	13	14	13	16
COD (mg/L)	76	115	108	111	81
TSS (mg/L)	38	28	63	19	21
NO <sub>2</sub> -NO <sub>3</sub> (mg N/L)	56.5	55.3	48.8	54	42.9
pH	4.59	28	5.36	5.69	5.78
P tot (mg P/L)	15.5	18.9	27	18.9	18
Fecal Coliform (UFC/100mL)	28	12	8	20	30
Total Coliform (UFC/100mL)	< 1,000	3,000	1000	2,000	< 10,000
Atypical Colony (UFC/100mL)	43,000	48,000	58,000	40,000	320,000

## SECTION 4 • SPILL MANAGEMENT SUMMARY

During the construction phase as part of the Environmental Management System, AEM has developed a system of tracking spills on-site. Table 4.1 summarizes the AEM internal spill reports for June.

**Table 4.1: Summary of June 2009 AEM Internal Spill Reports**

Date of Spill	Hazardous Material (Fuel, Oil, etc.)	Quantity or Size	Location	Cause of Spill	Clean-up Action Taken	Reported to Spill GN HotLine
6/6/2009	Fuel	10 L	Front of Mill Building	Fuel was filled in a hydraulic tank and about 10 L of mixed hydraulic and fuel overflowed on the ground	The contractor was designated to clean up the spill and to dispose of the material properly at the hazardous materials storage area	No
6/10/2009	Hydraulic oil	45-90 L	Airstrip tarmac and road to shop	Broken fitting on hydraulic hose on the compactor	Contaminated soil placed in a drum and taken to the hazardous materials storage area	No
6/12/2009	Diesel	20 L	End of Wing 5	Rebar penetrated fuel tank of Bob Cat Unit BCJD01	Shut down the equipment. Spill response was deployed using spill pads and pans	No
Unknown	Oil	1 m <sup>2</sup>	White coverall	Broken machine in the parking lot	Contaminated soil placed in a container and taken to Quarry #22	No
Unknown	Oil	0.3 m <sup>2</sup>	Operation office (parking lot)	Unknown	Contaminated soil placed in a container and taken to Quarry #22	No
6/20/2009	Oil	3.5 m <sup>2</sup>	In front of the Warehouse	Leak from Hyster equipment	Contaminated soil placed in a container and taken to Quarry #22	No