

May 31, 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](mailto:licensingadmin@nunavutwaterboard.org)

Dear Mr. Dwyer,

**Re: Water License 2AM-MEA0815 April Monitoring Program Summary Report**

As required by Water License 2AM-MEA0815 Part I Item 25, please find the April 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 [stephane.robert@agnico-eagle.com](mailto:stephane.robert@agnico-eagle.com).

Regards,



Stéphane Robert  
Environment Superintendent

*Encl (1)*

cc: Lou-Ann Cornacchio, 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**

**April 2010**

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 and monitoring activity at the mine site for the month of April 2010. This activity includes: water usage and sewage treatment plant, dewatering and dike construction monitoring.

The dewatering of the northwest arm of Second Portage Lake continued throughout the month. No other water has been pumped, discharged or transferred; all site contact run-off water is contained and directed to the Stormwater Management Pond #1 (Tear Drop Lake).

Additionally, for the NWB to review, Section 3 summarizes the AEM internal spill reporting for the month.

## SECTION 2 • WATER MANAGEMENT

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### 2.1 WATER USAGE

During April, the daily average number of people on site was 464. Freshwater usage for the month totals 97,784 m<sup>3</sup> and is summarized in Table 2.1 below. The consumption of fresh water for the mill was 95,380 m<sup>3</sup> and the consumption of reclaim water was 234,214 m<sup>3</sup>.

**Table 2.1: April 2010 Freshwater Usage**

	Water usage (m <sup>3</sup> )
Camp	2,360
Batch Plant	43
Mill	95,380
Water for dust control	0
Emulsion Plant	0
<b>Total for the site</b>	<b>97,784</b>

### 2.2 SEWAGE TREATMENT PLANT MONITORING

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

**Table 2.2: April 2010 STP Effluent Results**

Parameter	05-Apr-10	12-Apr-10	19-Apr-10	26-Apr-10
NH3-NH4 (mg/L)	17.0	15.9	17.2	18.5
BOD-5 (mg/L)	8	4	9	9
COD (mg/L)	136	86	39	81
TSS (mg/L)	30	20	38	48
NO2-NO3 (mg N/L)	42.6	44.9	43.2	23.1
pH (mg/L)	5.60	4.43	4.40	3.87
P tot (mg P/L)	18.5	17.6	17.6	18.4
Fecal Coliform (UFC/100mL)	100	24	24	100
Total Coliform (UFC/100mL)	< 1,000	< 1,000	< 1,000	< 1,000
Atypical Colony (UFC/100mL)	23,000	24,000	40,000	39,000

## 2.3 DEWATERING OF SECOND PORTAGE ARM

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

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

- pH 24 hour minimum/maximum: 6.98/8.07 units (Limit is 6-9 units)
- Al 24 hour maximum concentration: 0.749 mg/L (Limit is 1.5 mg/L)

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

**Table 2.3: April 2010 Dewatering Monitoring – pH and Al**

Date	DD-WTP-01		DD-WTP-02		Both WTP Outlets		TPL - ENV
	pH	Total Al	pH	Total Al	pH 24-hour Mean	Al 24-hour Mean	pH
	units	mg/L	units	mg/L	units	mg/L	units
2010-04-05	8.28	0.278	7.86	0.606	8.07	0.442	6.78
2010-04-07							
2010-04-12	7.00	0.524	6.95	0.586	6.98	0.555	7.04
2010-04-15							
2010-04-20	6.95	0.480	7.04	0.487	7.00	0.484	7.26
2010-04-21							
2010-04-26	7.17	0.771	7.18	0.727	7.18	0.749	

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: 8.7 NTU (Maximum Limit is 30 NTU)
- TSS 24 hour mean maximum concentration: 18 mg/L (Maximum Limit is 22.5 mg/L)
- NTU 30 days mean concentration: 6.4 NTU (Maximum Limit is 15 NTU)
- TSS 30 days mean concentration: 7 mg/L (Maximum Limit is 15 mg/L)

The results demonstrate that the limits of the license were respected. Table 2.4 summarizes the April dewatering monitoring results for turbidity and TSS.

Table 2.4: April 2010 Dewatering Monitoring – TSS and Turbidity

Date	DD-WTP-01(Out)		DD-WTP-02(Out)		Both WTP Outlets			
	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
2010-04-01	5.9	6	6.0	6	5.9	6	6.7	9
2010-04-02	4.1	6	3.8	4	4.0	5	6.7	9
2010-04-03	4.0	3	3.6	2	3.8	3	6.4	8
2010-04-04	7.5	6	6.3	6	6.9	6	6.5	8
2010-04-05	6.1	8	6.3	9	6.2	9	6.6	8
2010-04-06	6.6	7	4.3	8	5.4	8	6.6	8
2010-04-07	5.5	8	6.8	9	6.2	9	6.7	8
2010-04-08	Not in operation		Not in operation					
2010-04-09	Not in operation		Not in operation					
2010-04-10	11.2	1	5.0	4	8.1	3	6.7	8
2010-04-11	7.5	8	6.5	4	7.0	6	6.7	8
2010-04-12	8.5	6	5.1	7	6.8	7	6.7	8
2010-04-13	5.6	7	4.9	11	5.3	9	6.7	8
2010-04-14	5.6	8	4.2	5	4.9	7	6.7	8
2010-04-15	8.2	11	6.0	7	7.1	9	6.8	8
2010-04-16	8.5	4	6.0	9	7.2	7	6.8	8
2010-04-17	8.8	5	5.3	<1	7.1	5	6.9	7
2010-04-18	5.8	5	11.6	9	8.7	7	6.9	7
2010-04-19	6.5	5	6.9	7	6.7	6	6.9	7
2010-04-20	8.6	4	7.6	2	8.1	3	7.0	7
2010-04-21	6.5	4	6.6	4	6.6	4	6.9	7
2010-04-22	6.7	4	6.7	6	6.7	5	6.9	7
2010-04-23	Not in operation		Not in operation					
2010-04-24	8.2	10	6.7	10	7.4	10	6.8	7
2010-04-25	7.1	13	5.8	22	6.4	18	6.8	7
2010-04-26	8.1	4	6.9	16	7.5	10	6.8	7
2010-04-27	6.4	10	6.7	2	6.6	6	6.7	7
2010-04-28	7.4	3	6.1	4	6.8	4	6.3	7
2010-04-29	6.2	3	5.3	4	5.7	4	6.3	7
2010-04-30	8.2	8	7.9	8	8.0	8	6.4	7

## **2.4 DIKE CONSTRUCTION MONITORING**

The monitoring of the causeway for the Bay-Goose dike continued throughout April, alternating between the East and the West side of the dike, dependent on TSS results.

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

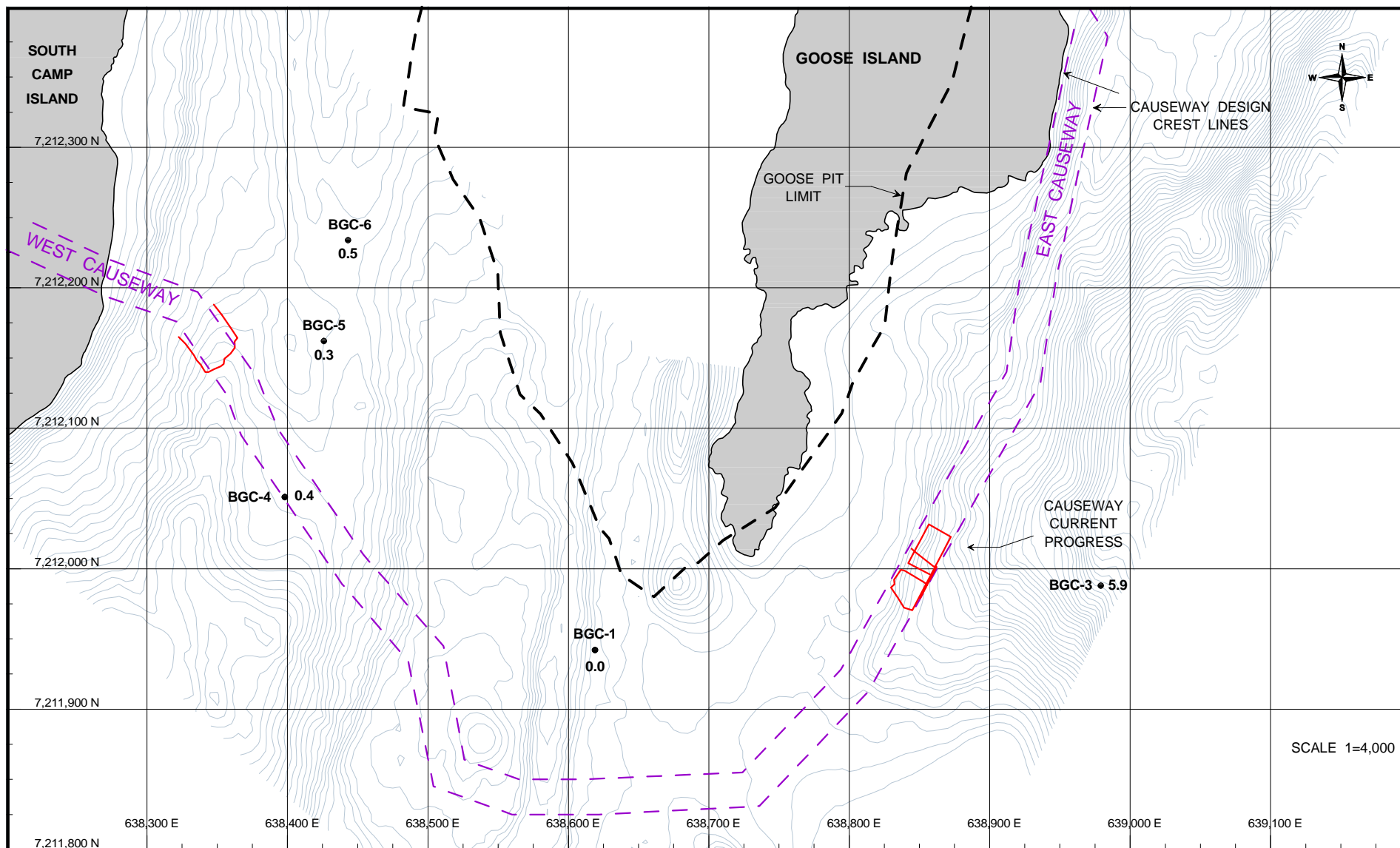
- Maximum short-term (24 hour) TSS concentration from the 3 causeway monitoring stations (BGC1, BGC2, BGC3) on the Bay Goose dike East side was 11.2 mg/L (Maximum Limit is 25 mg/L)
- Maximum short-term (24 hour) TSS concentration from the 3 causeway monitoring stations (BGC4, BGC5, BGC6) on the Bay Goose dike West side was 6.4 mg/L (Maximum Limit is 25 mg/L)

The results demonstrate that the TSS limit was respected. The April 2010 dike construction monitoring results are provided in Table 2.5 and the station locations are shown on Figure 1.



Table 2.5: April 2010 Dike Construction Monitoring Results

Date	BGC-1		Coordinates		BGC-2		Coordinates		BGC-3		Coordinates		BGC-4		Coordinates		BGC-5		Coordinates		BGC-6		Coordinates	
	Max NTU of day NTU	Max TSS of day mg/L	Easting	Northing	Max NTU of day NTU	Max TSS of day mg/L	Easting	Northing	Max NTU of day NTU	Max TSS of day mg/L	Easting	Northing	Max NTU of day NTU	Max TSS of day mg/L	Easting	Northing	Max NTU of day NTU	Max TSS of day mg/L	Easting	Northing	Max NTU of day NTU	Max TSS of day mg/L	Easting	Northing
2010-04-01	13.4	3.4	638,873	7,212,079	31.7	8.3	638,982	7,212,061	37.8	10.0	639,107	7,212,081	11.1	2.8	638,398	7,212,051	10.6	2.6	638,426	7,212,162	9.7	2.4	638,443	7,212,234
2010-04-02	13.2	3.3	638,873	7,212,079	22.4	5.8	638,982	7,212,061	38.8	10.3	639,107	7,212,081	14.5	3.7	638,398	7,212,051	8.3	2.0	638,426	7,212,162	10.2	2.5	638,443	7,212,234
2010-04-03	11.3	2.8	638,873	7,212,079	24.2	6.3	638,982	7,212,061	36.4	9.6	639,107	7,212,081	13.3	3.3	638,398	7,212,051	6.2	1.5	638,426	7,212,162	2.8	0.7	638,443	7,212,234
2010-04-04	2.4	0.6	638,859	7,211,982	28.7	7.5	638,982	7,212,061	40.3	10.7	639,107	7,212,081	10.2	2.5	638,398	7,212,051	3.1	0.7	638,426	7,212,162	5.5	1.3	638,443	7,212,234
2010-04-05	2.2	0.5	638,859	7,211,982	20.2	5.2	638,982	7,212,061	38.6	10.2	639,107	7,212,081	11.2	2.8	638,398	7,212,051	24.7	6.4	638,426	7,212,162	23.7	6.1	638,443	7,212,234
2010-04-06	2.3	0.5	638,859	7,211,982	7.6	1.9	638,982	7,212,061	32.3	8.5	639,107	7,212,081	24.8	6.4	638,398	7,212,051	11.3	2.8	638,426	7,212,162	5.4	1.3	638,443	7,212,234
2010-04-07	2.7	0.6	638,859	7,211,982	24.7	6.4	638,982	7,212,061	32.0	8.4	639,107	7,212,081	24.5	6.3	638,398	7,212,051	18.1	4.6	638,426	7,212,162	6.0	1.5	638,443	7,212,234
2010-04-08	2.4	0.6	638,859	7,211,982	18.0	4.6	638,982	7,212,061	30.1	7.9	639,107	7,212,081	20.1	5.2	638,398	7,212,051	12.9	3.2	638,426	7,212,162	5.9	1.4	638,443	7,212,234
2010-04-09	3.1	0.7	638,859	7,211,982	19.0	4.9	638,982	7,212,061	36.9	9.7	639,107	7,212,081	12.0	3.0	638,398	7,212,051	4.2	1.0	638,426	7,212,162	4.8	1.2	638,443	7,212,234
2010-04-10	6.5	1.6	638,856	7,211,988	26.9	7.0	638,981	7,211,985	42.2	11.2	639,093	7,212,081	8.8	2.2	638,398	7,212,051	4.1	1.0	638,426	7,212,162	5.1	1.2	638,443	7,212,234
2010-04-11	4.2	1.0	638,856	7,211,988	16.3	4.1	638,981	7,211,985	15.7	4.0	639,065	7,212,070	4.2	1.0	638,398	7,212,051	4.8	1.2	638,426	7,212,162	4.0	1.0	638,443	7,212,234
2010-04-12	7.1	1.7	638,856	7,211,988	26.8	7.0	638,981	7,211,985	22.5	5.8	639,018	7,212,062	6.6	1.6	638,398	7,212,051	5.3	1.3	638,426	7,212,162	6.2	1.5	638,443	7,212,234
2010-04-13	4.8	1.2	638,856	7,211,988	22.1	5.7	638,981	7,211,985	24.4	6.3	639,018	7,212,062	5.7	1.4	638,398	7,212,051	4.4	1.1	638,426	7,212,162	4.2	1.0	638,443	7,212,234
2010-04-14	3.7	0.9	638,856	7,211,988	22.9	5.9	638,981	7,211,985	24.1	6.2	639,018	7,212,062	4.5	1.1	638,398	7,212,051	3.9	0.9	638,426	7,212,162	5.2	1.3	638,443	7,212,234
2010-04-15	4.6	1.1	638,856	7,211,988	22.2	5.7	638,981	7,211,985	25.5	6.6	639,018	7,212,062	6.0	1.5	638,398	7,212,051	4.7	1.1	638,426	7,212,162	4.5	1.1	638,443	7,212,234
2010-04-16	3.9	0.9	638,856	7,211,988	18.8	4.8	638,981	7,211,985	21.5	5.5	639,003	7,212,058	3.5	0.8	638,398	7,212,051	3.3	0.8	638,426	7,212,162	2.7	0.6	638,443	7,212,234
2010-04-17	3.9	0.9	638,856	7,211,988	18.8	4.8	638,981	7,211,985	21.5	5.5	639,003	7,212,058	2.8	0.7	638,398	7,212,051	3.6	0.9	638,426	7,212,162	2.9	0.7	638,443	7,212,234
2010-04-18	3.9	0.9	638,856	7,211,988	18.8	4.8	638,981	7,211,985	21.5	5.5	639,003	7,212,058	2.8	0.7	638,398	7,212,051	3.6	0.9	638,426	7,212,162	2.9	0.7	638,443	7,212,234
2010-04-19	3.4	0.8	638,856	7,211,988	20.9	5.4	638,981	7,211,985	22.2	5.7	639,003	7,212,058	4.4	1.1	638,398	7,212,051	4.1	1.0	638,426	7,212,162	3.0	0.7	638,443	7,212,234
2010-04-20	1.8	0.4	638,856	7,211,988	26.5	6.9	638,981	7,211,985	22.4	5.8	639,003	7,212,058	3.6	0.9	638,398	7,212,051	2.6	0.6	638,426	7,212,162	2.4	0.6	638,443	7,212,234
2010-04-21	3.8	0.9	638,856	7,211,988	20.6	5.3	638,981	7,211,985	16.5	4.2	639,003	7,212,058	3.2	0.8	638,398	7,212,051	2.8	0.7	638,426	7,212,162	2.1	0.5	638,443	7,212,234
2010-04-22	4.2	1.0	638,856	7,211,988	22.4	5.8	638,981	7,211,985	24.1	6.2	639,003	7,212,058	2.8	0.7	638,398	7,212,051	2.7	0.6	638,426	7,212,162	2.4	0.6	638,443	7,212,234
2010-04-23	1.7	0.4	638,815	7,211,934	0.6	0.1	638,885	7,211,938	23.5	6.1	638,979	7,211,988	2.5	0.6	638,398	7,212,051	2.2	0.5	638,426	7,212,162	2.3	0.5	638,443	7,212,234
2010-04-24	0.4	0.1	638,815	7,211,934	0.5	0.1	638,885	7,211,938	34.1	9.0	638,979	7,211,988	2.1	0.5	638,398	7,212,051	2.6	0.6	638,426	7,212,162	2.4	0.6	638,443	7,212,234
2010-04-25	3.1	0.7	638,815	7,211,934	0.1	0.0	638,885	7,211,938	26.1	6.8	638,979	7,211,988	2.2	0.5	638,398	7,212,051	2.0	0.5	638,426	7,212,162	2.0	0.5	638,443	7,212,234
2010-04-26	0.8	0.2	638,815	7,211,934	0.2	0.0	638,885	7,211,938	37.3	9.8	638,979	7,211,988	2.2	0.5	638,398	7,212,051	2.0	0.5	638,426	7,212,162	2.4	0.6	638,443	7,212,234
2010-04-27	0.1	0.0	638,580	7,211,811	1.0	0.2	638,698	7,211,777	0.4	0.1	638,729	7,211,679	1.9	0.4	638,398	7,212,051	1.6	0.4	638,426	7,212,162	1.9	0.4	638,443	7,212,234
2010-04-28	0.2	0.0	638,626	7,211,959	0.9	0.2	638,698	7,211,777	24.4	6.3	638,979	7,211,988	2.0	0.5	638,398	7,212,051	2.1	0.5	638,426	7,212,162	2.0	0.5	638,443	7,212,234
2010-04-29	0.2	0.0	638,626	7,211,959	0.3	0.1	638,698	7,211,777	28.5	7.4	638,979	7,211,988	2.2	0.5	638,398	7,212,051	2.3	0.5	638,426	7,212,162	2.0	0.5	638,443	7,212,234
2010-04-30	0.1	0.0	638,619	7,211,942	0.1	0.0	638,698	7,211,777	22.8	5.9	638,979	7,211,988	1.9	0.4	638,398	7,212,051	1.5	0.3	638,426	7,212,162	2.0	0.5	638,443	7,212,234



#### NOTES:

*FIELD READINGS BY AEM*

*REPORTED TSS IS THE MAXIMUM VALUE ALONG THE PROFILE*

*LIMIT 24 HOURS : 25MG/L*

**AGNICO-EAGLE MINES LIMITED - MEADOWBANK DIVISION**

**BAY-GOOSE DIKE CONSTRUCTION**

**TSS MONITORING DURING CAUSEWAY CONSTRUCTION**

**LATEST READINGS DATE : 30-Apr-2010**

**FIGURE 1**

*TURBIDITY MONITORING CAUSEWAY.GRF*

### 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 April. Two spills were reported to the GN spill hotline.

**Table 3.1: Summary of April 2010 AEM Internal Spill Reports**

Date of Spill	Hazardous Material (Fuel, Oil, etc.)	Quantity	Location	Cause of spill	Clean-up action taken	Reported to Spill HotLine
2010-04-03	Hydraulic oil	60 L	Bay Goose dike East Causeway	Broken hose	Contaminated soil taken to Quarry 22	N
2010-04-11	Hydraulic oil	20 L	Bay Goose dike Causeway	Broken hose	Removed contaminated snow and brought it to snow cells	N
2010-04-20	Oil	210 L	South Portage pit	Engine failure	Placed absorbent pads under engine; contaminated pads taken to hazmat area; contaminated soil taken to Quarry 22	Y
2010-04-21	Oil	700 L	Cold Storage	Fork lift pierced tub with fork	Contaminated absorbent pads taken to hazmat; contaminated rock taken to Quarry 22	N
2010-04-25	Diesel	15 L	Dewatering pumps	While moving tank with excavator the vent was broken	Lube truck removed remaining diesel in tank; placed absorbent pads on the ground; contaminated soil taken to Quarry 22 and contaminated absorbent pads taken to hazmat area	N
2010-04-28	Oil	210 L	South Portage pit	Engine failure	Placed absorbent pads under engine; contaminated soil taken to Quarry 22 and contaminated pads taken to hazmat area	Y