



MEADOWBANK GOLD PROJECT

Monitoring Program Summary Report

August 2009

Type A Water License 2AM-MEA0815

TABLE OF CONTENTS

SECTION 1 •	BACKGROUND	1
SECTION 2 •	WATER QUALITY MONITORING.....	2
2.1	AWPAR Monitoring.....	2
2.2	Dewatering of Second Portage Arm.....	2
2.3	Dike Monitoring.....	2
SECTION 3 •	WATER MANAGEMENT.....	11
3.1	Water Usage.....	11
3.2	Sewage Treatment Plant Monitoring	11
SECTION 4 •	SPILL MANAGEMENT SUMMARY	12

LIST OF TABLES

Table 2.1: Bay-Goose TSS Monitoring – Routine Stations August 2009.....	4
Table 2.2: Bay-Goose TSS Monitoring – High Value Habitat Stations August 2009	8
Table 3.1: August 2009 Water Consumption	11
Table 3.2: August 2009 STP Effluent Results	11
Table 4.1: Summary of August 2009 AEM Internal Spill Reports	12

LIST OF FIGURES

Figure 2.1: Bay-Goose Monitoring Stations	3
---	---

SECTION 1 • BACKGROUND

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 August 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.

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, Section 4 summarizes the AEM internal spill reporting for August.

SECTION 2 • WATER QUALITY MONITORING

2.1 AWPART MONITORING

Monitoring results in August did not indicate any water quality issues that have a potential to impact nearby receiving environments. Water samples were collected on August 28th, 2009 at the R02 bridge crossing and near the R02 compensation area as a follow-up to the July sampling. No insitu field-data indicated changes from background.

Additionally, water quality samples were collected on August 28th, 2009 at Quarry 4 (flooded quarry that is a permanent lake), and Quarries 13, 14 and 15. It is important to note that no quarries were pumped by AEM in 2009.

2.2 DEWATERING OF SECOND PORTAGE ARM

All of the dewatering pumps were shut down during August. The installation of the Total Suspended Solids (TSS) treatment plant is underway and will be completed by the beginning of October.

2.3 DIKE MONITORING

At the end of August, the average TSS concentrations for the 14 stations were:

- Short-term (24-hr): 54.1 mg/L (4.4 to 206 mg/L) - Limit is 50 mg/L
- Monthly mean (30 days): 19.7 mg/L (4 to 90 mg/L) - Limit is 15 mg/L. Four stations exceeded the monthly mean BGE-2, BG-3, BGE-5 and BGW-2 (90, 72.6, 29.7 and 16.5 mg/L vs 15 mg/L).

Figure 2.1 shows the location of the monitoring stations and the perimeter of the turbidity plume as of August 31. It is important to note that the most turbid water is currently restricted to the lower water column between 12 to 22 m. This plume is very confined at depth and it is not spreading in Third Portage Lake, Second Portage Lake and Tehek Lake. A turbidity curtain was installed across the channel leaving Third Portage Lake to prevent an eventual spreading of the TSS further downstream. The rock platform reached Goose Island on August 28. Results were sent to the regulators on a daily basis and a weekly conference call was held with the regulators to discuss the results and the TSS control strategy. Tables 2.1 and 2.2 summarize the August results for the Routine and High Value Habitat monitoring stations.

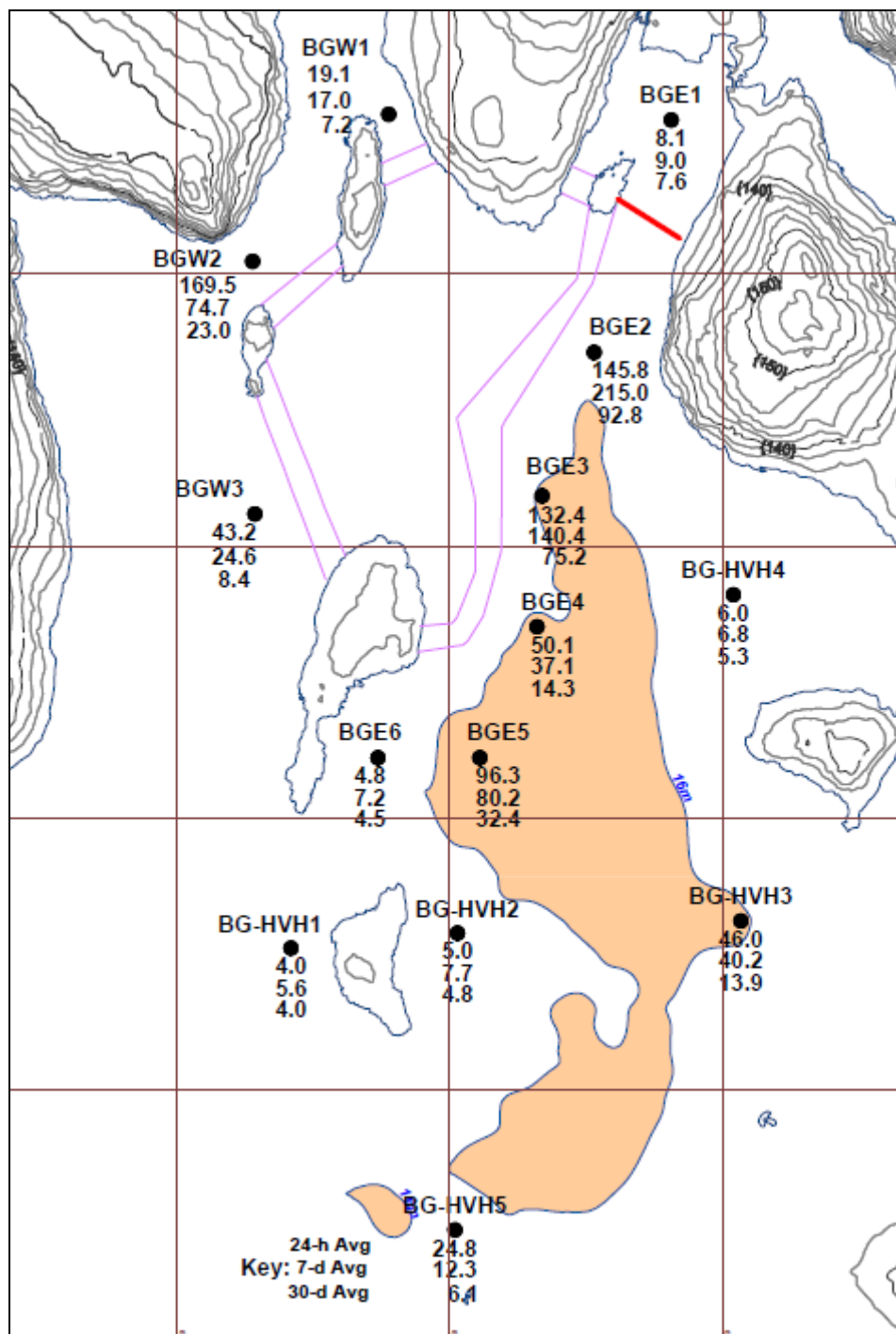


Figure 2.1: Bay-Goose Monitoring Stations

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report August 2009

Table 2.1: Bay-Goose TSS Monitoring – Routine Stations August 2009

	Station	BGW1				BGW2				BGW3			
	Time Period	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg
Date of Analysis	Time of Analysis												
28-Jul-09	22:00	0.86	0.38 (n/a)	0.38 (n/a)	0.38 (n/a)	0.32	0.27 (n/a)	0.27 (n/a)	0.27 (n/a)	0.29	0.28 (n/a)	0.28 (n/a)	0.28 (n/a)
29-Jul-09	20:00	3.67	2.35	1.48 (n/a)	1.48 (n/a)	0.55	0.42	0.35 (n/a)	0.35 (n/a)	0.26	0.26	0.27 (n/a)	0.27 (n/a)
30-Jul-09	20:00	4.77	4.14	2.33 (n/a)	2.33 (n/a)	2.10	1.55	0.59 (n/a)	0.59 (n/a)	1.17	0.95	0.47 (n/a)	0.47 (n/a)
31-Jul-09	22:00	6.69	6.45	3.31 (n/a)	3.31 (n/a)	6.05	5.61	1.82 (n/a)	1.82 (n/a)	17.95	12.32	3.77 (n/a)	3.77 (n/a)
1-Aug-09	21:00	6.38	5.76	3.96 (n/a)	3.96 (n/a)	4.07	3.87	2.36 (n/a)	2.36 (n/a)	6.09	5.06	4.04 (n/a)	4.04 (n/a)
2-Aug-09	21:00	10.74	8.53	4.76 (n/a)	4.76 (n/a)	4.07	3.88	2.62 (n/a)	2.62 (n/a)	1.87	1.45	3.85 (n/a)	3.85 (n/a)
3-Aug-09	20:00	10.74	9.06	5.39 (n/a)	5.39 (n/a)	15.42	5.89	3.11 (n/a)	3.11 (n/a)	4.34	2.96	3.73 (n/a)	3.73 (n/a)
4-Aug-09	21:00	8.28	6.42	6.08	5.52 (n/a)	15.42	7.15	4.00	3.62 (n/a)	2.16	2.02	3.90	3.54 (n/a)
5-Aug-09	21:00	3.72	3.70	6.58	5.35 (n/a)	1.73	1.61	4.49	3.43 (n/a)	1.46	1.17	4.34	3.3 (n/a)
6-Aug-09	21:00	9.23	6.26	6.77	5.47 (n/a)	1.19	1.14	4.15	3.22 (n/a)	1.27	1.13	3.25	3.07 (n/a)
7-Aug-09	19:00	4.83	3.91	6.52	5.38 (n/a)	2.15	1.68	3.84	3.13 (n/a)	1.27	1.05	2.45	2.96 (n/a)
8-Aug-09	22:00	3.53	3.47	6.09	5.22 (n/a)	2.00	1.71	3.40	2.98 (n/a)	2.76	2.05	1.75	2.84 (n/a)
9-Aug-09	22:00	3.42	2.98	5.32	5.06 (n/a)	2.20	2.04	3.15	2.91 (n/a)	1.42	1.28	1.70	2.73 (n/a)
10-Aug-09	21:00	2.55	2.38	4.09	4.88 (n/a)	1.67	1.64	2.58	2.85 (n/a)	0.98	0.91	1.33	2.61 (n/a)
11-Aug-09	21:00	1.80	1.76	3.69	4.69 (n/a)	0.94	0.93	1.58	2.71 (n/a)	1.15	1.02	1.24	2.51 (n/a)
12-Aug-09	21:00	4.29	3.10	3.61	4.6 (n/a)	2.11	1.54	1.57	2.65 (n/a)	1.18	1.16	1.23	2.44 (n/a)
13-Aug-09	22:00	4.29	4.28	3.21	4.59 (n/a)	4.26	3.22	1.84	2.68 (n/a)	6.37	3.96	1.67	2.52 (n/a)
14-Aug-09	21:00	4.22	4.21	3.18	4.56 (n/a)	3.88	3.47	2.28	2.76 (n/a)	5.83	5.53	2.60	2.77 (n/a)
15-Aug-09	21:00	4.22	3.90	3.24	4.53 (n/a)	3.88	3.18	2.39	2.77 (n/a)	5.83	4.39	2.72	2.81 (n/a)
16-Aug-09	22:00	2.53	no data	3.20	4.44 (n/a)	3.05	no data	2.55	2.79 (n/a)	1.63	no data	2.83	2.76 (n/a)
17-Aug-09	23:00	1.72	1.62	3.12	4.31 (n/a)	2.72	2.10	2.71	2.78 (n/a)	1.48	1.25	2.84	2.69 (n/a)
18-Aug-09	21:00	NS	NS	3.12	4.31 (n/a)	1.63	no data	2.77	2.73 (n/a)	3.01	no data	3.01	2.67 (n/a)
19-Aug-09	21:00	1.76	1.75	2.71	4.1 (n/a)	3.00	2.54	2.83	2.72 (n/a)	3.49	2.65	3.05	2.67 (n/a)
20-Aug-09	20:00	2.22	2.02	2.38	4.02 (n/a)	3.28	3.11	2.69	2.73 (n/a)	3.49	3.15	2.60	2.69 (n/a)
21-Aug-09	20:00	2.38	2.18	2.10	3.94 (n/a)	3.10	2.89	2.68	2.75 (n/a)	2.49	2.35	2.31	2.69 (n/a)
22-Aug-09	22:00	5.32	4.27	2.14	3.91 (n/a)	2.50	2.46	2.58	2.74 (n/a)	6.92	5.21	2.64	2.73 (n/a)
23-Aug-09	20:00	5.32	4.51	2.38	3.93 (n/a)	2.43	2.40	2.57	2.73 (n/a)	6.92	4.86	2.85	2.79 (n/a)

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report August 2009

24-Aug-09	22:00	2.34	2.30	2.79	3.87 (n/a)	2.41	2.15	2.66	2.71 (n/a)	2.38	2.26	3.11	2.77 (n/a)
25-Aug-09	23:00	3.61	2.67	2.77	3.83 (n/a)	2.69	2.23	2.63	2.7 (n/a)	2.90	2.59	3.09	2.76 (n/a)
26-Aug-09	22:00	9.00	6.62	3.51	3.92 (n/a)	2.69	2.67	2.57	2.7 (n/a)	2.90	2.58	3.02	2.76 (n/a)
27-Aug-09	22:00	44.57	31.81	8.66	5.23	24.11	18.11	3.97	3.16	13.49	8.45	3.35	2.97
28-Aug-09	22:00	17.90	15.52	10.70	5.63	80.62	56.78	13.83	5.61	32.98	25.00	7.27	3.93
29-Aug-09	22:00	28.59	24.35	12.63	6.28	121.75	115.00	30.59	10.69	44.84	44.63	13.49	5.60
30-Aug-09	20:00	23.81	20.54	16.04	6.79	160.86	140.63	55.36	16.47	44.42	42.65	20.55	7.01
31-Aug-09	21:00	25.42	19.12	17.03	7.23	203.35	169.55	74.72	22.95	50.37	43.16	24.62	8.43

	Station	BGE1				BGE2				BGE3			
	Time Period	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg
Date of Analysis	Time of Analysis												
28-Jul-09	22:00	0.52	0.39 (n/a)	0.39 (n/a)	0.39 (n/a)	0.30	0.28 (n/a)	0.28 (n/a)	0.28 (n/a)	0.25	0.25 (n/a)	0.25 (n/a)	0.25 (n/a)
29-Jul-09	20:00	0.56	0.40	0.39 (n/a)	0.39 (n/a)	5.79	3.32	1.99 (n/a)	1.99 (n/a)	1.35	0.84	0.57 (n/a)	0.57 (n/a)
30-Jul-09	20:00	0.49	0.44	0.42 (n/a)	0.42 (n/a)	11.43	6.84	4.43 (n/a)	4.43 (n/a)	1.16	1.13	0.81 (n/a)	0.81 (n/a)
31-Jul-09	22:00	0.71	0.70	0.48 (n/a)	0.48 (n/a)	12.32	7.32	5.22 (n/a)	5.22 (n/a)	1.78	1.52	0.95 (n/a)	0.95 (n/a)
1-Aug-09	21:00	1.27	1.08	0.61 (n/a)	0.61 (n/a)	1.72	1.48	4.53 (n/a)	4.53 (n/a)	15.93	10.85	3.35 (n/a)	3.35 (n/a)
2-Aug-09	21:00	1.47	1.32	0.72 (n/a)	0.72 (n/a)	2.48	2.24	4.12 (n/a)	4.12 (n/a)	21.45	14.29	4.69 (n/a)	4.69 (n/a)
3-Aug-09	20:00	6.56	4.31	1.29 (n/a)	1.29 (n/a)	30.06	11.67	5.23 (n/a)	5.23 (n/a)	24.49	21.50	7.28 (n/a)	7.28 (n/a)
4-Aug-09	21:00	2.38	2.26	1.53	1.41 (n/a)	37.21	31.96	10.14	9.17 (n/a)	26.79	12.83	8.85	8.01 (n/a)
5-Aug-09	21:00	2.45	2.42	1.93	1.52 (n/a)	4.27	3.26	11.16	9.2 (n/a)	16.75	16.75	12.75	9.62 (n/a)
6-Aug-09	21:00	2.31	2.17	2.04	1.6 (n/a)	3.04	2.36	10.18	8.58 (n/a)	14.85	13.57	13.49	10.21 (n/a)
7-Aug-09	19:00	5.15	3.65	2.46	1.8 (n/a)	7.19	4.60	9.90	8.26 (n/a)	24.30	18.49	15.72	10.96 (n/a)
8-Aug-09	22:00	3.85	3.71	3.12	2.06 (n/a)	3.25	3.07	10.91	7.92 (n/a)	24.30	16.71	16.54	11.46 (n/a)
9-Aug-09	22:00	3.56	3.06	3.19	2.13 (n/a)	2.89	2.74	10.27	7.57 (n/a)	14.21	9.57	16.23	11.24 (n/a)
10-Aug-09	21:00	3.52	2.83	3.06	2.19 (n/a)	3.62	2.71	5.89	7.25 (n/a)	14.21	10.20	15.15	11.17 (n/a)
11-Aug-09	21:00	4.50	4.03	3.36	2.32 (n/a)	3.35	2.65	3.37	6.96 (n/a)	5.17	5.05	12.71	10.82 (n/a)
12-Aug-09	21:00	3.56	3.53	3.42	2.39 (n/a)	4.89	4.14	3.47	6.81 (n/a)	4.92	3.76	11.50	10.45 (n/a)
13-Aug-09	22:00	5.35	4.45	3.71	2.51 (n/a)	11.32	8.24	4.27	6.89 (n/a)	39.18	22.67	12.50	11.16 (n/a)
14-Aug-09	21:00	6.40	6.10	4.02	2.74 (n/a)	13.57	10.07	5.61	7.23 (n/a)	87.57	51.74	21.19	14.99 (n/a)

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report August 2009

15-Aug-09	21:00	6.40	6.10	4.26	2.89 (n/a)	13.57	5.96	5.51	7.12 (n/a)	87.57	49.33	24.31	16.5 (n/a)
16-Aug-09	22:00	6.12	no data	4.77	3.08 (n/a)	24.70	15.18	6.62	7.11 (n/a)	156.34	120.22	45.34	23.24 (n/a)
17-Aug-09	23:00	6.43	6.22	5.31	3.29 (n/a)	24.70	11.15	7.38	7.29 (n/a)	156.34	134.12	53.32	26.98 (n/a)
18-Aug-09	21:00	11.29	no data	6.01	3.58 (n/a)	11.32	no data	8.59	7.32 (n/a)	17.40	no data	71.36	29.78 (n/a)
19-Aug-09	21:00	14.65	13.30	7.79	4.06 (n/a)	14.12	13.12	9.39	7.58 (n/a)	25.17	16.49	69.97	29.25 (n/a)
20-Aug-09	20:00	16.24	14.36	9.10	4.53 (n/a)	21.95	14.43	9.74	7.87 (n/a)	25.58	22.57	64.09	28.98 (n/a)
21-Aug-09	20:00	16.24	12.62	10.11	4.89 (n/a)	220.84	144.12	36.47	15.47(n/a)	98.16	71.80	67.56	30.86 (n/a)
22-Aug-09	22:00	15.47	13.86	11.14	5.27 (n/a)	276.82	263.20	87.66	30.5 (n/a)	276.82	205.65	91.19	40.13 (n/a)
23-Aug-09	20:00	15.47	15.38	12.33	5.57 (n/a)	249.44	202.51	104.18	36.17 (n/a)	129.01	117.49	92.00	42.39 (n/a)
24-Aug-09	22:00	15.29	15.19	12.68	5.89 (n/a)	191.79	173.77	144.37	43.96 (n/a)	119.71	119.02	98.28	46.25 (n/a)
25-Aug-09	23:00	11.35	no data	13.70	6.28 (n/a)	372.92	277.18	169.45	51.41 (n/a)	207.64	164.46	113.38	50.04 (n/a)
26-Aug-09	22:00	11.35	10.15	13.23	6.41 (n/a)	372.92	259.54	201.13	58.83 (n/a)	207.64	166.87	132.57	53.97 (n/a)
27-Aug-09	22:00	9.37	9.33	12.38	6.84	226.56	142.43	223.05	69.36	142.32	141.57	145.42	60.33
28-Aug-09	22:00	9.51	9.33	12.12	7.07	245.31	175.71	214.07	74.58	142.97	141.00	141.89	64.52
29-Aug-09	22:00	9.43	8.89	10.98	7.30	263.93	236.12	216.05	83.66	137.85	128.84	136.29	68.88
30-Aug-09	20:00	9.43	8.76	10.11	7.41	231.35	206.01	221.60	90.15	130.69	126.12	140.06	72.58
31-Aug-09	21:00	8.13	8.12	9.00	7.62	160.70	145.80	215.04	92.84	138.52	132.41	140.42	75.19

	Station	BGE4				BGE5				BGE6			
	Time Period	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg
Date of Analysis	Time of Analysis												
28-Jul-09	22:00	0.28	0.26 (n/a)	0.26 (n/a)	0.26 (n/a)	0.29	0.28 (n/a)	0.28 (n/a)	0.28 (n/a)	0.22	0.21 (n/a)	0.21 (n/a)	0.21 (n/a)
29-Jul-09	20:00	0.28	0.25	0.26 (n/a)	0.26 (n/a)	0.28	0.28	0.28 (n/a)	0.28 (n/a)	0.24	0.23	0.22 (n/a)	0.22 (n/a)
30-Jul-09	20:00	0.33	0.29	0.26 (n/a)	0.26 (n/a)	0.28	0.27	0.28 (n/a)	0.28 (n/a)	0.34	0.27	0.22 (n/a)	0.22 (n/a)
31-Jul-09	22:00	2.18	1.62	0.48 (n/a)	0.48 (n/a)	2.47	1.60	0.45 (n/a)	0.45 (n/a)	3.26	2.46	0.79 (n/a)	0.79 (n/a)
1-Aug-09	21:00	2.50	1.99	0.82 (n/a)	0.82 (n/a)	9.71	3.69	1.22 (n/a)	1.22 (n/a)	1.77	1.69	0.98 (n/a)	0.98 (n/a)
2-Aug-09	21:00	2.88	2.45	1.16 (n/a)	1.16 (n/a)	4.38	4.06	2.16 (n/a)	2.16 (n/a)	1.72	1.45	1.09 (n/a)	1.09 (n/a)
3-Aug-09	20:00	14.41	10.16	2.63 (n/a)	2.63 (n/a)	8.71	7.21	2.91 (n/a)	2.91 (n/a)	3.83	2.58	1.31 (n/a)	1.31 (n/a)
4-Aug-09	21:00	11.81	6.28	3.44	3.12 (n/a)	8.71	7.73	3.93	3.57 (n/a)	1.34	1.26	1.42	1.3 (n/a)
5-Aug-09	21:00	2.54	2.13	3.99	3.01 (n/a)	9.00	7.17	4.87	3.67 (n/a)	1.46	1.42	1.70	1.3 (n/a)

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report August 2009

6-Aug-09	21:00	7.28	4.67	4.54	3.19 (n/a)	8.74	7.99	5.99	4.18 (n/a)	1.38	1.22	1.65	1.29 (n/a)
7-Aug-09	19:00	7.90	5.01	4.74	3.35 (n/a)	8.74	5.15	6.08	4.27 (n/a)	1.38	1.16	1.55	1.28 (n/a)
8-Aug-09	22:00	2.01	1.84	5.23	3.43 (n/a)	5.67	5.26	5.96	4.22 (n/a)	1.22	1.19	1.43	1.26 (n/a)
9-Aug-09	22:00	2.30	1.98	4.94	3.32 (n/a)	5.67	5.10	5.93	4.29 (n/a)	1.53	1.40	1.42	1.27 (n/a)
10-Aug-09	21:00	3.84	2.74	3.44	3.28 (n/a)	4.13	3.49	5.06	4.23 (n/a)	2.03	1.63	1.30	1.3 (n/a)
11-Aug-09	21:00	4.91	3.58	3.74	3.34 (n/a)	3.14	2.81	4.98	4.17 (n/a)	2.19	2.03	1.42	1.35 (n/a)
12-Aug-09	21:00	2.13	1.87	3.58	3.26 (n/a)	2.46	2.01	4.54	4.06 (n/a)	2.19	1.91	1.48	1.38 (n/a)
13-Aug-09	22:00	1.61	1.61	3.16	3.18 (n/a)	1.53	1.52	3.56	3.93 (n/a)	1.62	1.53	1.53	1.39 (n/a)
14-Aug-09	21:00	2.87	2.33	2.37	3.1 (n/a)	1.97	1.87	3.06	3.8 (n/a)	1.73	1.67	1.65	1.4 (n/a)
15-Aug-09	21:00	4.71	3.43	2.53	3.12 (n/a)	8.25	4.40	3.30	3.86 (n/a)	1.73	1.65	1.65	1.41 (n/a)
16-Aug-09	22:00	4.03	no data	2.98	3.2 (n/a)	70.14	66.52	13.53	7.46 (n/a)	1.72	no data	1.72	1.43 (n/a)
17-Aug-09	23:00	5.31	4.08	2.98	3.23 (n/a)	70.14	66.52	18.59	9.59 (n/a)	3.42	3.10	1.86	1.49 (n/a)
18-Aug-09	21:00	9.31	no data	3.88	3.44 (n/a)	8.71	no data	27.92	11.64 (n/a)	4.44	no data	2.21	1.62 (n/a)
19-Aug-09	21:00	9.82	9.48	5.12	3.72 (n/a)	9.46	9.14	28.46	11.54 (n/a)	7.84	6.53	3.05	1.87 (n/a)
20-Aug-09	20:00	13.97	11.41	6.57	4.07 (n/a)	10.49	9.98	29.04	11.48 (n/a)	8.48	7.97	4.04	2.15 (n/a)
21-Aug-09	20:00	11.21	10.38	7.65	4.35 (n/a)	28.20	20.93	30.34	11.63 (n/a)	8.77	8.58	5.14	2.46 (n/a)
22-Aug-09	22:00	12.13	10.38	8.89	4.68 (n/a)	17.48	12.88	26.86	11.99 (n/a)	9.68	8.15	6.45	2.78 (n/a)
23-Aug-09	20:00	12.38	10.51	9.06	4.85 (n/a)	9.03	8.48	25.21	11.91 (n/a)	9.26	7.93	6.60	2.93 (n/a)
24-Aug-09	22:00	19.68	17.83	11.67	5.42 (n/a)	57.57	55.79	19.68	13.47 (n/a)	8.71	8.44	8.18	3.25 (n/a)
25-Aug-09	23:00	27.57	25.19	13.85	6.16 (n/a)	69.00	62.95	27.88	15.44 (n/a)	11.27	9.50	8.49	3.47 (n/a)
26-Aug-09	22:00	27.57	15.95	14.58	6.48 (n/a)	81.72	76.81	37.65	17.61 (n/a)	11.27	9.77	8.78	3.67 (n/a)
27-Aug-09	22:00	44.40	28.06	15.24	7.15	82.28	77.65	48.32	21.21	7.51	7.43	8.71	4.03
28-Aug-09	22:00	44.40	41.80	20.25	8.70	80.25	77.72	57.01	23.81	7.66	6.65	8.35	4.20
29-Aug-09	22:00	64.02	51.96	26.12	10.86	90.83	88.39	63.71	26.96	7.69	6.37	8.19	4.40
30-Aug-09	20:00	70.33	55.95	33.85	12.84	96.74	85.04	76.24	29.74	5.31	5.10	7.65	4.49
31-Aug-09	21:00	70.33	50.14	37.12	14.31	97.09	96.25	80.21	32.35	5.31	4.84	7.24	4.53

Notes:

1. TSS concentrations (mg/L) are calculated from a TSS-turbidity regression equation, which is updated as new TSS data are generated.
2. If a cell has "n/a" after the number, this means that sampling has not yet covered the specified period (24h or 7-d), but the average up to that date and time is still calculated.
3. "NS" = not sampled that day, so the previous 7-day and 30-day averages are presented.
4. "no data" is listed for the 24-hr Avg value for cases where only one data point was collected in the past 24hrs; the 24hr Max value applies.
5. Red cells are exceedances of licenced 24hr Avg or 30-d Avg TSS thresholds for a particular station at a particular time; yellow cells highlight exceedances of 24hr Max or 7-d Avg TSS management levels.
6. TSS thresholds are as follows (mg/L): (a) 24-h at BGH (high value habitat) stations after Sept 1 = 25 (b) all other cases 24-h threshold = 50 (c) 30-d at BGH stations after Sept 1 = 6 (d) all other cases 30-d threshold = 15

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report August 2009

Table 2.2: Bay-Goose TSS Monitoring – High Value Habitat Stations August 2009

	Station	BGH1				BGH2				BGH3			
	Time Period	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg
Date of Analysis	Time of Analysis												
28-Jul-09	22:00	0.28	0.22 (n/a)	0.22 (n/a)	0.22 (n/a)	0.23	0.22 (n/a)	0.22 (n/a)	0.22 (n/a)	0.34	0.26 (n/a)	0.26 (n/a)	0.26 (n/a)
29-Jul-09	20:00	0.29	0.28	0.25 (n/a)	0.25 (n/a)	0.24	0.23	0.23 (n/a)	0.23 (n/a)	0.34	0.30	0.28 (n/a)	0.28 (n/a)
30-Jul-09	20:00	3.33	2.34	0.64 (n/a)	0.64 (n/a)	0.22	0.22	0.23 (n/a)	0.23 (n/a)	0.29	0.27	0.27 (n/a)	0.27 (n/a)
31-Jul-09	22:00	3.21	2.68	1.35 (n/a)	1.35 (n/a)	1.52	1.06	0.34 (n/a)	0.34 (n/a)	1.00	0.79	0.35 (n/a)	0.35 (n/a)
1-Aug-09	21:00	2.12	1.74	1.43 (n/a)	1.43 (n/a)	1.72	1.64	0.64 (n/a)	0.64 (n/a)	1.74	1.44	0.6 (n/a)	0.6 (n/a)
2-Aug-09	21:00	1.25	1.16	1.39 (n/a)	1.39 (n/a)	1.33	1.07	0.78 (n/a)	0.78 (n/a)	1.82	1.56	0.8 (n/a)	0.8 (n/a)
3-Aug-09	20:00	4.30	2.81	1.59 (n/a)	1.59 (n/a)	4.37	2.77	1.08 (n/a)	1.08 (n/a)	5.15	3.37	1.2 (n/a)	1.2 (n/a)
4-Aug-09	21:00	2.49	1.71	1.76	1.6 (n/a)	2.15	1.31	1.21	1.11 (n/a)	1.46	1.14	1.30	1.19 (n/a)
5-Aug-09	21:00	2.10	1.55	2.12	1.66 (n/a)	1.38	1.22	1.50	1.16 (n/a)	2.74	1.88	1.53	1.19 (n/a)
6-Aug-09	21:00	2.00	1.43	1.88	1.64 (n/a)	1.10	1.08	1.59	1.16 (n/a)	3.10	3.01	1.92	1.39 (n/a)
7-Aug-09	19:00	1.06	0.93	1.73	1.59 (n/a)	1.10	1.01	1.55	1.15 (n/a)	3.10	2.19	2.01	1.46 (n/a)
8-Aug-09	22:00	5.20	4.22	2.14	1.8 (n/a)	1.19	1.14	1.45	1.14 (n/a)	1.38	1.33	1.99	1.44 (n/a)
9-Aug-09	22:00	3.19	1.59	2.11	1.78 (n/a)	1.49	1.27	1.45	1.15 (n/a)	1.86	1.63	1.96	1.45 (n/a)
10-Aug-09	21:00	1.48	0.97	1.90	1.73 (n/a)	1.49	1.38	1.26	1.17 (n/a)	1.48	1.41	1.74	1.45 (n/a)
11-Aug-09	21:00	1.88	1.88	1.81	1.73 (n/a)	1.96	1.83	1.27	1.2 (n/a)	1.65	1.49	1.83	1.46 (n/a)
12-Aug-09	21:00	1.88	1.59	1.79	1.72 (n/a)	1.96	1.85	1.34	1.24 (n/a)	1.66	1.50	1.78	1.46 (n/a)
13-Aug-09	22:00	12.13	7.20	2.66	2.07 (n/a)	1.74	1.50	1.39	1.25 (n/a)	1.66	1.61	1.58	1.47 (n/a)
14-Aug-09	21:00	4.30	3.34	3.57	2.4 (n/a)	1.80	1.79	1.52	1.28 (n/a)	2.08	2.08	1.59	1.49 (n/a)
15-Aug-09	21:00	4.30	3.17	3.52	2.43 (n/a)	1.80	1.76	1.54	1.29 (n/a)	2.08	1.97	1.63	1.51 (n/a)
16-Aug-09	22:00	1.60	no data	3.45	2.38 (n/a)	2.19	no data	1.67	1.34 (n/a)	10.33	8.94	2.62	1.84 (n/a)
17-Aug-09	23:00	1.78	1.43	3.48	2.34 (n/a)	2.07	1.98	1.77	1.37 (n/a)	10.33	7.28	3.32	2.11 (n/a)
18-Aug-09	21:00	3.31	no data	3.54	2.34 (n/a)	7.90	no data	2.33	1.58 (n/a)	NS	NS	3.32	2.11 (n/a)
19-Aug-09	21:00	7.10	6.37	3.58	2.49 (n/a)	9.57	8.37	3.57	1.93 (n/a)	10.47	10.15	5.57	2.69 (n/a)
20-Aug-09	20:00	5.62	3.97	3.02	2.55 (n/a)	9.57	8.01	4.55	2.22 (n/a)	9.82	9.04	6.59	2.98 (n/a)
21-Aug-09	20:00	5.20	4.00	3.00	2.57 (n/a)	8.28	8.16	5.57	2.5 (n/a)	8.68	8.39	7.54	3.22 (n/a)
22-Aug-09	22:00	9.46	8.02	4.12	2.82 (n/a)	8.25	8.03	6.71	2.79 (n/a)	7.84	7.34	7.97	3.42 (n/a)
23-Aug-09	20:00	8.57	7.56	4.47	2.95 (n/a)	9.09	8.45	6.88	2.95 (n/a)	7.84	7.69	7.94	3.54 (n/a)
24-Aug-09	22:00	5.69	5.12	5.78	3.15 (n/a)	14.02	11.54	9.00	3.44 (n/a)	7.72	7.69	8.08	3.75 (n/a)

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report August 2009

25-Aug-09	23:00	7.93	7.07	6.05	3.29 (n/a)	10.02	9.10	9.07	3.65 (n/a)	7.66	6.86	7.89	3.86 (n/a)
26-Aug-09	22:00	7.93	7.76	6.26	3.44 (n/a)	10.44	9.80	9.27	3.85 (n/a)	53.20	38.68	12.68	5.24 (n/a)
27-Aug-09	22:00	5.56	5.27	6.90	3.72	10.69	9.29	9.26	4.22	45.46	45.35	19.67	7.50
28-Aug-09	22:00	5.56	5.00	6.73	3.83	10.69	8.45	9.32	4.45	60.32	36.69	24.24	8.81
29-Aug-09	22:00	4.66	4.61	6.33	3.88	6.95	6.84	9.01	4.65	67.29	56.09	31.37	11.46
30-Aug-09	20:00	4.66	4.44	5.78	3.95	6.74	6.40	8.28	4.80	44.42	36.03	37.44	12.42
31-Aug-09	21:00	4.09	4.02	5.58	3.98	5.31	5.05	7.66	4.85	63.24	45.95	40.25	13.95

	Station	BGH4				BGH5			
	Time Period	24h Max	24h Avg	7-d Ave	30-d Avg	24h Max	24h Avg	7-d Ave	30-d Avg
Date of Analysis	Time of Analysis								
28-Jul-09	22:00	0.30	0.26 (n/a)	0.26 (n/a)	0.26 (n/a)	0.25	0.24 (n/a)	0.24 (n/a)	0.24 (n/a)
29-Jul-09	20:00	0.30	0.28	0.27 (n/a)	0.27 (n/a)	0.26	0.26	0.25 (n/a)	0.25 (n/a)
30-Jul-09	20:00	0.43	0.38	0.29 (n/a)	0.29 (n/a)	0.52	0.38	0.26 (n/a)	0.26 (n/a)
31-Jul-09	22:00	1.48	1.29	0.48 (n/a)	0.48 (n/a)	6.23	4.35	0.94 (n/a)	0.94 (n/a)
1-Aug-09	21:00	1.49	1.48	0.7 (n/a)	0.7 (n/a)	6.23	2.89	1.36 (n/a)	1.36 (n/a)
2-Aug-09	21:00	1.40	1.34	0.82 (n/a)	0.82 (n/a)	0.74	0.64	1.28 (n/a)	1.28 (n/a)
3-Aug-09	20:00	6.04	3.87	1.3 (n/a)	1.3 (n/a)	5.57	3.32	1.57 (n/a)	1.57 (n/a)
4-Aug-09	21:00	1.61	1.51	1.45	1.33 (n/a)	1.17	1.05	1.66	1.51 (n/a)
5-Aug-09	21:00	1.38	1.29	1.72	1.33 (n/a)	1.20	1.19	1.92	1.47 (n/a)
6-Aug-09	21:00	1.44	1.20	1.79	1.33 (n/a)	1.45	1.24	1.90	1.43 (n/a)
7-Aug-09	19:00	1.52	1.24	1.75	1.32 (n/a)	1.45	1.15	1.67	1.41 (n/a)
8-Aug-09	22:00	2.49	1.98	1.81	1.35 (n/a)	2.22	1.82	1.48	1.4 (n/a)
9-Aug-09	22:00	2.49	1.97	1.85	1.4 (n/a)	1.16	1.14	1.53	1.41 (n/a)
10-Aug-09	21:00	1.82	1.68	1.54	1.42 (n/a)	1.33	1.18	1.24	1.4 (n/a)
11-Aug-09	21:00	1.69	1.67	1.58	1.44 (n/a)	1.19	1.18	1.26	1.38 (n/a)
12-Aug-09	21:00	1.64	1.63	1.60	1.45 (n/a)	1.16	1.15	1.25	1.37 (n/a)
13-Aug-09	22:00	2.17	1.90	1.69	1.48 (n/a)	1.55	1.34	1.28	1.37 (n/a)
14-Aug-09	21:00	2.44	2.35	1.88	1.53 (n/a)	1.94	1.69	1.36	1.38 (n/a)
15-Aug-09	21:00	2.44	2.37	1.93	1.56 (n/a)	1.94	1.77	1.41	1.4 (n/a)
16-Aug-09	22:00	2.09	no data	1.97	1.6 (n/a)	6.48	no data	1.91	1.59 (n/a)
17-Aug-09	23:00	2.15	2.13	2.03	1.63 (n/a)	12.27	9.10	2.93	1.93 (n/a)

Type A Water License 2AM-MEA0815
Monitoring Program Summary Report August 2009

18-Aug-09	21:00	NS	NS	2.03	1.63 (n/a)	8.71	no data	4.40	2.42 (n/a)
19-Aug-09	21:00	15.68	14.79	4.76	2.44 (n/a)	8.71	7.68	5.71	2.67 (n/a)
20-Aug-09	20:00	15.68	12.94	6.45	2.96 (n/a)	9.23	8.22	6.67	2.93 (n/a)
21-Aug-09	20:00	10.24	9.12	7.46	3.23 (n/a)	7.28	6.64	7.38	3.12 (n/a)
22-Aug-09	22:00	10.94	10.16	8.69	3.57 (n/a)	6.67	6.61	7.85	3.29 (n/a)
23-Aug-09	20:00	13.10	11.27	9.86	3.8 (n/a)	7.07	6.81	7.75	3.39 (n/a)
24-Aug-09	22:00	10.05	9.47	10.95	4.17 (n/a)	7.40	7.08	7.26	3.58 (n/a)
25-Aug-09	23:00	8.94	8.57	10.59	4.34 (n/a)	7.40	7.21	7.17	3.71 (n/a)
26-Aug-09	22:00	7.78	7.47	9.65	4.43 (n/a)	6.68	6.23	6.96	3.79 (n/a)
27-Aug-09	22:00	6.77	6.46	9.15	4.75	16.39	16.30	7.87	4.36
28-Aug-09	22:00	6.49	6.34	8.73	4.90	16.39	12.08	8.70	4.73
29-Aug-09	22:00	6.18	6.17	8.25	5.07	10.10	8.77	9.06	5.00
30-Aug-09	20:00	6.46	6.19	7.11	5.14	17.07	13.24	10.02	5.29
31-Aug-09	21:00	6.46	5.97	6.79	5.28	29.52	24.81	12.35	6.08

Notes:

1. TSS concentrations (mg/L) are calculated from a TSS-turbidity regression equation, which is updated as new TSS data are generated.
2. If a cell has "n/a" after the number, this means that sampling has not yet covered the specified period (24h or 7-d), but the average up to that date and time is still calculated.
3. "NS" = not sampled that day, so the previous 7-day and 30-day averages are presented.
4. "no data" is listed for the 24-hr Avg value for cases where only one data point was collected in the past 24hrs; the 24hr Max value applies.
5. Red cells are exceedances of licenced 24hr Avg or 30-d Avg TSS thresholds for a particular station at a particular time; yellow cells highlight exceedances of 24hr Max or 7-d Avg TSS management levels.
6. TSS thresholds are as follows (mg/L): (a) 24-h at BGH (high value habitat) stations after Sept 1 = 25 (b) all other cases 24-h threshold = 50 (c) 30-d at BGH stations after Sept 1 = 6 (d) all other cases 30-d threshold = 15

SECTION 3 • WATER MANAGEMENT

3.1 WATER USAGE

Under Water License 2AM-MEA0815, the total water consumption limit is 700,000 m³/year or 58,333 m³/month or for the batch plant, domestic, milling and dust control water use. During the month, the number of people on site by day was 517. The total consumption of water for the camp, the batch plant and the mine site was 4,612 m³ for the month, an average of 149 m³ per day.

Table 3.1: August 2009 Water Consumption

	Water Usage (m ³)
Batch Plant	268
Water Treatment Plant	2,537
Water for Dust Control	1,807
Total for the site	4,612

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). Four water samples were taken at the effluents. The results showed the two sewage treatment plants are working well.

Table 3.2: August 2009 STP Effluent Results

Station: STP-OUT					
Parameter	8/3/2009	8/10/2009	8/18/2009	8/24/2009	8/31/2009
NH3-NH4 (mg/L)	36.8	32.6	30	27.3	20.9
BOD-5 (mg/L)	12	19	23	15	18
COD (mg/L)	139	113	131	137	108
TSS (mg/L)	26	31	31	54	32
NO2-NO3 (mg N/L)	56.5	56.2	47.8	53.2	44.1
pH	5.72	5.48	5.19	4.85	5.24
P tot (mg P/L)	17.9	18	20.5	19.9	18.4
Fecal Coliform (CFU/100mL)	40	8	72	1,000	1,200
Total Coliform (CFU/100mL)	<1,000	<10,000	3,000	10,000	20,000
Atypical Colony (CFU/100mL)	111,000	60,000	85,000	220,000	800,000

SECTION 4 • SPILL MANAGEMENT SUMMARY

During the construction phase as part of the Environmental Management System, AEM is developing a system of tracking spills on-site. Table 4.1 summarizes the AEM Internal spill reports for August.

Table 4.1: Summary of August 2009 AEM Internal Spill Reports

Date of Spill	Hazardous Material (Fuel, Oil, etc.)	Quantity	Location	Cause of Spill	Clean-up Action Taken	Reported to GN Spill Hotline
8/5/2009	Hydraulic oil	80 L	Goose Bay ramp	Hose busted	Absorbent pads and absorbent peat moss applied. Contaminated material collected and sent to Quarry 22	No
8/10/2009	Diesel fuel	50 L	Baker Lake upper loading area	Truck trouble	Used absorbent pads. Contaminated soil removed and sent to Quarry 6	No
8/10/2009	Diesel fuel	50 L	Baker Lake barge loading area platform	Truck trouble	Used absorbent pads. Contaminated soil removed and sent to Quarry 6	No
8/7/2009	Diesel fuel	25 L	Between leaching tanks and power plant	Leak from the air compressor engine	Used absorbent pads. contaminated soil removed and sent to Quarry 22	No
8/17/2009	Fuel	4 L	Intersection to TCG crusher	Used the wrong truck to refill the tank. It did not have a fuel cap	Collected contaminated soil in a drum and send it to the hazardous materials storage area. Mechanic will not refuel equipment until proper cap on is replaced on the tank	No
8/20/2009	Diesel fuel	80 L	Bay Goose Dike	When the fuel nozzle was removed, the automatic cut off on the 773 truck did not work (dirt inside)	Absorbent pads used for all fuel (liquid) above ground and then the contaminated area was excavated with a 320. Loaded the material into a 773 and transported to Quarry 22. Flagged the excavated area and notified environment dept. for inspection	No
8/2/2009	Used oil	80 L	Inside incinerator	The hose was left inside the drum, so the pump hose acted as a siphon and spilled out used oil onto the cement floor	Used absorbent pad to recover the spilled oil on the cement floor and put it into hazmat seacan	No
8/27/2009	Oil	20 L	Pit area	A protection plate fell underneath the motor. From the movement of the shovel, the plate lifted up and knocked off the oil filter	Used absorbent pad to recover the spill and put it in to hazmat seacan	No