



AGNICO EAGLE

EXPLORATION

MELIADINE GOLD PROJECT

ENVIRONMENTAL REPORT: SEPTEMBER 2013

PRESENTED TO THE NUNAVUT WATER BOARD

Contact:

David Frenette

Environment Coordinator
AGNICO EAGLE Mines Ltd
Exploration Division Canada
C.P. 87
765, Chemin de la mine Goldex
Val-d'Or (Qc) Canada
J9P 4N9
Phone : 1 (819) 874-5980 (ext. 3622)
Cell : 1 (819) 355-9271
David.frenette@agnicoeagle.com

This monthly report is delivered under water license 2BB-MEL0914, PART J, items 13.

1. The Licensee shall maintain Monitoring Stations at the following locations:

Table 1: Monitoring stations

Monitoring Program Station Number	Description
MEL-1	Raw water supply intake at Meliadine Lake
MEL-2	Raw water supply intake at Pump Lake
MEL-3	Immediately downstream of old grey water sump prior to effluent entering wetland area, when flow is observed
MEL-3a	Immediately downstream of upgraded sump prior to the effluent entering upgraded wetland area, when flow is observed
MEL-4	At a point immediately upstream of the discharge from the wetland area / upgraded wetland area to Meliadine Lake
MEL-5	Point of discharge for the Bermed fuel containment facilities
MEL-6	Point of discharge for the contaminated soil storage
MEL-7	Final effluent discharge from the BIODISK treatment system
MEL-8	Point of discharge or runoff from the Non-Hazardous Waste Landfill

- 2. The Licensee shall measure and record, in cubic metres, the daily quantities of water utilized for camp, drilling and other purposes from all sources.**

The consumption of fresh water for the site was **18.3m³/day** for the month of September 2013; 0 m³/day for the drills and 18.3m³/day for the camp.

- 3. The Licensee shall provide the GPS co-ordinates of all locations where sources of water are utilized for all purposes. In UTM nad 1983 zone 15.**

➤ Camp water source: East 541943.0 ; North 6989174.0

- 4. Licensee shall sample at Monitoring Program Station MEL-3, MEL-3a, MEL-4 and MEL-7, monthly during Sewage treatment, effluent discharge and during periods of flow at the point of entry into Meliadine Lake. Samples shall be analyzed for the following parameters:**

Biochemical Oxygen Demand – BOD₅
Total Suspended Solids
Oil and Grease (and visual)
Fecal Coliforms
pH

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MEL-4

Waterbody	Units	Mel 4				
Year		2013				
Date Sampled		24/06/2013	23/07/2013	29/07/2013	19/08/2013	17/09/2013
GPS Coordinates		542092-6989012	542092-6989012	542092-6989012	542092-6989012	542092-6989013
LAB		ALS	ALS	ALS	ALS	ALS
Field Measurements						
Water Temperature	oC	5.8	15.2		12.1	4.3
pH	pH units	7.81	8.38		7.63	7.4
Conductivity	(µS/cm)	0.02	0.03 mS		0.03 mS	0.1
Laboratory-Measured						
Fecal Coliforms	MPN/100mL	<3	380	<3	<3	<3
Total Coliforms	mg/L	<3	380	23	93	<3
E. Coli	mg/L	<3	140	<3	<3	<3
Total Oil and Grease	mg/L	<1.0				
Ion balance	%	Low EC	Low EC	Low EC	Low EC	Low EC
Biochemical Oxygen Demand	mg/L	<6.0	<6.0	<6.0	<6.0	<6.0
Ammonia as N	mg/L	0.012	0.37	<0.010	<0.010	<0.010
Mercury (Hg)-Total	mg/L	<0.000020	<0.000020	<0.000020	<0.000020	<0.000020
Phosphorus (P)-Total	mg/L	0.024	0.33	0.041	0.05	0.0051
Phosphorus (P)-Total Reactive	mg/L	0.004	0.27	<0.010	0.013	<0.010
Total Kjeldahl Nitrogen	mg/L	<0.20	0.72	0.21	0.32	<0.20
Total Suspended Solids	mg/L	<5.0	5	5		<5.0
Phosphorus (P)-Total	mg/L	0.024	0.33	0.041	30	
Alkalinity, Total (as CaCO3)	mg/L	13.9	22	16.5	17.1	16.8
Bicarbonate (HCO3)	mg/L	17	27	20.2	20.9	20.5
Carbonate (CO3)	mg/L	<0.60	<12	<0.60	<0.60	<0.60
Hydroxide (OH)	mg/L	<0.34	<6.8	<0.34	<0.34	<0.34
Calcium (Ca)-Dissolved	mg/L	5.12	6.78	6.56	6.55	6.37
Magnesium (Mg)-Dissolved	mg/L	0.88	1.1	1.09	0.939	1.11
Potassium (K)-Dissolved	mg/L	0.716	1.47	0.843	0.831	0.869
Sodium (Na)-Dissolved	mg/L	3.7	5.54	4.3	4.27	4.27
Chloride	mg/L	6.81	9.14	7.66	8.11	7.96
Conductivity	umhos/cm	59	84	67	74	69
Fluoride	mg/L	<0.10	<0.10	<0.10	<0.10	<0.10
Hardness (as CaCO3)	mg/L	16.8	22.2	18.8	22.8	21
Nitrate-N	mg/L	<0.050	0.067	<0.050	<0.050	<0.050
Nitrate and Nitrite as N	mg/L	<0.071	<0.071	<0.071	<0.071	<0.071
Nitrite-N	mg/L	<0.050	<0.050	<0.050	<0.050	<0.050
Sulfate	mg/L	2.9	3.63	3.15	3.33	3.28
TDS (Calculated)	mg/L	34	55	43.8	40	43.3
Aluminum (Al)-Total	mg/L	0.0098	0.0188	0.0252	0.134	<0.0050
Antimony (Sb)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Arsenic (As)-Total	mg/L	0.00045	0.00108	0.00064	0.00097	0.0004
Barium (Ba)-Total	mg/L	0.00656	0.00752	0.00634	0.0085	0.00634
Beryllium (Be)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Bismuth (Bi)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Boron (B)-Total	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Total	mg/L	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Total	mg/L	5.16	6.95	5.93	7.11	6.52
Cesium (Cs)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Chromium (Cr)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Cobalt (Co)-Total	mg/L	<0.00020	<0.00020	<0.00020	0.00021	<0.00020
Copper (Cu)-Total	mg/L	0.00085	0.00112	0.00102	0.00125	0.00082
Iron (Fe)-Total	mg/L	<0.10	<0.10	<0.10	0.3	<0.10
Lead (Pb)-Total	mg/L	<0.000090	0.000137	<0.000090	0.000203	<0.000090
Lithium (Li)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Magnesium (Mg)-Total	mg/L	0.942	1.17	0.964	1.21	1.14
Manganese (Mn)-Total	mg/L	0.0154	0.0141	0.00657	0.0171	0.00322
Molybdenum (Mo)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Nickel (Ni)-Total	mg/L	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020
Phosphorus (P)-Total	mg/L	<0.10	0.31	<0.10	<0.10	<0.10
Potassium (K)-Total	mg/L	0.726	1.51	0.794	0.876	0.855
Rubidium (Rb)-Total	mg/L	0.00116	0.00183	0.00109	0.00141	0.00128
Selenium (Se)-Total	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010
Silicon (Si)-Total	mg/L	0.272	0.36	0.285	0.515	0.265
Silver (Ag)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Sodium (Na)-Total	mg/L	4.09	5.81	3.97	4.67	4.24
Strontium (Sr)-Total	mg/L	0.0243	0.0338	0.0291	0.0339	0.0308
Tellurium (Te)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Thallium (Tl)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Thorium (Th)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Tin (Sn)-Total	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020
Titanium (Ti)-Total	mg/L	<0.00050	0.00064	0.00085	0.00993	<0.00050
Tungsten (W)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Uranium (U)-Total	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Vanadium (V)-Total	mg/L	<0.00020	<0.00020	<0.00020	0.00041	<0.00020
Zinc (Zn)-Total	mg/L	0.0022	<0.0020	0.0022	0.0038	<0.0020
Zirconium (Zr)-Total	mg/L	<0.00040	<0.00040	<0.00040	<0.00040	<0.00040
Ortho-Phosphate (O-PO4)	mg/L					
Oil & Grease	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0
Turbidity	NTU	1.19	0.83	1.11	1.03	0.47
pH	pH units	7.29	7.52	7.43	7.58	7.42

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MEL-7

All the parameters respected the license requirement during September.

Station: STP-OUT (MEL-7)		September			
DATE	Limits	02/09/2013	09/09/2013	17/09/2013	23/09/2013
Ammonia as N (mg/L)		11.1	3.0	2.3	2.7
Biochemical Oxygen Demand (mg/L)	80	6.9	<6.0	<6.0	10.5
Heterotrophic Plate Count (AAHB) (CFU/ml)		>3000	>3000	-	>3000
Nitrate-N (mg/L)		8.7	8.4	2.7	2.2
Nitrate and Nitrite as N (mg/L)		8.7	8.4	2.7	2.4
Nitrite-N (mg/L)		<0.25	<0.050	<0.050	0.2
Oil & Grease-IR (mg/L)	5	<1.0	<1.0	<1.0	<1.0
Phosphorus (P)-Total (mg/L)		12.6	14.0	3.0	1.4
TKN (mg/L)		13.0	6.1	3.0	3.8
Total Suspended Solids (mg/L)	100	<5.0	8.0	5.0	13.0
Transmittance (%T)		56.3	54.1	-	81.3
pH (pH units)	6.5-9	7.4	7.4	7.3	7.6
Fecal Coliforms (MPN/100ml)	1000	23	93	4	38
Total Coliforms (MPN/100ml)		9,300	15,000	4,300	2,000

- 5. The Licensee shall, prior to the release of effluent from the Bermed Fuel Containment Facilities at Monitoring Program Station MEL-5 and the contaminated soil storage at MEL-6 for the purpose of demonstrating compliance, sample for the parameters listed under Part D, item 17.**

➤ No release in September.

- 6. The Licensee shall obtain representative samples of the water column below any ice where required under part F, item 7. Monitoring shall include but not limited to the following:**

Total Suspended Solids

pH

Electrical Conductivity, and

Total trace Metals as determined by a standard ICP Scan (to include at a minimum, the following elements: Al, Sb, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Li, Mn, Mo, Ni, Se, Sn, Sr, Tl, Ti, U, V, Zn), and Trace Arsenic and Mercury.

No sampling on ice in September.

- 7. The Licensee shall analyze the samples obtained at Monitoring Program Station MEL-8 for the following parameters:**

pH

Total Suspended Solids (TSS)

Oil & Grease

Total Trace metals as determined by a standard ICP Scan (to include at a minimum, the following elements: Al, Ba, Cd, Cr, Cu, Pb, Ni, Se, Sn, Zn); and

Trace Arsenic and Mercury

The Non-Hazardous Waste Landfill is not constructed yet.
