



MEADOWBANK DIVISION

## **Monitoring Program Summary Report**

**October 2012**

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. This includes water usage, Portage Attenuation Pond discharge water quality and sewage treatment plant discharge water quality (to onsite storm water management pond).

In addition, a summary of spills/actions for the month is included.



## SECTION 2 • WATER MANAGEMENT

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### 2.1 WATER USAGE

Freshwater usage for October 2012 is summarized in Table 2.1 below. Total freshwater used for the month was 78,002 m<sup>3</sup>. The total amount of reclaim water used in the mill for September was 271,440 m<sup>3</sup>. The yearly freshwater used is actually over the quantity prescribe of 700,000 m<sup>3</sup> by our licence. The total freshwater used to date is 893,527 m<sup>3</sup>. The completion of our action plan is in progress and by the end of 2012 we anticipate that our freshwater usage will be reduced to below our current water use limit.

**Table2-1: Freshwater Usage (m<sup>3</sup>)**

	<b>October</b>
Freshwater Storage Tank	78,002
Emulsion Plant	138,20
Water Truck	0
<b>Total</b>	<b>78,002</b>
<b>Year to date total</b>	<b>893,527</b>

### 2.2 SEWAGE TREATMENT PLANTS

Five effluent wastewater samples were taken from the onsite sewage treatment plants (STP's) in September.

The Seprotech STP results are shown in Table 2.2.1 below; the LJ-Mix STP results are shown in Table 2.2.2. The results of the discharge show the system was working well. The effluent is discharged to the onsite stormwater pond and is not discharged to the natural environment.



**Table 2.2.1: Seprotech Effluent Results**

Date	Units	2-Oct-12	8-Oct-12	15-Oct-12	22-Oct-12	29-Oct-12
Ammonia	mg N/L	<0.05	<0.05	<0.05	<0.05	<0.05
Ammonia-Ammonium	mg N/L	8.5	6.5	9.3	11	12.7
Total Kjeldahl Nitrogen	mg N/L	12	11	10	11	24
BOD-5	mg/L	14	10	8	19	29
COD	mg/L	68	96	71	69	76
Total Suspended Solids	mg/L	19	20	16	17	20
Nitrate	mg N/L	22.4	19.6	21.4	25.6	24.6
Nitrite	mg N/L	0.08	0.01	0.05	0.06	0.13
Total Phosphorus	mg/L	9.5	10	10.3	12.9	13
pH *	units	5.8	5.6	5.6	5.4	5.8
Fecal Coliform	UFC/100 mL	32	48	84	20	168
Total Coliform	UFC/100 mL	32	400	300	<10000	< 1 000

**Table 2.2.2: LJ-Mix Effluent Results**

Date	Units	2-Oct-12	8-Oct-12	15-Oct-12	22-Oct-12	29-Oct-12
Ammonia	mg N/L	<0.05	<0.05	0.08	0.08	<0.05
Ammonia-Ammonium	mg N/L	16.2	10.4	17.7	21.3	12.8
Total Kjeldahl Nitrogen	mg N/L	20	16	16	21	24
BOD-5	mg/L	13	24	7	19	29
COD	mg/L	89	83	67	81	68
Total Suspended Solids	mg/L	27	28	14	24	23
Nitrate	mg N/L	23.5	19.5	20.7	29.2	22.5
Nitrite	mg N/L	0.24	0.24	0.84	0.49	0.33
Total Phosphorus	mg/L	8.9	10	8.8	14	11
pH *	units	5.2	5.2	6.6	6.8	6.3
Fecal Coliform	UFC/100 mL	60	28	100	360	180
Total Coliform	UFC/100 mL	300	300	300	2 000	180



### 2.3 ATTENUATION POND EFFLUENT

In October, there was no effluent to the environment from the Portage Attenuation Pond in Third Portage Lake diffusor.

Therefore, no weekly effluent samples were taken from the Actiflow® Water Treatment Plant (ST-9).

### 2.4 ST-6 NON CONTACT WATER

For the current month, no exceeding of the parameter ask in part F of the licence have been observed at the North Cell Diversion Water Ditch (Non-contact water) station ST-6, as demonstrated in table 2.4.1

**Table 2.4.1: North Cell Diversion Water Ditch (Non-contact water)**

Date	Units	Limits	01-Oct-12
TSS	mg/l	30	7



## SECTION 3 • SPILL MANAGEMENT

AEM has developed a system of tracking spills on-site. Table 3.1 summarizes the AEM spill reports for the month, sixteen (16) spills occurred on site and one (1) was reported to the GN spill hotline. AEM conduct the activities of containment and clean-up.

**Table 3-1: Summary of AEM Internal Spill Reports**

Date of Spill	Hazardous Material	Quantity	Location	Cause of spill	Clean-up action taken	Reported to Spill Hot Line
2012-10-01	STP intake	7.8 m <sup>3</sup> = 7800 L	STP	When operator got to Sewage Treatment Plant red light alarm for high level in main tank was flashing outside building. He went to check tank outside. It was overflowing from the top. At that time both pumps were on and showing no flow. After verification, effluent pipe was obstructed, explaining why no water was being pumped from the main tank and overflow.	Spill was contained in the tank area. Contaminated soil will be removed and disposed of at our tailings storage facility (TSF – authorized by water license). Removal of material is made difficult by the presence of pipes, electrical cable and shack over affected area.	y
2012-10-02	Glycol	15 L	Between gym and genset	Valve stayed open	Absorbent was put on top and soil put in drum QTE estimated at 20 liter pail	n
2012-10-04	Glycol	40 L	Construction genset	The electric motor pillow blocks that drive the fan dis	Under genset, not visible will have to wait after removal of genset.	n
2012-10-06	Diesel	50 L	Tank farm	When hooking up the line to a 785 Haul truck #25, the Wiggins fitting became partially stuck in the open position	980 loader was used to clean up the spill with gravel. Stock piled at truck parking for instructions for disposal.	n
2012-10-07	Hydraulic Oil	10 L	Truck Shop parking Dome side	Broken hydraulic line	Leak has been contain and the container has been empty. The haul truck has been moved and the contaminated soil has been picked up by Site Services on October 9, 2012	n
2012-10-08	Hydraulic Oil	~40-50 L	Drill Pattern 5095 -299 Pit A	The hydraulic hose had a leak, the leak wasn't notice first	Some fine material have been laid on to absorb, then the material has been collected and bring to the WTP contaminated soil pad	n
2012-10-11	Oil	15 L	Outside truck shop door 3	Bad procedure, no supervision while filling a tote with oil, the nozzle fall of the tote to the floor	Absorbed most of the oil with absorbent , scrap the contaminated soil and all the contaminated stuff in drums in the truck shop	n
2012-10-14	Transmission Fluid	7 L	Service building parking lot	Broken transmission cooler	Absorbed most of the oil with absorbent , scrap the contaminated soil and all the contaminated stuff in drums in the truck shop	n
2012-10-17	Engine Coolant	40 L	Sana garage pad	Busted radiator	Excavate the contaminant and put it in the yellow bin	n
2012-10-19	Hydraulic Oil	80 L	Pit B	Ruptured Hydraulic Hose	Clean up spill and take to contaminated soil pad at WTP	n
2012-10-20	Compressor Oil	5 L	Pit pattern 5109-509	Busted compressor oil hose	Absorb with rags and pick up the contaminated soil and sent it at the incinerator	n
2012-10-21	Hydraulic Oil	70 L	Goose Bay	Broken O-ring on relief valve	Clean up spill and take to contaminated soil pad at WTP	n
2012-10-23	Engine Oil	20 L	Fuel Farm and Lower Ramp - Primary Crusher	Blown Engine	Clean up spill and take to contaminated soil pad at WTP	n
2012-10-25	Diesel	80 L	Wht. Mait Coverall	Loose pipe fitting	Excavate the contaminant and put it in the yellow bin	n
2012-10-25	Compressor Oil	40 L	Pit A	Busted Cooler	Absorbent pads were placed over spill then excavated and sent to Yellow Bin	n
2012-10-27	Glycol	20 L	Genset #2	Seal failed and started fire - damaged to Rad in fire created spill.	Absorbents deployed to soak up Glycol then sent to Hazmat. Any contaminated soil will be cleaned up and sent to yellow bin. Engine is in repair to determine root cause.	n