



MEADOWBANK DIVISION

Monitoring Program Summary Report

February 2013

Type A Water License 2AM-MEA0815

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SECTION 1 • **BACKGROUND**

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

2.1 WATER USAGE

Freshwater usage for February 2013 is summarized in Table 2.1 below. Total freshwater used for the month was 124,115 m³. Of this amount, 3,500 m³ was pumped from Third Portage Lake, from February 26 to 28, to clean out the reclaim water line. The freshwater used for this clean out was sent to the North Cell Tailings Reclaim pond. The total amount of reclaim water used in the mill for February was 201,270 m³. The total freshwater used to date is 189,323 m³.

Table 2-1: Freshwater Usage (m³)

	February
Freshwater Storage Tank	120,469
Emulsion Plant	145
Water Truck	0
Clean-up reclaim water pipe	3,500
Total	124,115
Year to date total	192,823

2.2 SEWAGE TREATMENT PLANTS

Three (3) effluent wastewater samples were taken from the onsite sewage treatment plants (STP's) in February.

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 indicate the system was working well. The effluent is discharged to the onsite storm water pond and is not discharged to the natural environment.

Table 2.2.1: Seprotech Effluent Results

Parameters	Units	4-Feb-13	11-Feb-13	18-Feb-13
Ammonia	mg N/L	<0.05	0.29	<0.05
Ammonia-Ammonium	mg N/L	8.8	19.5	5
Total Kjeldahl Nitrogen	mg N/L	14	26	9
BOD-5	mg/L	15	46	6
COD	mg/L	70	132	33
Total Suspended Solids	mg/L	10	60	75
Nitrate	mg N/L	17.9	2.2	16.1
Nitrite	mg N/L	0.63	0.23	0.20
pH *	units	6.0	7.0	6.3

Fecal Coliform	UFC/100 mL	<4	900	24
Total Coliform	UFC/100 mL	100	22,000	200

*Parameter measured by STP operators

Table 2.2.2: LJ-Mix Effluent Results

Parameters	Units	4-Feb-13	11-Feb-13	18-Feb-13
Ammonia	mg N/L	<0.05	1.1	<0.05
Ammonia-Ammonium	mg N/L	10.1	38.1	13.9
Total Kjeldahl Nitrogen	mg N/L	20	62	22
BOD-5	mg/L	161	34	16
COD	mg/L	91	92	70
Total Suspended Solids	mg/L	16	47	26
Nitrate	mg N/L	22.5	10	27.5
Nitrite	mg N/L	2.70	3.90	0.88
pH *	units	5.9	7.0	6.1
Fecal Coliform	UFC/100 mL	60	800	470
Total Coliform	UFC/100 mL	900	8,000	1,900

*Parameter measured by STP operators

2.3 ATTENUATION POND EFFLUENT

For the month of February there is no effluent from the attenuation pond ST-9.

2.4 NON CONTACT WATER

In February, there was no water discharged to or through the diversion water ditch (ST-6 and ST-5) due to freezing conditions.

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 none (0) were reported to the GN spill hotline as they were all under the 100 L reporting limit. AEM contained and cleaned up all the spills.

Table 3-1: Summary of AEM Internal Spill Reports

Date of spill	Hazardous material	Quantity (L)	Location	Cause of spill	Clean-up action taken	Reported to spill Hotline
02/17/2013	Hydraulic oil	70	Vaul dyke mixing station	The cylinder (top one) of the boom of the excavator broke in two pieces and a quantity of hydraulic oil spilled onto the working pad.	Upon noticing that the cylinder broke off, operator put bucket down and called supervisor, who called mech. dept. The spill got contained by placing absorbant diapers onto it. the said diapers were then disposed of.	No
02/15/2013	Compressor oil	20	Pit A pattern 5095329	The cooler busted on a drill	Drill was shut down immediately and spill pads were laid down on spill.	No
02/16/2013	Hydraulic oil	20	Inventory seacan pad	Zoom Boom operator when lifting the boom, the cylinder cracked and oil leaked out of the cylinder, on the ground cover snow	Operator called Site services, oil was on the snow and pick up by the Baco bucket.	No
02/26/2013	Glycol ELC coolant	10	Camp genset 03	Hose on the rad broke due to cold weather and slowly run out of the Container	Radiator hose being changed on both engine with old hoses. WO 769898	No
02/17/2013	Hydraulic oil	5	Sana yard	Leak coming from connection of hydraulic hose on loader	Spill was contained and absorbant diapers were placed on the excess oil. they were collected and disposed of.	No
02/12/2013	Hydraulic oil	10	Goose pit pattern 5102532	Hydraulic hose ruptured on IT14 loader #2	Oil spill was picked up and brought to the incinerator	No
02/16/2013	Glycol	5	Camp genset #02	The engine is just being rebuilt and due to the extreme temperature. The entire joints are leaking. They will leak as long as we don't put heat on the engine and on the radiator. It should be fixed on Monday 18-02-2013	None. At genset start. Will be monitored	No
02/18/2013	Hydraulic oil	10	Laydown 4	Broken gasket on the boom of the Hyster Handler. Normal use of the equipment.	Put some absorbent pad on the spill and loader pick up the rest of the spill on the snow and bring in the contaminated bin.	No
02/20/2013	Hydraulic oil	78	At the T to go to white coverall	Crack in the hydraulic tank of BAC11	Contaminated snow has been pick-up and brought to the contaminated Soil area on the feb 21 2012	No
02/23/2013	Hydraulic oil	85	Vault road Y	Breakage on an anti-freeze line on a 100 tons (terex) vehicle.	Repaired on site.	No
02/16/2013	Diesel fuel	5	MB fuel farm	Poor fixation fastener of loading arm by previous filling tanker (SANA) and pipe was emptied on ground.	Fixation was fixed WO created. Written on report : As we will discuss making a tray attached to the end of the loading arm and is the Drip charchement when the tray	No
02/24/2013	Hydraulic oil	50	Kitchen pad	Busted hydraulic oil on zoom boom TPA04.	Zoom-Boom was stopped immediately. Pads were laid on zoom-boom and on ground to contain oil.	No
02/16/2013	Hydraulic oil	2	Sana yard	Breakeage of a plug on the oil reservoir that caused a small leak of oil on fuel truck unit #0121	Spill was contained. Absorbant diapers were placed on the excess oil on the ground and then collected and disposed of.	No
02/19/2013	Engine oil	10	Maintenance yard	Engine was left running to prevent freezing. Oil came from engine oil leak on a drill.	Once drill was brought into shop, spill was picked up and brought to incinerator roll-off	No
02/27/2013	Hydraulic oil	10	Goose pit #5102532	Broken hydraulic hose on bachoe 09	Contaminated soil was collected	No
02/05/2013	Hydraulic oil	2	SANA garage	Leaking machine, unknow reason (maintenance) on loader 980	Contaminated soil was collected	No