



**CONESTOGA-ROVERS
& ASSOCIATES**

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DISCLAIMER: This document is a DRAFT document prepared by MLC pursuant to a court judgment, and which has not received final acceptance from the Michigan Department of Natural Resources and Environment (MDNRE). The opinion, findings and conclusions expressed are those of the authors and not those of MDNRE.

May 28, 2010

Reference No. 012610

Ms. Sue Kaelber-Matlock
Michigan Department of Natural Resources and Environmental
Environmental Response Division
Saginaw Bay District Office
401 Ketchum Street, Suite B
Bay City, Michigan
U.S.A. 48708

Dear Ms. Kaelber-Matlock:

Re: Thirty-Fourth Semi-Annual Technical Progress Report Submittal
Motors Liquidation Corporation/State of Michigan
Bay City On-Site Consent Judgment
Civil Action No. 92-3740-CE

Enclosed is the Thirty-Fourth Semi-Annual Technical Progress Report (Semi-Annual Report) for the General Motors Corporation (GM)/State of Michigan Bay City On-Site Consent Judgment (Civil Action No. 92-3740-CE) for GM-Powertrain Group Bay City Plant located in Bay City, Michigan. The submission of this report is pursuant to Section XIX "Progress Reports" Paragraph 62.

This Semi-Annual Report covers the Motors Liquidation Company (MLC) Property (former Machine Storage Area, Crotty Street Channel) for the time period from November 16, 2009 May 15, 2010, unless otherwise noted in the report. General Motors Company will submit a Semi-Annual Report covering their property. Included as part of this submittal, as applicable, are descriptions of actions related to the implementation of the Feasibility Study/Remedial Action Plan (FS/RAP), Interim Response Actions including End-Of Pipe Treatment and Recirculation Implementation, and Operation, Maintenance and Monitoring activities. The semi-annual report summarizes activities related to these action plans, outlines project status, and details any difficulties encountered during the implementation of the action plans.



May 28, 2010

Reference No. 012610

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1.0 SUMMARY OF ON-GOING ACTIVITIES AND PROJECT STATUS

The following sections summarize the activities performed related to implementation of the RAP and Interim Response Actions and details any difficulties encountered during the implementation of the action plans.

1.1 REMEDIAL ACTION PLAN

MLC is currently implementing RAP operation and maintenance activities for the former Machine Storage Area, Crotty Street Channel, and former Undeveloped Area.

1.1.1 Operation and Maintenance Activities

An initial Operation, Maintenance, and Monitoring Plan (O&M Plan) was submitted in November 2000 to the MDEQ. Revised O&M Plan sections were submitted to the MDEQ (currently known as the MDNRE) on June 2001, conditionally approved by the MDEQ on November 27, 2001, and the final O&M Plan was submitted in January 2002 and subsequently approved by the MDEQ. Pursuant to this plan, O&M activities are being conducted.

1.1.2 Operation and Maintenance Activities – Groundwater Extraction System

Table 1 presents Saginaw River water levels measured during the monthly inspections as well as the corresponding daily, weekly, and monthly river water level averages at the United States Geological Survey (USGS) station – 04157065 Saginaw River at Weadock Road at Essexville, Michigan. Extraction well details and water elevations are presented in Table 2. Monthly maintenance activity checklists are presented in Attachment A.

The Machine Storage Area (MSA) and Crotty Street Channel (CSC) groundwater extraction systems were running continuously, during the 6-month period covered by this report.

Approximately 2 of the 10 pumps are cleaned on average each month. Pumps are removed from the well, disassembled, soaked in a mixture of residential grade CLR® Calcium Lime Rust Remover and water, reassembled, and stored for re-use. Pumps are replaced with spares to minimize down time.



1.1.3 Saginaw River Levels At Essexville, Michigan

Saginaw River water levels have been recorded downstream from the MLC property at Essexville by the National Oceanic and Atmospheric Administration (NOAA) since 1977. Due to the unavailability of the data from the NOAA website, data was obtained from USGS station (04157065 Saginaw River at Weadock Road at Essexville, MI) and used for water elevation data of the Saginaw River, as of November 1, 2005.

Based on the combined NOAA and USGS data from 1977 to April 20, 2010, the average water level at Essexville is 578.97 feet (ft) above mean sea level (AMSL). Recent water levels continue to be below the average, as the current water level at Essexville measured on April 20, 2010 was 577.21 ft AMSL.

1.1.4 Groundwater Monitoring Activities

Table 3 presents the sample results for the MSA and CSC extraction system discharge samples, as well as the sample collected from CB-2. Figure 1 identifies the extraction system locations.

1.2 INTERIM RESPONSE ACTIONS

MLC requests that the reporting requirements be reduced to annual starting in 2011, following the larger annual sampling event typically conducted in August, since the semi-annual sampling consists only of extraction system effluent sampling and results have been consistent since August 2002.

Replace Staff Gauge 1 and resurvey.

2.0 SCHEDULE

All activities have been completed within the required time frames.



**CONESTOGA-ROVERS
& ASSOCIATES**

May 28, 2010

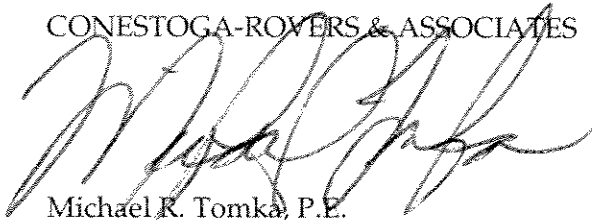
Reference No. 012610

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Should you have any questions on the above, please do not hesitate to contact us.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES



Michael R. Tomka, P.E.

JP/ev/6

Encl.

cc: John Leone, Esq. - Assistant Attorney General
Robert Belleman, City of Bay City
Jennifer Wegener, MDEQ
Doug Wagner, MLC

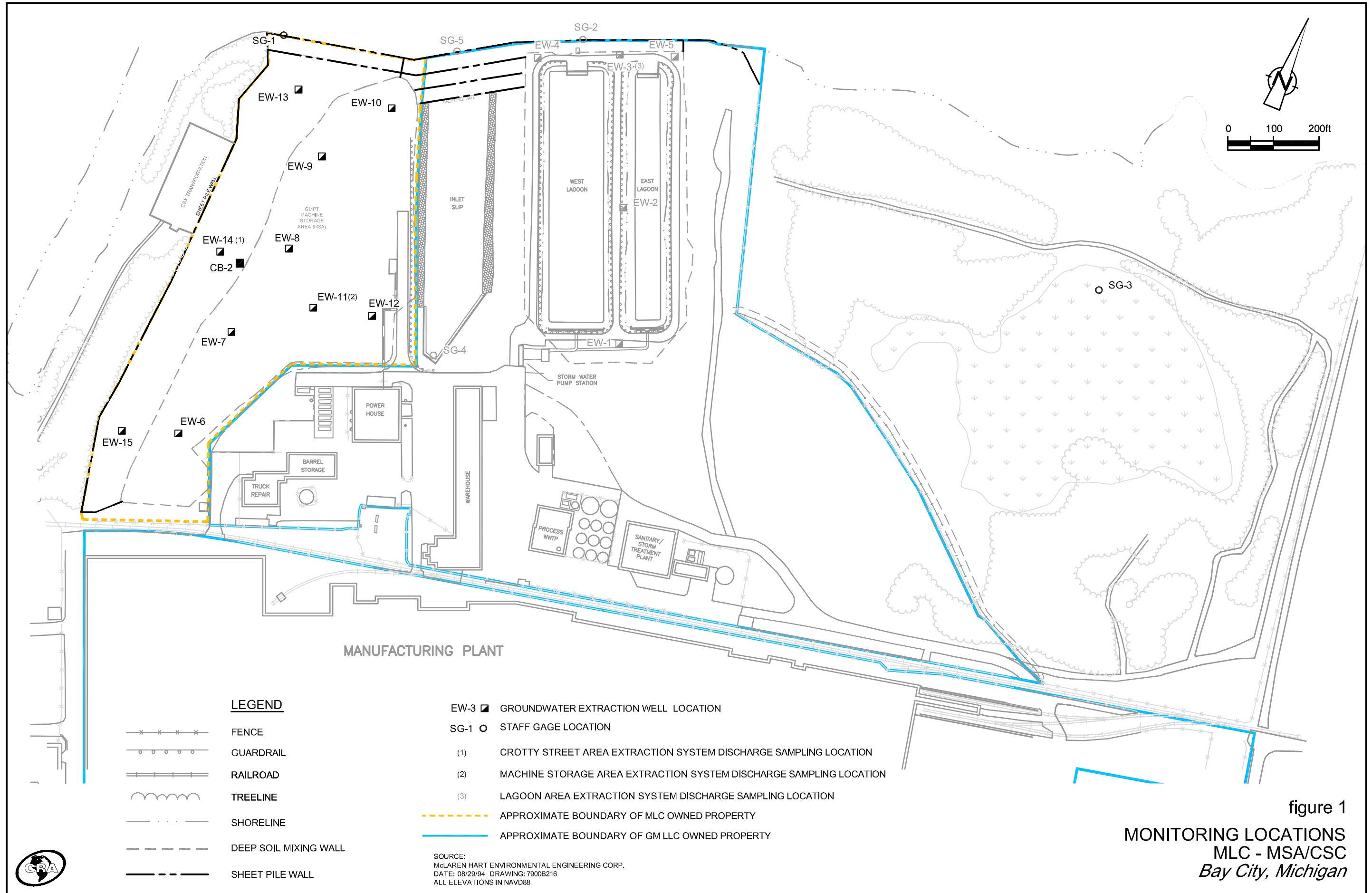


figure 1

MONITORING LOCATIONS
MLC - MSA/CSC
Bay City, Michigan

SOURCE:
 McLAREN HART ENVIRONMENTAL ENGINEERING CORP.
 DATE: 08/29/94 DRAWING: 7900B216
 ALL ELEVATIONS IN NAVD88

**RIVER WATER LEVELS
MLC - CROTTY STREET CHANNEL AREA (CSC)
BAY CITY, MICHIGAN**

<i>Location</i>	<i>27-Nov-09</i>	<i>17-Dec-09</i>	<i>19-Jan-10</i>	<i>18-Feb-10</i>	<i>9-Mar-10</i>	<i>6-Apr-10</i>
<u>Crotty Street Channel Containment Area</u>						
SG-1 - Saginaw River	(1)	(1)	(1)	(1)	(1)	(1)
USGS Station - Essexville, MI						
<i>Daily Average Saginaw River at Essexville, MI</i>	577.78	577.56	577.37	577.31	577.13	577.35
<i>Weekly Average Water Level</i>	577.55	577.55	577.32	577.25	577.10	577.20
<i>Monthly Average Water Level</i>	577.69	577.43	577.28	577.29	577.26	577.24

Note:

(1) Staff Gage Missing. To be replaced in summer of 2010

**GROUNDWATER EXTRACTION SYSTEM WATER ELEVATIONS
MLC - MACHINE STORAGE AREA AND CROTTY STREET CHANNEL AREA (MSA AND CSC)
BAY CITY, MICHIGAN**

<i>Extraction Well</i>	<i>Reference Elevation (ft AMSL)</i>	<i>Bottom of Well Elevation (ft AMSL)</i>	<i>Top ICU (ft AMSL)</i>	<i>Water Elevation (ft AMSL) Nov. 27, 2009</i>	<i>Water Elevation (ft AMSL) Dec. 17, 2009</i>	<i>Water Elevation (ft AMSL) Jan. 19, 2010</i>	<i>Water Elevation (ft AMSL) Feb. 18, 2010</i>	<i>Water Elevation (ft AMSL) March 9, 2010</i>	<i>Water Elevation (ft AMSL) April 6, 2010</i>
<i>Machine Storage Area</i>									
EW-6	589.74	570.39	572.39	576.83	576.92	576.79	576.89	577.43	577.86
EW-7	587.99	571.14	571.64	575.57	576.42	577.39	576.48	578.61	578.72
EW-8	588.34	572.29	573.29	575.18	575.93	576.33	576.62	578.40	578.58
EW-9	588.04	572.19	573.69	575.71	576.38	575.39	575.41	575.43	575.43
EW-10	587.77	570.82	572.32	576.92	576.04	576.77	576.80	578.29	578.58
EW-11	591.51	571.91	572.56	578.85	579.53	579.33	579.52	577.64	(1)
EW-12	586.42	571.57	573.07	576.07	575.8	574.95	575.18	578.97	579.19
<i>Crotty Street Channel Containment Area</i>									
EW-13	584.33	571.86	NA	576.67	576.63	576.18	576.58	576.66	576.32
EW-14	582.42	569.92	NA	576.37	576.21	576.70	575.81	575.22	573.77
EW-15	583.71	571.61	NA	576.47	576.25	576.57	576.81	575.90	576.00

Notes:

(1) Water elevation not measured

ANALYTICAL RESULTS SUMMARY
SEMI-ANNUAL GROUNDWATER SAMPLING
BAY CITY, MICHIGAN
MARCH 2010

AOI:				
<i>Sample Location:</i>		<i>Crotty Street Channel</i>	<i>Machine Storage Area</i>	<i>Crotty Street Channel</i>
<i>Sample ID:</i>		<i>CB-2</i>	<i>MSA GW Ext. Sys. Discharge</i>	<i>CSA GW Ext. Sys. Discharge</i>
<i>Sample Date:</i>		<i>W-12610-032410-SSH-CB10-1</i>	<i>W-12610-032410-SSH-MSA10-2</i>	<i>W-12610-043010-SSH-CSC-4</i>
		<i>3/24/2010</i>	<i>3/24/2010</i>	<i>4/30/10</i>
 <i>Parameters:</i>	 <i>Units</i>			
 <i>Polychlorinated Biphenyls</i>				
Aroclor-1016 (PCB-1016)	µg/L	0.20 U	0.20 U	0.20 U
Aroclor-1221 (PCB-1221)	µg/L	0.20 U	0.20 U	0.20 U
Aroclor-1232 (PCB-1232)	µg/L	0.20 U	0.20 U	0.20 U
Aroclor-1242 (PCB-1242)	µg/L	0.20 U	0.20 U	0.59
Aroclor-1248 (PCB-1248)	µg/L	0.20 U	0.20 U	0.20 U
Aroclor-1254 (PCB-1254)	µg/L	0.20 U	0.20 U	0.20 U
Aroclor-1260 (PCB-1260)	µg/L	0.20 U	0.20 U	0.20 U

Notes:

U - Not present at or above the associated value

ATTACHMENT A

MONTHLY MAINTENANCE ACTIVITY CHECKLISTS

O&M LOG
CSC/MSA
BAY CITY, MICHIGAN

<i>Description</i>	<i>Frequency</i>	<i>Inspected By (Print)</i>	<i>Date</i>	<i>Inspection Results (1)</i>	<i>Nature of Maintenance/Repairs (1)</i>
O&M Log	Monthly	<u>RCD</u>	<u>11/27/09</u>	<u>FIELD BOOK</u>	
Site Log Book	Monthly	<u>RCD</u>	<u>11/27/09</u>	<u>FIELD BOOK</u>	
Extraction Well Water Levels	Monthly	<u>RCD</u>	<u>11/27/09</u>	<u>COMPLETE</u>	
Inspection	Monthly	<u>RCD</u>	<u>11/27/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>11/27/09</u>	<u>AS NEEDED</u>	
Level Transmitter Inspection	Monthly	<u>RCD</u>	<u>11/27/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u> </u>	<u> </u>	<u> </u>	
Calibration	Semi-Annually	<u> </u>	<u> </u>	<u> </u>	
Control Panel Inspection	Monthly	<u>RCD</u>	<u>11/27/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>11/27/09</u>	<u>COMPLETE</u>	
Air Supply Manifold Inspection	Monthly	<u>RCD</u>	<u>11/27/09</u>	<u>BY GM</u>	
Air Compressor Maintenance	Monthly - As Required	<u>RCD</u>	<u>11/27/09</u>	<u>BY GM</u>	
Heater Check	Monthly (Winter Season)	<u>RCD</u>	<u>11/27/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>11/27/09</u>	<u>AS NEEDED</u>	

O&M LOG
CSC/MSA
BAY CITY, MICHIGAN

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
Monitoring Well Sampling	As Required	RCD	11/27/09	AUGUST 2009	
Water Levels	As required	RCD	11/27/09	AUGUST 2009	
General Maintenance	As required	RCD	11/27/09	WEEKLY AS NEEDED	
Force Main Cleaning	As required	RCD	11/27/09	OCTOBER 2009	
Flowmeter Cleaning	As required	RCD	11/27/09	OCTOBER 2009	
Spare Parts Inventory	As used	RCD	11/27/09	REPLACE IF NEEDED	
Staff Gauges			11/27/09		
Water Levels	As Required	RCD	11/27/09	STAFF GAUGE IS	MISSING
Exposure Barriers	Monthly	RCD	11/27/09	GOOD	
Multi-Layer Cap	Monthly	RCD	11/27/09	GOOD	
Containment System	Monthly	RCD	11/27/09	GOOD	
Stormwater Collection System	Monthly	RCD	11/27/09	GOOD	
Crotty Street Channel Abandoned 60" Sewer	Monthly	RCD	11/27/09	GOOD	

* Note: All of the suggested frequencies are minimums and additional maintenance may be required

(1) - Attach additional documentation.

O&M LOG
CSC/MSA
BAY CITY, MICHIGAN

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	MACHINE STORAGE AREA	RCD	11/27/09					
EW-6	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT# 12.74	12.91						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-7	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT# 11.00	12.42						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-8	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT# 11.34	13.16						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-9	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT# 11.04	12.33						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-10	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT# 10.77	10.85						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-11	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT# 14.51	12.66						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-12	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT# 9.42	10.35						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-01	FLOW (gpm)							
	TOTAL (gal.)							
LT-01								
CP-01								
AIR SUPPLY MANIFOLD								
HEATER								
DATE OF LAST SWABBING								

O&M LOG
CSC/MSA
BAY CITY, MICHIGAN

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	CROTTY STREET CHANNEL							
EW-13	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.)	TARGET DEPT:	7.33	7.66				
	PUMP CHANGED (Y/N)							
CHLORINE ADDED								
EW-14	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.)	TARGET DEPT:	5.42	6.05				
	PUMP CHANGED (Y/N)							
CHLORINE ADDED								
EW-15	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.)	TARGET DEPT:	6.71	7.24				
	PUMP CHANGED (Y/N)							
CHLORINE ADDED								
FQIT-03	FLOW (gpm)							
	TOTAL (gal.)							
HEATER								
DATE OF LAST SWABBING								
STAFF GAUGES	INLET SLIP - WATER LEVEL (ft)							10.30
	INLET RIVER - WATER LEVEL (ft)							9.30
	CROTTY STREET - WATER LEVEL (ft)							MISSING

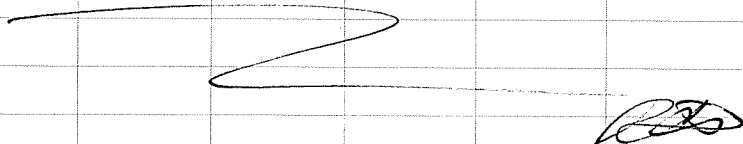
11/27/09

GLOBAL RCD
 SCOPE 0.5 M, MONTHLY
 WEATHER 45° o/c
 1200 ONSITE

<u>EW</u>	<u>TARGET DEPTH</u>	<u>ACTUAL DEPTH</u>	<u>NOTES</u>
6	12.74	12.91	PUMP W/SHAKE
7	11.00	12.42	PUMPING
8	11.34	13.16	PUMPING
9	11.04	12.33	PUMPING
10	10.77	10.85	PUMP W/SHAKE
11	14.51	12.66	NOT ON MAIN LINE
12	9.42	10.35	PUMPING
13	7.33	7.66	PUMPING
14	5.42	6.05	PUMPS TO MANKHOLE
15	6.71	7.24	PUMPING

STAFF GAUGE CROTTY ST - MISSING

1315 SCOPE COMPLETE. FENCES LOCKED.
 SITE SECURED GLOBAL OFFSITE.



O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
O&M Log	Monthly	<u>RCD</u>	<u>12/17/09</u>	<u>FIELD BOOK</u>	
Site Log Book	Monthly	<u>RCD</u>	<u>12/17/09</u>	<u>FIELD BOOK</u>	
Extraction Well Water Levels	Monthly	<u>RCD</u>	<u>12/17/09</u>	<u>COMPLETE</u>	
Inspection	Monthly	<u>RCD</u>	<u>12/17/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>12/17/09</u>	<u>AS NEEDED</u>	
Level Transmitter Inspection	Monthly	<u>RCD</u>	<u>12/17/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u> </u>	<u> </u>	
Calibration	Semi-Annually	<u>RCD</u>	<u> </u>	<u> </u>	
Control Panel Inspection	Monthly	<u>RCD</u>	<u>12/17/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>12/17/09</u>	<u>COMPLETE</u>	
Air Supply Manifold Inspection	Monthly	<u>RCD</u>	<u>12/17/09</u>	<u>BY GM</u>	
Air Compressor Maintenance	Monthly - As Required	<u>RCD</u>	<u>12/17/09</u>	<u>BY GM</u>	
Heater Check	Monthly (Winter Season)	<u>RCD</u>	<u>12/17/09</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>12/17/09</u>	<u>AS NEEDED</u>	

O&M LOG
CSC/MSA
BAY CITY, MICHIGAN

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
Monitoring Well Sampling	As Required	RCD	12/17/09	AUGUST 2009	
Water Levels	As required	RCD	12/17/09	AUGUST 2009	
General Maintenance	As required	RCD	12/17/09	WEEKLY AS NEEDED	
Force Main Cleaning	As required	RCD	12/17/09	OCTOBER 2009	
Flowmeter Cleaning	As required	RCD	12/17/09	OCTOBER 2009	
Spare Parts Inventory	As used	RCD	12/17/09	REPLACE IF NEEDED	
Staff Gauges Water Levels	As Required	RCD	12/17/09	STAFF GAUGE IS MISSING	
Exposure Barriers	Monthly	RCD	12/17/09	GOOD	
Multi-Layer Cap	Monthly	RCD	12/17/09	GOOD	
Containment System	Monthly	RCD	12/17/09	GOOD	
Stormwater Collection System	Monthly	RCD	12/17/09	GOOD	
Crotty Street Channel Abandoned 60" Sewer	Monthly	RCD	12/17/09	GOOD	

* Note: All of the suggested frequencies are minimums and additional maintenance may be required
(1) - Attach additional documentation.

EW#	MACHINE STORAGE AREA	NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW-6	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	12.74	12.82					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-7	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.00	11.57					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-8	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.34	12.41					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-9	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.04	11.66					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-10	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	10.77	11.73					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-11	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	14.51	11.98					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-12	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	9.42	10.62					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-01	FLOW (gpm)							
	TOTAL (gal.)							
LT-01								
CP-01								
AIR SUPPLY MANIFOLD								
HEATER								
DATE OF LAST SWABBING								

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	CROTTY STREET CHANNEL							
EW-13	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	7.33		7.70				
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-14	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	5.42		6.21				
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-15	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	6.71		7.46				
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-03	FLOW (gpm)							
	TOTAL (gal.)							
HEATER								
DATE OF LAST SWABBING								
STAFF GAUGES	INLET SLIP - WATER LEVEL (ft)		11.50					
	INLET RIVER - WATER LEVEL (ft)		9.46					
	CROTTY STREET - WATER LEVEL (ft)		MISSING					

12/10/09

GLOBAL RCD
 SCOPE O&M
 WEATHER 25° WINDY W/SNOW
 1050 ONSITE

EW

6 Pump w/shake
 7 PUMPING
 8 PUMPING
 9 Pumping
 10 PUMPS w/shake
 11 Not on MAINLINE
 12 PUMPING.
 13 PUMPING
 14 PUMPS TO MANHOLE
 15 PUMPING

1315

SCOPE COMPLETE. GLOBAL
 OFFSITE.

RCD

12/17/09

GLOBAL RCD
 SCOPE O&M, MONTHLY
 WEATHER 30° o/c
 1150 ONSITE

EW

<u>TARGETS</u>	<u>ACTUAL</u>	<u>NOTES</u>
6 12.74	12.82	Pump w/shake
7 11.00	11.57	PUMPING
8 11.34	12.41	PUMPING
9 11.04	11.66	PUMPING
10 10.77	11.73	PUMPING
11 14.51	11.98	Not on LINE.
12 9.42	10.62	PUMPING
13 7.33	7.70	PUMPING
14 5.42	6.21	PUMPS TO MANHOLE
15 6.71	7.46	PUMPING

STAFF GAUGE - MISSING (CSC)
 INLET SLIP - 11.50
 INLET RIVER - 9.40

1425 SCOPE COMPLETE. SITE SECURE.
 FENCE LOCKED GLOBAL OFFSITE.

RCD.

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

<i>Description</i>	<i>Frequency</i>	<i>Inspected By (Print)</i>	<i>Date</i>	<i>Inspection Results (1)</i>	<i>Nature of Maintenance/Repairs (1)</i>
O&M Log	Monthly	RCD	1-28-10	FIELD BOOK	
Site Log Book	Monthly	RCD	1-28-10	FIELD BOOK	
Extraction Well Water Levels	Monthly	RCD	1-28-10	COMPLETE	
Inspection	Monthly	RCD	1-28-10	COMPLETE	
Maintenance	Monthly - As Required	RCD	1-28-10	AS NEEDED	
Level Transmitter Inspection	Monthly	RCD	1-28-10	COMPLETE	
Maintenance	Monthly - As Required				
Calibration	Semi-Annually				
Control Panel Inspection	Monthly	RCD	1-28-10	COMPLETE	
Maintenance	Monthly - As Required	RCD	1-28-10	COMPLETE	
Air Supply Manifold Inspection	Monthly	RCD	1-28-10	BY GM	
Air Compressor Maintenance	Monthly - As Required	RCD	1-28-10	BY GM	
Heater Check	Monthly (Winter Season)	RCD	1-28-10	COMPLETE	
Maintenance	Monthly - As Required	RCD	1-28-10	AS NEEDED	

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
Monitoring Well Sampling	As Required	RCD	1-28-10	AUG 09	
Water Levels	As required	RCD	1-28-10	AUG 09	
General Maintenance	As required	RCD	1-28-10	WEEKLY AS NEEDED	
Force Main Cleaning	As required	RCD	1-28-10	OCT 09	
Flowmeter Cleaning	As required	RCD	1-28-10	OCT 09	
Spare Parts Inventory	As used	RCD	1-28-10	REPLACE IF NEEDED	
Staff Gauges Water Levels	As Required	RCD	1-28-10 1-28-10	STAFF GAUGE 15	MISSING
Exposure Barriers	Monthly	RCD	1-28-10	GOOD	
Multi-Layer Cap	Monthly	RCD	1-28-10	GOOD	
Containment System	Monthly	RCD	1-28-10	GOOD	
Stormwater Collection System	Monthly	RCD	1-28-10	GOOD	
Crotty Street Channel Abandoned 60" Sewer	Monthly	RCD	1-28-10	GOOD	

* Note: All of the suggested frequencies are minimums and additional maintenance may be required
 (1) - Attach additional documentation.

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

EW#	MACHINE STORAGE AREA	NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
		RCD	1-25-10					
EW-6	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 12.74		12.95					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-7	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 11.00		10.60					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-8	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 11.34		12.01					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-9	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 11.04		12.65					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-10	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 10.77		11.00					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-11	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 14.51		12.18					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-12	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 9.42		11.47					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-01	FLOW (gpm)							
	TOTAL (gal.)							
LT-01								
CP-01								
AIR SUPPLY MANIFOLD								
HEATER								
DATE OF LAST SWABBING								

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	CROTTY STREET CHANNEL	RCO	1-28-16					
EW-13	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft)	TARGET DEPT 7.33	8.15					
	PUMP CHANGED (Y/N)							
CHLORINE ADDED								
EW-14	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft)	TARGET DEPT 5.42	5.72					
	PUMP CHANGED (Y/N)							
CHLORINE ADDED								
EW-15	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft)	TARGET DEPT 6.71	7.14					
	PUMP CHANGED (Y/N)							
CHLORINE ADDED								
FQIT-03	FLOW (gpm)							
	TOTAL (gal.)							
HEATER								
DATE OF LAST SWABBING								
STAFF GAUGES	INLET SLIP - WATER LEVEL (ft)		11.20					
	INLET RIVER - WATER LEVEL (ft)		9.35					
	CROTTY STREET - WATER LEVEL (ft)		MISSING					

1-19-10

GLOBAL RCD
 SCOPE O&M
 WEATHER 32° o/c
 1000 ONSITE

EW

6	PUMPS W/SHAKE
7	NOT PUMPING
8	PUMPS W/SHAKE
9	PUMPING
10	PUMPS W/ SHAKE. * PIG SPACE HEATER IN.
11	NOT PUMPING ONLINE
12	PUMPING
13	PUMPING
14	PUMPS TO MANHOLE
15	PUMPING.

1425 SCOPE COMPLETE. GLOBAL
 OFFSITE.

RCD

1-28-10

GLOBAL RCD
 SCOPE O&M, MONTHLY
 WEATHER 15° o/c WINDY COLD!
 0945 ONSITE

EW

	TARGET	ACTUAL	
6	12.74	12.95	Pump w/SHAKE
7	11.00	10.60	NOT PUMPING
8	11.34	12.01	PUMPING
9	11.04	12.65	PUMPING
10	10.77	11.00	PUMP W/SHAKE
11	14.51	12.18	NOT ONLINE
12	9.42	11.47	PUMPING
13	7.33	8.15	PUMPING
14	5.42	5.72	PUMPS TO MANHOLE
15	6.71	7.14	PUMPING

1250 SCOPE COMPLETE

CSC - MISSING
 INLET SLIP - 11.20
 INLET RIVER - 9.35

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

<i>Description</i>	<i>Frequency</i>	<i>Inspected By (Print)</i>	<i>Date</i>	<i>Inspection Results (1)</i>	<i>Nature of Maintenance/Repairs (1)</i>
O&M Log	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>FIELD BOOK</u>	
Site Log Book	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>FIELD BOOK</u>	
Extraction Well Water Levels	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>COMPLETE</u>	
Inspection	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>2-18-10</u>	<u>AS NEEDED</u>	
Level Transmitter Inspection	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>_____</u>	<u>_____</u>	<u>_____</u>	
Calibration	Semi-Annually	<u>_____</u>	<u>_____</u>	<u>_____</u>	
Control Panel Inspection	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>2-18-10</u>	<u>COMPLETE</u>	
Air Supply Manifold Inspection	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>BY GM</u>	
Air Compressor Maintenance	Monthly - As Required	<u>RCD</u>	<u>2-18-10</u>	<u>BY GM</u>	
Heater Check	Monthly (Winter Season)	<u>RCD</u>	<u>2-18-10</u>	<u>COMPLETE</u>	
Maintenance	Monthly - As Required	<u>RCD</u>	<u>2-18-10</u>	<u>AS NEEDED</u>	

<i>Description</i>	<i>Frequency</i>	<i>Inspected By (Print)</i>	<i>Date</i>	<i>Inspection Results (1)</i>	<i>Nature of Maintenance/Repairs (1)</i>
Monitoring Well Sampling	As Required	<u>RCD</u>	<u>2-18-10</u>	<u>AUG 09</u>	
Water Levels	As required	<u>RCD</u>	<u>2-18-10</u>	<u>AUG 09</u>	
General Maintenance	As required	<u>RCD</u>	<u>2-18-10</u>	<u>WKLY AS NEEDED</u>	
Force Main Cleaning	As required	<u>RCD</u>	<u>2-18-10</u>	<u>OCT 09</u>	
Flowmeter Cleaning	As required	<u>RCD</u>	<u>2-18-10</u>	<u>OCT 09</u>	
Spare Parts Inventory	As used	<u>RCD</u>	<u>2-18-10</u>	<u>REPLACE IF NEEDED</u>	
Staff Gauges Water Levels	As Required	<u>RCD</u>	<u>2-18-10</u>	<u>STAFF GAUGE IS MISSING</u>	
Exposure Barriers	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>GOOD</u>	
Multi-Layer Cap	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>GOOD</u>	
Containment System	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>GOOD</u>	
Stormwater Collection System	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>GOOD</u>	
Crotty Street Channel Abandoned 60" Sewer	Monthly	<u>RCD</u>	<u>2-18-10</u>	<u>GOOD</u>	

* Note: All of the suggested frequencies are minimums and additional maintenance may be required
 (1) - Attach additional documentation.

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

EW#	MACHINE STORAGE AREA	NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
		RCD	2-18-10					
EW-6	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	12.74	12.85					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-7	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.00	11.51					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-8	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.34	11.72					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-9	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.04	12.63					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-10	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	10.77	10.97					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-11	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	14.51	11.99					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-12	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	9.42	11.24					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-01	FLOW (gpm)							
	TOTAL (gal.)							
LT-01								
CP-01								
AIR SUPPLY MANIFOLD								
HEATER								
DATE OF LAST SWABBING								

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	CROTTY STREET CHANNEL	RCD	2-18-10					
EW-13	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 7.33	7.75						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-14	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 5.42	6.61						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-15	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT 6.71	6.90						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-03	FLOW (gpm)							
	TOTAL (gal.)							
HEATER								
DATE OF LAST SWABBING								
STAFF GAUGES	INLET SLIP - WATER LEVEL (ft)	10.20						
	INLET RIVER - WATER LEVEL (ft)	9.35						
	CROTTY STREET - WATER LEVEL (ft)	MISSING						

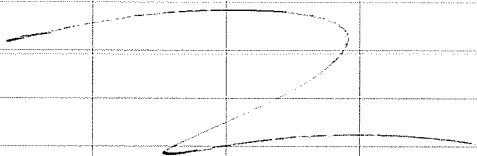
2/11/10

GLOBAL RCD
 SCOPE O&M
 WEATHER 29° o/c
 1000 ONSITE

EW

6 Pump w/SHAKE
 7 Pump w/SHAKE
 8 Pump w/SHAKE
 9 PUMPING
 10 Pump w/SHAKE
 11 NOT ONLINE
 12 PUMPING
 13 PUMPING
 14 PUMPS TO MAINT
 15 PUMPING

1205 SCOPE COMPLETE GLOBAL
 OFFSITE.




2/18/10

GLOBAL RCD
 SCOPE O&M; MONTHLY
 WEATHER 32° SUNNY
 1140 ONSITE

EW	RCD TARGET ACTUAL	ACTUAL TARGET	NOTE
6	12.74	12.85	Pump w/SHAKE
7	11.06	11.51	NEW PUMP
8	11.34	11.72	Pump w/SHAKE
9	11.04	12.63	PUMPING
10	10.77	10.97	Pump w/SHAKE
11	14.51	11.97	NOT ONLINE
12	9.42	11.24	PUMPS
13	7.33	7.75	PUMPS
14	5.42	6.61	PUMP TO MAINT
15	6.71	6.90	Pump w/SHAKE

* STRAP GAUGES

CSC - MISSING
 INLET SLIP - 10.20
 INLET RIVER - 9.35

1450 SCOPE COMPLETE GLOBAL
 OFFSITE



O&M LOG
CSC/MSA
BAY CITY, MICHIGAN

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
O&M Log	Monthly	SSH	3/9/10	Field book	
Site Log Book	Monthly			Field book	
Extraction Well Water Levels	Monthly			collected	
Inspection	Monthly			complete	
Maintenance	Monthly - As Required			as needed	
Level Transmitter Inspection	Monthly			Complete	
Maintenance	Monthly - As Required				
Calibration	Semi-Annually				
Control Panel Inspection	Monthly			working properly	
Maintenance	Monthly - As Required			none required	
Air Supply Manifold Inspection	Monthly			by GM	
Air Compressor Maintenance	Monthly - As Required				
Heater Check	Monthly (Winter Season)			working properly	
Maintenance	Monthly - As Required			turn "off" next month	

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
Monitoring Well Sampling	As Required	SSTH	3/9/10	Aug 10	
Water Levels	As required			Aug 10	
General Maintenance	As required			weekly as needed	pumps, bldg, clean off fence
Force Main Cleaning	As required			spring 10	
Flowmeter Cleaning	As required			spring 10	
Spare Parts Inventory	As used			adequate	
Staff Gauges Water Levels	As Required			complete	
Exposure Barriers	Monthly			good	
Multi-Layer Cap	Monthly			minor erosion	
Containment System	Monthly			good	
Stormwater Collection System	Monthly			proper flow	
Crotty Street Channel Abandoned 60" Sewer	Monthly			good	

* Note: All of the suggested frequencies are minimums and additional maintenance may be required
 (1) - Attach additional documentation.

O&M LOG
CSC/MSA
BAY CITY, MICHIGAN

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	MACHINE STORAGE AREA	SSH	3/9/10					
EW-6	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	12.74	12.31					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-7	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.00	9.38					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-8	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.34	9.54					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-9	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	11.04	12.61					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-10	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	10.77	9.48					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-11	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	14.51	13.87					product at 12.76
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-12	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT	9.42	7.45					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-01	FLOW (gpm)							
	TOTAL (gal.)							
LT-01								
CP-01								
AIR SUPPLY MANIFOLD								
HEATER								
DATE OF LAST SWABBING								

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	CROTTY STREET CHANNEL	SSH	3/9/10					
EW-13	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 7.33		7.67					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-14	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 5.42		7.20					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-15	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 6.71		7.81					
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-03	FLOW (gpm)							
	TOTAL (gal.)							
HEATER			OK					
DATE OF LAST SWABBING			Oct. 09					
STAFF GAUGES	INLET SLIP - WATER LEVEL (ft)							
	INLET RIVER - WATER LEVEL (ft)							
	CROTTY STREET - WATER LEVEL (ft)		missing					

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
O&M Log	Monthly	SSH	4/6/10	Field book	
Site Log Book	Monthly			field book	
Extraction Well Water Levels	Monthly			collected	
Inspection	Monthly			complete - OK	
Maintenance	Monthly - As Required			as needed - base upon pump operation	
Level Transmitter Inspection	Monthly			complete	
Maintenance	Monthly - As Required			-	
Calibration	Semi-Annually			-	
Control Panel Inspection	Monthly			working properly	
Maintenance	Monthly - As Required			none required	
Air Supply Manifold Inspection	Monthly			by GM	
Air Compressor Maintenance	Monthly - As Required			-	
Heater Check	Monthly (Winter Season)			turned "off"	
Maintenance	Monthly - As Required			none	

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

Description	Frequency	Inspected By (Print)	Date	Inspection Results (1)	Nature of Maintenance/Repairs (1)
Monitoring Well Sampling	As Required	SSH	4/6/10	Aug 10	
Water Levels	As required		4/6/10	Aug 10	
General Maintenance	As required		4/8	sampled septic tank - tank is full	
Force Main Cleaning	As required		4/6/10	spring 10	
Flowmeter Cleaning	As required		4/6/10	spring 10	
Spare Parts Inventory	As used		4/8/10	determine MLL vs GM parts	
Staff Gauges Water Levels	As Required		4/6/10	complete	
Exposure Barriers	Monthly		4/20	OK	
Multi-Layer Cap	Monthly			signs of animal activity - call critter control	
Containment System	Monthly			shutpile has several separations on cap	
Stormwater Collection System	Monthly			proper flow	
Crotty Street Channel Abandoned 60" Sewer	Monthly			OK	

* Note: All of the suggested frequencies are minimums and additional maintenance may be required
 (1) - Attach additional documentation.

O&M LOG
 CSC/MSA
 BAY CITY, MICHIGAN

		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	MACHINE STORAGE AREA	4/6	SSH					
EW-6	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 12.74	11.88						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-7	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 11.00	9.27						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-8	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 11.34	9.76						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-9	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 11.04	12.61						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-10	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 10.77	9.19						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-11	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 14.51							no interface probe onsite
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-12	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 9.42	7.23						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-01	FLOW (gpm)							
	TOTAL (gal.)	—						
LI-01		OK						
CP-01		OK						
AIR SUPPLY MANIFOLD		OK						
HEATER		OK						
DATE OF LAST SWABBING		OCT 09						

O&M LOG
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		NAME	DATE	NAME	DATE	NAME	DATE	NOTES, DESCRIPTION OF MAINT., SPARE PARTS USED
EW#	CROTTY STREET CHANNEL	SCH	4/6					
EW-13	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 7.33	8.01						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-14	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 5.42	8.65						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
EW-15	PUMP CYCLING BEFORE/AFTER MAINTENANCE (count/min)							
	AIR PRESSURE (psi)							
	DEPTH TO WATER/LNAPL (ft.) TARGET DEPT: 6.71	7.71						
	PUMP CHANGED (Y/N)							
	CHLORINE ADDED							
FQIT-03	FLOW (gpm)							
	TOTAL (gal.)							
HEATER								
DATE OF LAST SWABBING								
STAFF GAUGES	INLET SLIP - WATER LEVEL (ft)							
	INLET RIVER - WATER LEVEL (ft)							
	CROTTY STREET - WATER LEVEL (ft)	missing						