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Mr. Allan Brouillet  
Environmental Response Division  
Michigan Department of Environmental Quality  
Saginaw Bay District  
503 North Euclid Street  
Bay City, MI 48706

INDUSTRIAL

Subject:

Monthly Report #153 – August 2007  
GM SMI Plant Property, REALM Inc. Green Point Landfill and  
Drum Remediation Area RI/FS/RAP, and Green Point Landfill Closure

Date:  
September 12, 2007

Dear Mr. Brouillet:

Contact:  
Lisa R. Coffey, P.G.

On behalf of the General Motors Corporation (GM) and Waste Management, Inc. (WMI), the August 2007 monthly report for the GM SMI Plant Property and the Remediation and Liability Management Company Inc. (REALM) Green Point Landfill Property is attached. Please contact me if you have any questions regarding the enclosed information.

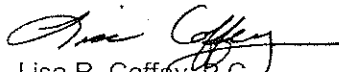
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Sincerely,

ARCADIS of New York, Inc.

Our ref:  
B0027608 #2.08

  
Lisa R. Coffey, P.G.  
Sr. Geologist II

Attachments

Copies:

Ms. Susan Kaelber-Matlock, MDEQ, ERD  
John Fordell Leone, Esq., Department of Attorney General  
Ms. Cheryl Hiatt/Mr. Edward Peterson, GM WFG  
Anthony Thrubis, Esq., GM Legal  
Mr. Kent Bainbridge, Waste Management, Inc.  
Mr. Jim Forney, Waste Management, Inc.  
Ms. Renee Mietz, GM SMI  
Ms. Amanda Kurzman, GM SMI  
Ms. Jo Ann Robertson, ARCADIS BBL

Imagine the result

**Monthly Report #153**  
**General Motors Corporation Saginaw Malleable Iron Plant Property and**  
**REALM Inc. Green Point Landfill and Drum Remediation Area**  
**August 2007**

**Significant RI/FS/RAP and Interim Measure Activities and Events**

- The light non-aqueous phase liquid (LNAPL) recovery system located south of the main plant building recovered over 3,700 gallons of groundwater and no LNAPL during the monitored period of July 17, 2007 through August 23, 2007 (Table 1). Note that the recovery well RW-1 pump compressor was down, and parts are on order for repair. On August 28, 2007, approximately 0.11 foot of LNAPL was measured in recovery well RW-1 and no LNAPL was present in recovery wells RW-2 and RW-3. Table 2 presents current and historical LNAPL and groundwater elevation measurement data for monitoring wells located in the vicinity of the recovery system.
- The automated skimmer pump installed at monitoring well QPTW-3 in the Quench Pit Area recovered approximately 35 gallons of LNAPL between July 30 and August 28, 2007. A total of approximately 2,410 gallons of LNAPL have been recovered by the system. Approximately 6,500 gallons of LNAPL were also removed by hand bailing from 1997 through 2002, prior to installation of the skimmer pump.
- Three monitoring wells that had been damaged beyond repair (X-4CAUG, MW-114S4, and MW-5B) were abandoned. The *Monitoring Well Abandonment Records* for these wells are attached.

**Significant Green Point Landfill Closure Activities and Events**

- The three monitoring wells installed during July east of the Green Point Landfill (X-4CAUG R, X-4D, X-9D), were developed. The *Soil Boring/Well Installation Logs* for the new wells are attached.

**Key Correspondence and Communications**

- The July 2007 monthly report, dated August 13, 2007, was submitted to the Michigan Department of Environmental Quality (MDEQ).

**Anticipated Activities for September and October 2007**

- Continuation of LNAPL recovery activities.
- Collection of groundwater samples in the former underground storage tank (UST) 7 area as part of the ongoing monitored natural attenuation program.
- Groundwater sampling activities along the river berm and in the vicinity of the Green Point Landfill will be scheduled following MDEQ approval of the *Work Plan for Additional Site Investigation for Remedial Action Plan, Revision 1*, dated July 24, 2007.

**TABLE 1  
LNAPL RECOVERY SUMMARY**

**GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT  
SAGINAW, MICHIGAN**

System Status		
Date	Approximate Volume of LNAPL in Totes (gallons)	Totalizer Reading (gallons)
August 23, 2007	515	3,011,873
LNAPL Recovery - August 2007		
LNAPL Recovery Operation	Approximate Volume of LNAPL Recovered (gallons)	Approximate Volume of Groundwater Treated (gallons)
LNAPL System Recovery - July 17, 2007 through August 23, 2007	0	3,794
LNAPL Recovery Summary		
LNAPL Recovery Operation	Approximate Volume of LNAPL Recovered (gallons)	Approximate Volume of Groundwater Treated (gallons)
LNAPL System - Total through August 23, 2007	3,694	3,011,873
Total Hand Bailed - July 2002 through February 2003	21	0
Water/LNAPL Pumped From Reverse Siphon of 42-Inch Sewer Line - Total through August 23, 2006 <sup>2</sup>	60 +	450
Total Hand Bailed - 1996 and 1997	710	0
LNAPL/water recovered during repair of 42-Inch Storm Sewer Line (recovery from abandoned 30-inch line)	5,000 +	unknown
LNAPL/water recovered during Slip Lining of 42-Inch Storm Sewer Line	3,000 +	unknown
Totals:	12,485 +	3,012,323

<sup>1</sup> Total includes some water drawn into the LNAPL recovery lines when the water table fluctuates rapidly, and water that was included in an LNAPL/water mixture recovered during repair of the 42-inch storm sewer line.

<sup>2</sup> Note that in a number of instances, LNAPL removed from the inverted siphon by plant personnel has been included in the LNAPL system recovery total.

<sup>3</sup> On February 19, 2007, approximately 20 gallons of water were drained from tote 2, and the LNAPL recovery values were adjusted accordingly.

TABLE 2  
GROUNDWATER AND LNAPL MEASUREMENT SUMMARY  
SEPTEMBER 2002 THROUGH THE PRESENT

GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT  
SAGINAW, MICHIGAN

Date	MW-132WT reference elevation = 584.24				MW-147WT reference elevation = 592.07				MW-157WT reference elevation = 591.72				MW-158WT reference elevation = 591.78			
	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)
September 26, 2002	--	--	--	--	7.67	2.13	9.80	584.23	--	--	--	--	NA	NA	NA	NA
October 29, 2002	--	--	--	--	7.77	2.78	10.55	584.09	--	--	--	--	NP	0.00	8.60	583.18
November 26, 2002	--	--	--	--	7.75	1.75	9.50	584.18	--	--	--	--	NA	NA	NA	NA
December 19, 2002	--	--	--	--	7.78	1.27	9.05	584.19	--	--	--	--	NA	NA	NA	NA
January 10, 2003	--	--	--	--	9.25	0.00	9.25	582.82	--	--	--	--	NA	NA	NA	NA
February 25, 2003	--	--	--	--	8.18	1.30	9.48	583.79	--	--	--	--	NA	NA	NA	NA
March 27, 2003	--	--	--	--	8.06	1.06	9.12	583.93	--	--	--	--	NA	NA	NA	NA
April 29, 2003	--	--	--	--	7.38	0.98	8.36	584.61	--	--	--	--	NA	NA	NA	NA
May 29, 2003	--	--	--	--	6.69	2.15	8.84	585.21	--	--	--	--	NA	NA	NA	NA
June 25, 2003	--	--	--	--	6.79	2.75	9.54	585.06	--	--	--	--	NA	NA	NA	NA
July 30, 2003	--	--	--	--	6.63	2.78	9.41	585.22	--	--	--	--	NA	NA	NA	NA
August 4, 2003	--	--	--	--	6.58	2.78	9.36	585.27	--	--	--	--	NA	NA	NA	NA
September 18, 2003	--	--	--	--	6.80	2.85	9.65	585.04	--	--	--	--	NA	NA	NA	NA
November 10, 2003	--	--	--	--	6.46	2.08	8.54	585.44	--	--	--	--	NA	NA	NA	NA
December 29, 2003	--	--	--	--	6.55	2.16	8.71	585.35	--	--	--	--	NA	NA	NA	NA
February 26, 2004	--	--	--	--	NA	NA	NA	NA	--	--	--	--	8.68	0.01	8.69	NA
March 8, 2004	--	--	--	--	NA	NA	NA	NA	--	--	--	--	8.41	0.01	8.42	NA
April 29, 2004	--	--	--	--	6.36	1.64	8.00	585.58	--	--	--	--	NA	NA	NA	NA
June 1, 2004	--	--	--	--	5.20	1.25	6.45	586.77	--	--	--	--	NA	NA	NA	NA
June 30, 2004	--	--	--	--	6.05	1.26	7.31	585.92	--	--	--	--	NA	NA	NA	NA
July 28, 2004	--	--	--	--	NA	NA	NA	NA	--	--	--	--	7.90	0.01	7.91	583.88
August 17, 2004	--	--	--	--	6.76	1.34	8.10	585.20	--	--	--	--	8.21	0.01	8.22	583.57
September 27, 2004	--	--	--	--	6.91	1.61	8.52	585.03	--	--	--	--	NP	0.00	6.39	583.39
October 29, 2004	--	--	--	--	7.04	1.78	8.82	584.89	--	--	--	--	8.41	0.01	8.42	583.37
November 30, 2004	--	--	--	--	6.35	1.72	8.07	585.58	--	--	--	--	8.56	0.01	8.57	583.22
December 27, 2004	--	--	--	--	NA	NA	NA	NA	--	--	--	--	8.35	0.01	8.36	583.43
January 26, 2005	--	--	--	--	6.28	2.03	8.31	585.83	--	--	--	--	NA	NA	NA	NA
February 7, 2005	--	--	--	--	6.57	1.96	8.53	585.34	--	--	--	--	NP	0.00	7.98	583.80
March 17, 2005	NP	0.00	10.97	583.27	6.55	2.04	8.59	585.36	7.27	0.66	7.93	584.40	NP	0.00	8.24	583.64
April 13, 2005	NP	0.00	10.94	583.30	6.44	1.74	8.18	585.49	7.18	0.18	7.36	584.63	NP	0.00	8.23	583.65
May 31, 2005	NP	0.00	10.91	583.33	6.63	1.76	8.29	585.40	7.23	0.25	7.48	584.47	NP	0.00	8.14	583.64
June 28, 2005	--	--	--	--	5.83	1.73	7.56	586.10	6.23	0.21	6.44	585.47	NP	0.00	7.72	584.06
July 29, 2005	NP	0.00	10.59	583.65	5.59	1.58	7.17	586.35	6.21	0.70	6.91	585.45	NP	0.00	7.69	584.09
August 18, 2005	NP	0.00	10.82	583.42	6.19	1.75	7.94	585.74	6.96	0.23	7.19	584.74	NP	0.00	7.98	583.80
September 28, 2005	NP	0.00	11.03	583.21	6.49	1.59	8.08	585.45	7.37	0.04	7.41	584.35	8.33	0.01	8.34	583.45
October 18, 2005	--	--	--	--	6.86	1.93	8.78	585.07	7.68	0.38	8.06	584.01	NP	0.00	8.56	583.22
November 30, 2005	NP	0.00	11.03	583.21	6.33	1.76	8.09	585.60	7.09	0.03	7.12	584.83	NP	0.00	8.31	583.47
December 26, 2005	NP	0.00	10.96	583.28	6.15	1.96	8.11	585.76	6.89	0.19	7.08	584.81	NP	0.00	8.14	583.64
January 31, 2006	NP	0.00	10.55	583.69	8.21	1.91	7.12	586.71	6.74	0.51	6.25	585.94	NP	0.00	7.53	584.25
February 24, 2006	NP	0.00	10.80	583.44	6.38	1.86	8.24	585.54	6.87	0.27	7.14	584.83	NP	0.00	7.98	583.80
March 22, 2006	NP	0.00	10.37	583.87	5.70	1.63	7.33	586.24	5.68	0.13	5.81	586.03	NP	0.00	7.71	584.07
April 27, 2006	NP	0.00	10.91	583.33	6.23	1.69	7.92	585.70	7.17	0.03	7.20	584.65	8.14	0.01	8.15	583.64
May 25, 2006	NA	NA	NA	NA	NA	NA	NA	NA	6.37	0.14	6.51	585.34	NP	0.00	7.95	583.83
June 27, 2006	NP	0.00	10.84	583.30	6.32	1.70	8.02	585.61	7.20	0.04	7.24	584.62	NP	0.00	8.17	583.61
July 11, 2006	NP	0.00	10.62	583.42	5.99	1.67	7.66	585.95	6.96	0.11	7.07	584.75	NP	0.00	8.03	583.75
August 23, 2006	NP	0.00	10.92	583.32	6.24	1.65	7.89	585.70	7.20	0.01	7.21	584.62	NP	0.00	8.08	583.70
September 26, 2006	NP	0.00	10.75	583.49	5.67	1.64	7.31	586.27	6.69	0.11	6.80	585.02	NP	0.00	7.90	583.88
October 30, 2006	NP	0.00	10.63	583.71	5.36	1.65	7.01	586.68	5.71	0.22	5.93	586.99	7.49	0.02	7.51	584.29
November 27, 2006	NP	0.00	10.80	583.44	6.00	1.66	7.66	585.94	6.85	0.12	7.01	584.82	7.92	0.01	7.93	583.86
December 27, 2006	NP	0.00	10.76	583.48	6.12	1.66	7.77	585.82	7.00	0.02	7.02	584.72	NP	0.00	7.94	583.84
January 25, 2007	NP	0.00	10.98	583.26	NA	NA	NA	NA	7.42	0.04	7.46	584.30	NA	NA	NA	NA
March 6, 2007	NP	0.00	11.06	583.18	7.08	1.60	8.68	584.86	NP	0.00	7.72	584.00	NA	NA	NA	NA
March 23, 2007	NP	0.00	10.97	583.27	6.18	1.64	7.82	585.76	7.23	0.02	7.25	584.49	NP	0.00	8.09	583.69
April 30, 2007	NP	0.00	10.68	583.36	6.13	1.47	7.60	585.82	7.10	0.05	7.15	584.62	8.05	0.01	8.06	583.73
May 17, 2007	NP	0.00	10.90	583.34	6.19	1.57	7.76	585.75	7.16	0.04	7.20	584.66	NA	NA	NA	NA
June 12, 2007	NP	0.00	10.95	583.29	6.30	1.58	7.88	585.64	7.20	0.02	7.22	584.52	NP	0.00	8.11	583.87
July 18, 2007	NP	0.00	11.01	583.23	6.42	1.62	8.04	585.62	7.19	0.02	7.21	584.53	NP	0.00	8.16	583.62
August 28, 2007	NP	0.00	10.88	583.36	5.93	1.51	7.44	586.02	6.71	0.02	6.73	585.01	NP	0.00	7.97	583.81

See Notes on Page 6.

TABLE 2  
GROUNDWATER AND LNAPL MEASUREMENT SUMMARY  
SEPTEMBER 2002 THROUGH THE PRESENT

GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT  
SAGINAW, MICHIGAN

Date	MW-160WT reference elevation = 551.53				MW-161WT reference elevation = 591.80				MW-168WT reference elevation = 692.11				MW-169WT reference elevation = 591.82			
	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)
September 25, 2002	8.36	0.79	9.15	583.11	--	--	--	--	NA	NA	NA	NA	8.17	0.01	8.18	583.65
October 29, 2002	8.54	0.56	9.10	582.95	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.50	583.32
November 26, 2002	8.60	0.53	9.13	582.89	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA
December 19, 2002	8.55	0.63	9.18	582.93	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.61	583.21
January 10, 2003	8.60	0.56	9.16	582.89	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.58	583.24
February 25, 2003	8.72	0.56	9.28	582.77	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.67	583.15
March 27, 2003	8.62	0.53	9.15	582.87	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.62	583.20
April 29, 2003	8.58	0.37	8.95	582.92	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.59	583.23
May 29, 2003	7.77	0.26	8.03	583.74	--	--	--	--	NA	NA	NA	NA	NP	0.00	7.95	583.87
June 25, 2003	8.47	0.22	8.69	583.04	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.31	583.51
July 30, 2003	8.36	0.22	8.58	583.15	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.21	583.61
August 4, 2003	8.32	0.22	8.54	583.19	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.18	583.64
September 18, 2003	8.48	0.34	8.82	583.02	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.51	583.31
November 10, 2003	8.50	0.20	8.70	583.01	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.41	583.41
December 29, 2003	8.68	0.23	8.91	582.83	--	--	--	--	NA	NA	NA	NA	NP	0.00	7.88	583.94
February 26, 2004	8.60	0.11	8.71	582.92	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA
March 8, 2004	8.33	0.31	8.64	583.18	--	--	--	--	8.32	0.23	8.55	583.77	NA	NA	NA	NA
April 29, 2004	8.41	0.19	8.60	583.10	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA
June 1, 2004	7.83	0.11	7.94	583.69	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA
June 30, 2004	8.25	0.09	8.34	583.27	--	--	--	--	NA	NA	NA	NA	7.62	0.01	7.63	584.20
July 28, 2004	8.43	0.11	8.54	583.09	--	--	--	--	NA	NA	NA	NA	7.94	0.01	7.95	583.88
August 17, 2004	8.46	0.11	8.57	583.06	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.23	583.59
September 27, 2004	8.54	0.17	8.71	582.98	--	--	--	--	NA	NA	NA	NA	NP	0.01	8.36	583.47
October 29, 2004	8.58	0.09	8.67	582.94	--	--	--	--	NA	NA	NA	NA	8.44	0.01	8.45	583.38
November 30, 2004	8.47	0.07	8.54	583.05	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.23	583.59
December 27, 2004	NA	NA	NA	NA	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.30	583.62
January 26, 2005	8.21	0.35	8.56	583.29	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.17	583.65
February 7, 2005	8.10	0.11	8.21	583.42	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.17	583.65
March 17, 2005	8.43	0.13	8.56	583.09	NP	0.00	7.60	584.20	NA	NA	NA	NA	NA	NA	NA	NA
April 13, 2005	8.39	0.13	8.52	583.13	NP	0.00	7.82	583.98	NA	NA	NA	NA	NA	NA	NA	NA
May 31, 2005	8.39	0.15	8.54	583.13	NP	0.00	7.57	584.23	NA	NA	NA	NA	NP	0.00	8.20	583.62
June 28, 2005	8.14	0.09	8.23	583.38	NP	0.00	7.34	584.46	NA	NA	NA	NA	NP	0.00	7.92	583.90
July 29, 2005	8.13	0.04	8.17	583.40	7.39	0.01	7.40	584.41	NA	NA	NA	NA	NP	0.00	7.92	583.90
August 18, 2005	8.30	0.04	8.34	583.23	NP	0.00	7.51	584.29	NA	NA	NA	NA	NP	0.00	7.92	583.90
September 28, 2005	8.46	0.02	8.48	583.07	NP	0.00	7.75	584.05	NA	NA	NA	NA	NA	NA	NA	NA
October 18, 2005	8.66	0.06	8.72	582.87	NP	0.00	8.00	583.80	NA	NA	NA	NA	NA	NA	NA	NA
November 30, 2005	8.52	0.01	8.53	583.01	NP	0.00	7.78	584.02	NA	NA	NA	NA	NA	NA	NA	NA
December 26, 2005	8.44	0.01	8.45	583.09	NP	0.00	7.76	584.04	NA	NA	NA	NA	NA	NA	NA	NA
January 31, 2006	NP	0.00	8.21	583.32	NP	0.00	7.37	584.43	NA	NA	NA	NA	NA	NA	NA	NA
February 24, 2006	NP	0.00	8.38	583.16	NP	0.00	7.49	584.31	NA	NA	NA	NA	NA	NA	NA	NA
March 22, 2006	8.24	0.01	8.25	583.29	NP	0.00	7.23	584.57	NA	NA	NA	NA	NA	NA	NA	NA
April 27, 2006	NP	0.00	8.43	583.10	NP	0.00	7.35	584.45	NA	NA	NA	NA	NA	NA	NA	NA
May 25, 2006	NA	NA	NA	NA	NP	0.00	7.21	584.59	NA	NA	NA	NA	NA	NA	NA	NA
June 27, 2006	NP	0.00	8.44	583.09	NP	0.00	7.39	584.41	NA	NA	NA	NA	NA	NA	NA	NA
July 11, 2006	NP	0.00	8.40	583.13	NP	0.00	7.46	584.34	NA	NA	NA	NA	NA	NA	NA	NA
August 23, 2006	NP	0.00	8.41	583.12	NP	0.00	7.41	584.39	NA	NA	NA	NA	NA	NA	NA	NA
September 26, 2006	NP	0.00	8.32	583.21	NP	0.00	7.36	584.42	NA	NA	NA	NA	NA	NA	NA	NA
October 30, 2006	NP	0.00	8.13	583.40	NP	0.00	7.17	584.63	NA	NA	NA	NA	NA	NA	NA	NA
November 27, 2006	NP	0.00	8.40	583.13	NP	0.00	7.36	584.44	NA	NA	NA	NA	NA	NA	NA	NA
December 27, 2006	NP	0.00	8.34	583.19	NP	0.00	7.32	584.48	NA	NA	NA	NA	NA	NA	NA	NA
January 25, 2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
March 6, 2007	NP	0.00	8.59	582.94	NP	0.00	7.78	584.02	NA	NA	NA	NA	NA	NA	NA	NA
March 23, 2007	NP	0.00	8.53	583.00	NP	0.00	7.58	584.22	NA	NA	NA	NA	NA	NA	NA	NA
April 30, 2007	NP	0.00	8.46	583.07	NP	0.00	7.40	584.40	NA	NA	NA	NA	NA	NA	NA	NA
May 17, 2007	NP	0.00	8.44	583.09	NP	0.00	7.39	584.41	NA	NA	NA	NA	NA	NA	NA	NA
June 12, 2007	NP	0.00	8.50	583.03	NP	0.00	7.45	584.35	NA	NA	NA	NA	NA	NA	NA	NA
July 18, 2007	NP	0.00	8.54	582.99	NP	0.00	7.59	584.21	NA	NA	NA	NA	NP	0.00	8.31	583.51
August 28, 2007	NP	0.00	8.46	583.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on Page 6.

TABLE 2  
GROUNDWATER AND LNAPL MEASUREMENT SUMMARY  
SEPTEMBER 2002 THROUGH THE PRESENT

GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT  
SAGINAW, MICHIGAN

Date	MW-172WT reference elevation = 591.51				MW-175WT reference elevation not available				MW-178WT reference elevation = 590.35			
	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)
September 25, 2002	8.47	0.53	9.00	583.00	NP	0.00	7.67	NA	7.99	1.40	9.39	582.25
October 29, 2002	8.42	0.88	9.30	583.02	NP	0.00	7.34	NA	7.56	1.29	8.85	582.69
November 26, 2002	8.45	0.82	9.27	582.99	NA	NA	NA	NA	7.63	0.96	8.59	582.64
December 19, 2002	8.43	0.90	9.33	583.01	NA	NA	NA	NA	7.56	1.24	8.80	582.69
January 10, 2003	8.49	0.83	9.32	582.95	NA	NA	NA	NA	7.59	1.18	8.78	582.66
February 25, 2003	8.51	1.01	9.52	582.92	NA	NA	7.58	NA	7.71	1.37	9.08	582.53
March 27, 2003	8.46	0.84	9.30	582.98	NP	0.00	7.67	NA	7.60	1.10	8.70	582.66
April 29, 2003	8.44	0.71	9.15	583.01	NP	0.00	7.62	NA	7.56	1.21	8.77	582.69
May 29, 2003	7.60	0.50	8.10	583.87	NP	0.00	7.17	NA	7.04	1.07	8.11	583.22
June 25, 2003	8.35	0.67	9.02	583.11	NP	0.00	7.48	NA	7.41	1.18	8.59	582.85
July 30, 2003	8.20	0.73	8.93	583.25	NP	0.00	7.32	NA	7.30	1.13	8.43	582.96
August 4, 2003	8.17	0.73	8.90	583.28	NP	0.00	7.30	NA	7.27	1.14	8.41	582.99
September 18, 2003	8.55	0.80	9.15	583.10	NP	0.00	7.33	NA	7.50	1.35	8.85	582.74
November 10, 2003	8.30	0.87	9.17	583.14	NP	0.00	7.35	NA	7.55	1.20	8.75	582.70
December 29, 2003	8.40	0.91	9.31	583.04	NP	0.00	7.41	NA	7.75	1.09	8.84	582.51
February 26, 2004	8.45	1.02	9.47	582.98	NA	NA	NA	NA	NP	0.00	7.54	582.81
March 8, 2004	8.18	0.44	8.62	583.29	NA	NA	NA	NA	NA	NA	NA	NA
April 29, 2004	7.98	0.56	8.54	583.49	NA	NA	NA	NA	NP	0.00	7.21	583.14
June 1, 2004	NA	NA	NA	NA	NA	NA	NA	NA	7.37	1.24	8.61	582.88
June 30, 2004	8.55	0.66	8.61	582.96	6.71	0.01	6.72	NA	NA	NA	NA	NA
July 28, 2004	8.32	0.36	8.68	583.16	6.88	0.01	6.89	NA	7.45	1.25	8.70	582.80
August 17, 2004	8.33	0.49	8.82	583.14	7.01	0.01	7.02	NA	7.46	1.33	8.79	582.76
September 27, 2004	8.42	0.48	8.90	583.05	7.18	0.01	7.19	NA	7.51	1.02	8.53	582.76
October 29, 2004	NA	NA	NA	NA	7.24	0.01	7.25	NA	NA	NA	NA	NA
November 30, 2004	8.39	0.72	9.11	583.06	NP	0.00	7.11	NA	NA	NA	NA	NA
December 27, 2004	NA	NA	NA	NA	NP	0.00	7.11	NA	7.53	0.59	8.12	582.77
January 26, 2005	NA	NA	NA	NA	NP	0.00	7.01	NA	7.55	0.65	8.20	582.76
February 7, 2005	8.00	0.19	8.19	583.49	7.11	0.01	7.12	NA	7.17	0.39	7.56	583.15
March 17, 2005	8.34	0.28	8.62	583.15	NP	0.00	7.22	NA	7.63	0.65	8.28	582.87
April 13, 2005	8.33	0.35	8.68	583.15	NP	0.00	7.12	NA	7.46	0.69	8.15	582.83
May 31, 2005	8.29	0.38	8.67	583.19	NP	0.00	6.98	NA	7.56	0.83	8.39	582.72
June 26, 2005	8.06	0.04	8.10	583.45	6.67	0.01	6.68	NA	7.39	0.56	7.95	582.92
July 29, 2005	8.06	0.02	8.08	583.45	NP	0.00	6.73	NA	7.44	0.82	8.26	582.84
August 18, 2005	8.24	0.17	8.41	583.26	NP	0.00	6.83	NA	7.51	1.26	8.77	582.74
September 28, 2005	8.36	0.21	8.57	583.13	NP	0.00	7.04	NA	7.49	0.32	7.81	582.83
October 18, 2005	8.61	0.42	8.93	582.97	NP	0.00	7.26	NA	7.57	0.32	7.89	582.75
November 30, 2005	8.41	0.32	8.73	583.07	NP	0.00	7.16	NA	7.54	0.51	8.05	582.77
December 26, 2005	8.32	0.35	8.67	583.16	NP	0.00	7.19	NA	7.54	1.24	8.78	582.71
January 31, 2006	8.08	0.27	8.35	583.41	NP	0.00	6.79	NA	7.45	0.16	7.61	582.89
February 24, 2006	8.32	0.33	8.65	583.16	NP	0.00	6.99	NA	7.56	0.60	8.16	582.74
March 22, 2006	8.17	0.08	8.25	583.33	NP	0.00	6.75	NA	7.42	0.14	7.56	582.92
April 27, 2006	8.33	0.11	8.44	583.17	NP	0.00	6.84	NA	7.43	0.26	7.69	582.90
May 25, 2006	8.20	0.18	8.38	583.30	NP	0.00	6.62	NA	7.39	0.36	7.75	582.93
June 27, 2006	8.39	0.31	8.70	583.10	NP	0.00	6.79	NA	7.43	0.37	7.80	582.89
July 11, 2006	8.27	0.36	8.63	583.21	NP	0.00	6.79	NA	7.46	0.34	7.80	582.86
August 23, 2006	8.36	0.19	8.55	583.13	NP	0.00	6.81	NA	7.39	0.47	7.86	582.92
September 26, 2006	8.21	0.23	8.44	583.28	NP	0.00	6.70	NA	7.41	0.29	7.70	582.92
October 30, 2006	8.07	0.15	8.22	583.43	NP	0.00	6.56	NA	7.35	0.38	7.73	582.97
November 27, 2006	8.29	0.16	8.45	583.21	NP	0.00	6.79	NA	7.37	0.34	7.71	582.95
December 27, 2006	NA	NA	NA	NA	NP	0.00	6.83	NA	7.36	0.33	7.69	582.96
January 25, 2007	NA	NA	NA	NA	NA	NA	NA	NA	7.41	0.38	7.79	582.91
March 6, 2007	8.44	0.29	8.73	583.05	NA	NA	NA	NA	7.51	0.51	8.02	582.80
March 23, 2007	8.41	0.33	8.74	583.07	NP	0.00	7.13	NA	7.51	0.46	7.97	582.80
April 30, 2007	8.34	0.36	8.70	583.14	NP	0.00	6.89	NA	7.48	0.25	7.73	582.85
May 17, 2007	8.32	0.19	8.51	583.17	NP	0.00	6.86	NA	7.13	0.33	7.46	583.19
June 12, 2007	8.33	0.38	8.71	583.15	NP	0.00	6.91	NA	7.47	0.28	7.75	582.86
July 18, 2007	8.39	NA	NA	NA	NP	0.00	7.02	NA	7.46	0.32	7.78	582.86
August 28, 2007	NA	NA	NA	NA	NP	0.00	6.96	NA	7.46	0.29	7.75	582.87

See Notes on Page 6.

TABLE 2  
GROUNDWATER AND LNAPL MEASUREMENT SUMMARY  
SEPTEMBER 2002 THROUGH THE PRESENT

GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT  
SAGINAW, MICHIGAN

Date	MW-179WT reference elevation not available				MW-180WT reference elevation = 590.67				RW-1 reference elevation = 592.18			
	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)
September 25, 2002	--	--	--	--	--	--	--	--	NA	NA	NA	NA
October 29, 2002	--	--	--	--	--	--	--	--	8.98	0.22	9.20	583.18
November 26, 2002	--	--	--	--	--	--	--	--	9.03	0.18	9.21	583.14
December 19, 2002	--	--	--	--	--	--	--	--	NA	NA	NA	NA
January 10, 2003	--	--	--	--	--	--	--	--	NA	NA	NA	NA
February 25, 2003	--	--	--	--	--	--	--	--	NA	NA	NA	NA
March 27, 2003	--	--	--	--	--	--	--	--	9.06	0.59	9.64	583.07
April 29, 2003	--	--	--	--	--	--	--	--	8.99	0.79	9.78	583.13
May 29, 2003	--	--	--	--	--	--	--	--	8.49	0.41	8.90	583.66
June 25, 2003	--	--	--	--	--	--	--	--	8.58	0.43	9.01	583.57
July 30, 2003	--	--	--	--	--	--	--	--	8.43	0.46	8.89	583.71
August 4, 2003	--	--	--	--	--	--	--	--	8.40	0.45	8.85	583.74
September 18, 2003	--	--	--	--	--	--	--	--	8.70	0.45	9.15	583.44
November 10, 2003	--	--	--	--	--	--	--	--	8.59	0.33	8.92	583.56
December 29, 2003	--	--	--	--	--	--	--	--	9.19	0.76	9.95	582.93
February 26, 2004	--	--	--	--	--	--	--	--	9.00	4.40	13.40	582.83
March 8, 2004	--	--	--	--	--	--	--	--	8.10	0.18	8.28	584.07
April 29, 2004	--	--	--	--	--	--	--	--	8.63	0.17	8.80	583.64
June 1, 2004	--	--	--	--	--	--	--	--	7.71	0.27	7.98	584.45
June 30, 2004	--	--	--	--	--	--	--	--	8.30	0.13	8.43	583.87
July 28, 2004	--	--	--	--	--	--	--	--	8.76	0.39	9.15	583.39
August 17, 2004	--	--	--	--	--	--	--	--	8.89	0.46	9.35	583.26
September 27, 2004	--	--	--	--	--	--	--	--	8.87	0.36	9.25	583.28
October 29, 2004	--	--	--	--	--	--	--	--	NA	NA	NA	NA
November 30, 2004	--	--	--	--	--	--	--	--	8.79	0.95	9.74	583.31
December 27, 2004	--	--	--	--	--	--	--	--	8.76	0.55	9.31	583.38
January 26, 2005	--	--	--	--	--	--	--	--	8.43	1.29	9.72	583.65
February 7, 2005	--	--	--	--	--	--	--	--	8.59	0.70	9.29	583.53
March 17, 2005	NP	0.00	7.13	NA	7.15	0.02	7.17	583.52	NA	NA	NA	NA
April 13, 2005	NP	0.00	6.91	NA	NP	0.00	6.87	583.80	8.60	0.28	8.88	583.56
May 31, 2005	NP	0.00	6.96	NA	NP	0.00	7.01	583.66	8.58	0.21	8.79	583.58
June 28, 2005	NP	0.00	6.82	NA	6.84	0.01	6.85	583.83	8.13	0.21	8.34	584.03
July 29, 2005	NP	0.00	6.73	NA	NP	0.00	6.73	583.94	8.05	0.17	8.22	584.12
August 18, 2005	NP	0.00	6.78	NA	NP	0.00	6.78	583.89	8.18	0.79	8.97	583.94
September 28, 2005	NP	0.00	6.95	NA	6.99	0.01	7.00	583.68	8.81	0.69	9.40	583.32
October 18, 2005	NP	0.00	7.14	NA	7.20	0.01	7.21	583.47	8.83	0.91	9.74	583.28
November 30, 2005	7.03	0.01	7.04	NA	NP	0.00	7.11	583.56	8.54	0.68	9.22	583.69
December 26, 2005	NP	0.00	7.14	NA	NP	0.00	7.20	583.47	NA	NA	NA	NA
January 31, 2006	NP	0.00	7.63	NA	NP	0.00	6.81	583.86	NA	NA	NA	NA
February 24, 2006	NP	0.00	7.82	NA	NP	0.00	6.81	583.86	8.49	0.33	8.82	583.66
March 22, 2006	NP	0.00	6.68	NA	NP	0.00	6.69	583.98	8.35	0.52	8.87	583.79
April 27, 2006	6.79	0.01	6.80	NA	NP	0.00	6.82	583.85	8.72	0.67	9.39	583.41
May 25, 2006	NP	0.00	6.74	NA	NP	0.00	6.76	583.91	8.45	0.56	9.01	583.69
June 27, 2006	NP	0.00	6.84	NA	NP	0.00	6.85	583.82	8.71	0.71	9.42	583.41
July 11, 2006	NP	0.00	6.83	NA	NP	0.00	6.90	583.77	8.49	0.86	9.35	583.82
August 23, 2006	NP	0.00	6.61	NA	NP	0.00	6.65	584.02	8.51	0.97	9.48	583.59
September 26, 2006	NA	NA	NA	NA	NP	0.00	6.76	583.91	8.31	0.48	8.79	583.83
October 30, 2006	NA	NA	NA	NA	NP	0.00	6.49	584.18	NA	NA	NA	NA
November 27, 2006	NA	NA	NA	NA	NP	0.00	6.59	584.08	8.43	0.61	9.04	583.70
December 27, 2006	NA	NA	NA	NA	NP	0.00	6.84	584.03	NA	NA	NA	NA
January 25, 2007	NA	NA	NA	NA	NP	0.00	6.76	583.91	NA	NA	NA	NA
March 6, 2007	NP	0.00	7.13	NA	NP	0.00	7.16	583.51	8.53	0.27	8.80	583.63
March 23, 2007	NP	0.00	6.90	NA	NP	0.00	6.93	583.74	8.31	0.27	8.58	583.85
April 30, 2007	NP	0.00	6.56	NA	NP	0.00	6.58	584.09	8.52	0.09	8.61	583.66
May 17, 2007	NA	NA	NA	NA	NP	0.00	6.52	584.15	8.38	0.14	8.52	583.79
June 12, 2007	NP	0.00	6.57	NA	NP	0.00	6.58	584.08	8.39	0.07	8.46	583.78
July 18, 2007	NP	0.00	6.75	NA	NP	0.00	6.78	583.89	8.46	0.63	9.09	583.67
August 28, 2007	NP	0.00	6.82	NA	NP	0.00	6.85	583.82	8.23	0.11	8.34	583.94

See Notes on Page 6.

TABLE 2  
GROUNDWATER AND LNAPL MEASUREMENT SUMMARY  
SEPTEMBER 2002 THROUGH THE PRESENT

GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT  
SAGINAW, MICHIGAN

Date	RW-2 reference elevation = 592.07				RW-3 reference elevation = 592.32				TP-2			
	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Water (feet)	Groundwater Elevation (corrected)
September 25, 2002	8.93	0.01	8.94	583.14	8.60	0.01	8.61	583.72	8.95	0.30	9.25	NA
October 29, 2002	8.99	0.01	9.00	583.08	NP	0.00	8.69	583.63	9.04	0.30	9.34	NA
November 26, 2002	NA	NA	NA	NA	NA	NA	NA	NA	9.11	0.29	9.40	NA
December 19, 2002	NP	0.00	9.06	582.99	NP	0.00	8.62	583.50	NA	NA	NA	NA
January 10, 2003	NP	0.00	9.06	583.01	NP	0.00	8.83	583.49	NA	NA	NA	NA
February 25, 2003	9.19	0.01	9.20	582.88	9.00	0.01	9.01	583.32	9.39	0.57	9.96	NA
March 27, 2003	9.11	0.01	9.12	582.96	8.93	0.01	8.94	583.39	NA	NA	NA	NA
April 29, 2003	9.01	0.01	9.02	583.06	8.51	0.01	8.52	583.81	9.15	0.01	9.16	NA
May 29, 2003	8.66	0.01	8.66	583.42	7.35	0.01	7.36	584.97	8.68	0.01	8.69	NA
June 25, 2003	9.63	0.01	9.64	582.44	8.95	0.01	8.96	583.37	8.82	0.79	9.61	NA
July 30, 2003	9.47	0.01	9.48	582.60	8.78	0.01	8.79	583.54	8.71	0.78	9.49	NA
August 4, 2003	9.46	0.01	9.47	582.61	8.73	0.01	8.74	583.59	8.65	0.78	9.43	NA
September 18, 2003	8.92	0.01	8.93	583.15	NP	0.00	8.28	584.04	NA	NA	NA	NA
November 10, 2003	NP	0.00	8.95	583.12	NP	0.00	8.23	584.09	8.59	0.61	9.20	NA
December 29, 2003	NP	0.00	9.01	583.06	8.28	0.01	8.29	584.04	9.35	0.27	9.62	NA
February 26, 2004	NA	NA	NA	NA	8.50	0.01	8.51	583.82	9.03	3.40	12.43	NA
March 8, 2004	NA	NA	NA	NA	8.27	0.01	8.28	584.05	NA	NA	NA	NA
April 29, 2004	NA	NA	NA	NA	7.78	0.01	7.79	584.54	8.65	0.75	9.40	NA
June 1, 2004	NA	NA	NA	NA	NP	0.00	5.61	586.71	7.64	0.23	7.87	NA
June 30, 2004	8.66	0.01	8.67	583.41	NP	0.00	7.44	584.88	NA	NA	NA	NA
July 28, 2004	8.83	0.01	8.84	583.24	NP	0.00	8.14	584.18	NA	NA	NA	NA
August 17, 2004	8.84	0.01	8.85	583.13	NP	0.00	8.51	583.81	NA	NA	NA	NA
September 27, 2004	9.09	0.01	9.10	582.98	NP	0.00	8.50	583.82	8.75	0.71	9.46	NA
October 29, 2004	8.71	0.02	8.73	583.36	NP	0.00	7.72	584.60	NA	NA	NA	NA
November 30, 2004	9.02	0.01	9.03	583.05	NP	0.00	8.07	584.25	8.67	1.00	9.67	NA
December 27, 2004	NP	0.00	9.03	583.04	NP	0.00	7.84	584.48	NA	NA	NA	NA
January 26, 2005	NP	0.00	8.69	583.38	NP	0.00	6.92	585.40	8.33	1.09	9.42	NA
February 7, 2005	NP	0.00	8.73	583.34	NP	0.00	7.57	584.75	8.44	1.05	9.49	NA
March 17, 2005	NP	0.00	8.92	583.15	NP	0.00	7.82	584.50	8.61	1.30	9.91	NA
April 13, 2005	NP	0.00	8.94	583.13	NP	0.00	7.83	584.49	8.49	1.13	9.62	NA
May 31, 2005	NP	0.00	8.93	583.14	NP	0.00	7.88	584.44	8.54	0.33	8.87	NA
June 28, 2005	NP	0.00	8.71	583.36	NP	0.00	7.04	585.28	8.01	0.48	8.49	NA
July 29, 2005	NP	0.00	8.69	583.38	NP	0.00	6.77	585.55	7.97	0.26	8.22	NA
August 18, 2005	NP	0.00	8.67	583.40	NP	0.00	7.72	584.60	8.28	0.75	9.03	NA
September 28, 2005	NP	0.00	9.01	583.06	NP	0.00	8.41	583.91	8.69	0.62	9.31	NA
October 18, 2005	NP	0.00	8.98	583.08	NP	0.00	8.41	583.91	--	--	--	NA
November 30, 2005	NP	0.00	8.83	583.14	NP	0.00	8.02	584.30	--	--	--	NA
December 26, 2005	NP	0.00	8.99	583.08	NP	0.00	7.98	584.34	8.43	0.87	9.30	NA
January 31, 2006	NP	0.00	8.72	583.35	NP	0.00	5.50	586.82	7.82	0.72	8.54	NA
February 24, 2006	NP	0.00	8.87	583.20	NP	0.00	6.78	585.54	8.36	1.04	9.40	NA
March 22, 2006	NA	NA	NA	NA	NP	0.00	6.29	586.03	8.22	0.81	9.03	NA
April 27, 2006	NA	NA	NA	NA	NP	0.00	7.66	584.66	8.57	0.99	9.56	NA
May 25, 2006	NA	NA	NA	NA	NP	0.00	7.25	585.07	8.31	0.86	9.27	NA
June 27, 2006	NA	NA	NA	NA	NP	0.00	7.91	584.41	NA	NA	NA	NA
July 11, 2006	NA	NA	NA	NA	NP	0.00	7.34	584.98	8.03	1.70	9.73	NA
August 23, 2006	NA	NA	NA	NA	NP	0.00	7.89	584.43	NA	NA	NA	NA
September 26, 2006	NP	0.00	8.90	583.17	NP	0.00	7.08	585.24	NA	NA	NA	NA
October 30, 2006	NP	0.00	8.75	583.32	NP	0.00	7.05	585.27	NA	NA	NA	NA
November 27, 2006	NP	0.00	8.94	583.13	NP	0.00	7.50	584.82	NA	NA	NA	NA
December 27, 2006	NP	0.00	8.76	583.31	NP	0.00	7.33	584.99	NA	NA	NA	NA
January 25, 2007	NA	NA	NA	NA	NP	0.00	7.90	584.42	NA	NA	NA	NA
March 6, 2007	NP	0.00	9.14	582.93	NP	0.00	8.18	584.14	8.54	0.92	9.46	NA
March 23, 2007	NP	0.00	8.64	583.43	NA	NA	NA	NA	8.28	0.89	9.17	NA
April 30, 2007	NP	0.00	8.98	583.09	NP	0.00	8.03	584.29	8.37	0.79	9.16	NA
May 17, 2007	NP	0.00	8.99	583.08	NP	0.00	7.98	584.34	8.34	0.77	9.11	NA
June 12, 2007	NP	0.00	9.03	583.04	NP	0.00	8.21	584.11	8.29	0.76	9.05	NA
July 18, 2007	NP	0.00	9.07	583.00	NP	0.00	8.27	584.05	8.44	0.01	8.45	NA
August 28, 2007	NP	0.00	9.00	583.07	NP	0.00	7.57	584.75	8.12	0.45	8.57	NA

See Notes on Page 6.

TABLE 2  
GROUNDWATER AND LNAPL MEASUREMENT SUMMARY  
SEPTEMBER 2002 THROUGH THE PRESENT

GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT  
SAGINAW, MICHIGAN

Notes:

The reference elevation for each of the recovery wells (RW-1, RW-2, RW-3, and RW-4) is the ground surface elevation; approximately equal to the elevation of the edge of the vault.

NA = not available; monitoring well inaccessible (e.g., covered by pallet, gravel, roll-off, vehicle, or snowpile).

-- = Not measured.

NP = LNAPL was not present in well. An LNAPL density of 0.92 was used to correct the water level elevations for the presence of LNAPL. LNAPL is periodically removed by bailing from monitoring well MW-178WT.



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
MONITOR WELL ABANDONMENT RECORD**

<b>PROJECT</b>		<b>LOCATION</b>	
Site Name:	GM Saginaw Malleable Iron Plant	County:	Saginaw
Project Number:	64434	¼, ¼, ¼:	NW, SW, SW
MERA #:	NA	Section:	26
MW #:	X-4CAUG	Town:	12 N
MIRIS well ID #:	NA	Range:	4 E
GPS Coord :	N 690703.63 E 13229874.53		

<b>DATES</b>			
Date Installed:	5/5/95	Installed by:	Stearns
Date Abandon:	8/1/07	Abandoned by:	Altech

<b>WELL SPECIFICATIONS</b>		<b>GROUTING INFORMATION</b>	
Well Depth:	23 feet bgs.	<b>2" annulus grouted:</b>	<b>4" annulus grouted:</b>
Screen Depth:	23 feet bgs.	Yes	Yes
Water Table:	NA	No	
<b>Casing Type:</b>		from (ft.)	0
Galvanized:		to (ft.)	23
PVC:	Yes	grout type:	Cement/bentonite slurry
Stainless Steel:		<b>Casing</b>	
Casing I.D.:		Pulled:	
<b>Screen Type:</b>		Cut off:	Yes
PVC:	Yes	depth bgl (ft.):	16
Stainless Steel:		hole grouted?	Yes
Length (ft.):		Grout Type:	Cement/bentonite slurry

<b>ABANDONMENT METHOD</b>	
Thru casing ?	
Tremie Pipe ?	Yes
Other? (explain):	Overdrilled to remove casing

<b>ABANDON CREW</b>		<b>STATE EMPLOYEE WITNESS</b>	
name: (BBL)	Sandy Wilson	Name:	
name: (Altech)	Jason Hurshman	Name:	
name: (Altech)		Name:	
name:		Name:	

<b>COMMENTS</b>



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
MONITOR WELL ABANDONMENT RECORD**

<b>PROJECT</b>		<b>LOCATION</b>	
Site Name:	GM Saginaw Malleable Iron Plant	County:	Saginaw
Project Number:	64434	1/4, 1/4, 1/4:	NW, SW, SW
MERA #:	NA	Section:	26
MW #:	MW-114S4	Town:	12 N
MIRIS well ID #:	NA	Range:	4 E
GPS Coord :	N 691209.33 E 13229827.06		

<b>DATES</b>			
Date Installed:	6/02/95	Installed by:	Rich Bennett/Stearns
Date Abandon:	8/1/07	Abandoned by:	Altech

<b>WELL SPECIFICATIONS</b>		<b>GROUTING INFORMATION</b>	
Well Depth:	50 feet bgs.	<b>2" annulus grouted:</b>	<b>4" annulus grouted:</b>
Screen Depth:	50 feet bgs.	Yes	Yes
Water Table:	50 Feet bgs.	No	
<b>Casing Type:</b>		from (ft.)	0
Galvanized:		to (ft.)	50
PVC:	Yes	grout type:	Cement/bentonite slurry
Stainless Steel:		<b>Casing</b>	
Casing I.D.:	2"	Pulled:	
<b>Screen Type:</b>		Cut off:	Yes
PVC:	Yes	depth bgl (ft.):	2 ft.
Stainless Steel:		hole grouted?	Yes
Length (ft.):	5"	Grout Type:	Cement/bentonite slurry

<b>ABANDONMENT METHOD</b>	
Thru casing ?	
Tremie Pipe ?	Yes
Other? (explain):	

<b>ABANDON CREW</b>		<b>STATE EMPLOYEE WITNESS</b>	
name: (BBL)	Sandy Wilson	Name:	
name: (Altech)	Jason Hurshman	Name:	
name: (Altech)		Name:	
name:		Name:	

<b>COMMENTS</b>



**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
MONITOR WELL ABANDONMENT RECORD**

<b>PROJECT</b>		<b>LOCATION</b>	
Site Name:	GM Saginaw Malleable Iron Plant	County:	Saginaw
Project Number:	64434	¼, ¼, ¼:	NW, SW, SW
MERA #:	NA	Section:	26
MW #:	MW-5B	Town:	12 N
MIRIS well ID #:	NA	Range:	4 E
GPS Coord :	N 692762.894 E 13229530.54		

<b>DATES</b>			
Date Installed:		Installed by:	NA
Date Abandon:	8/1/07	Abandoned by:	Altech

<b>WELL SPECIFICATIONS</b>		<b>GROUTING INFORMATION</b>	
Well Depth:	30 feet bgs.	<b>2" annulus grouted:</b>	<b>4" annulus grouted:</b>
Screen Depth:	30 feet bgs.	Yes	Yes
Water Table:	NA	No	
<b>Casing Type:</b>		from (ft.)	0
Galvanized:		to (ft.)	30
PVC:	Yes	grout type:	Cement/bentonite slurry
Stainless Steel:		<b>Casing</b>	
Casing I.D.:	2"	Pulled:	Yes
<b>Screen Type:</b>		Cut off:	
PVC:	Yes	depth bgl (ft.):	3.5 ft.
Stainless Steel:		hole grouted?	Yes
Length (ft.):	5"	Grout Type:	Cement/bentonite slurry

<b>ABANDONMENT METHOD</b>	
Thru casing ?	Yes
Tremie Pipe ?	Yes
Other? (explain):	

<b>ABANDON CREW</b>		<b>STATE EMPLOYEE WITNESS</b>	
name: (BBL)	Sandy Wilson	Name:	
name: (Altech)	Jason Hurshman	Name:	
name: (Altech)		Name:	
name:		Name:	

<b>COMMENTS</b>

<b>Date Start/Finis:</b> 7/24/07 <b>Drilling Company:</b> Boart Longyear <b>Driller's Name:</b> Chris Barden <b>Drilling Method:</b> Rotosonic <b>Bit Size:</b> 4.25 inches <b>Rig Type:</b> Sonic ATV <b>Sampling Method:</b> Rotosonic	<b>Northing:</b> NA <b>Easting:</b> NA <b>Casing Elevation:</b> NA  <b>Borehole Depth:</b> 27' bgs <b>Surface Elevation:</b> NA  <b>Descriptions By:</b> Jim Kralik	<b>Well/Bc ID:</b> X-4C Aug R  <b>Client:</b> General Motors Corporation  <b>Location:</b> GM SMI Saginaw, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Protective steel casing 2 inch diameter schedule 40 PVC riser (2.5 ft. stickup to 14 ft. bgs)
0	0									Brown (7.5 YR 4/2) Topsoil - fine to medium SAND, some Clay, roots and plant debris, earthy odor, moist to wet.	2 x 2 ft. concrete pad (0-0.5 ft. bgs)
1	0-7	1	0-7	7	NA	NR	BGND	SP		Brown (7.5 YR 4/2) SAND, little to some CLAY, poorly sorted, medium dense, some roots and plant debris present, some strong brown (7.5 YR 5/6) weathering present, slight earthy odor, moist.	Bentonite / cement grout (2-10 ft. bgs)
5	-5							CL		Brown (7.5 YR 4/2) CLAY, little to trace fine Sand, trace fine Gravel, soft to very soft, medium to high plasticity, no odor, wet.	
10	-10									Dark gray (10 YR 4/1) fine to medium SAND, poorly sorted, medium dense, no odor, wet.  little to some Clay from 8-10 ft. bgs.	Bentonite Seal (10-12 ft. bgs)
15	-15	2	7-17	10	NA	NR	BGND	SP		little to some Silt from 13 to 15 ft. bgs, shell fragments from 13 to 17 ft. bgs.	#5 filter sand (12-19 ft. bgs)
											2 inch diameter schedule 40 PVC 0.010 slotted screen (14-19 ft. bgs)

**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)



Site Location:

GM SMI  
Saginaw, Michigan

Borehole Depth: 27' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 inches	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20	-20	3	17-27	10	NA	NR	BGND	CL	<p>slight odor present from 17 to 19 ft. bgs.</p> <p>becomes medium to coarse from 18.5 to 19 ft. bgs.</p> <p>Gray (10 YR 6/1) CLAY, trace very fine to fine Sand and fine subrounded and rounded Gravel, soft to very soft, high plasticity, no odor, wet.</p>	<p>2 inch diameter schedule 40 PVC 0.010 slotted screen (14-19 ft. bgs)</p> <p>#5 filter sand (12-19 ft. bgs)</p> <p>End cap</p> <p>Natural collapse and bentonite chips (19-27 ft. bgs)</p>	
25	-25										
30	-30									End of boring at 27 ft. bgs.	
35	-35										

**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)



Date Start/Finis: 2/23/07  
 Drilling Company: Boart Longyear  
 Driller's Name: Chris Barden  
 Drilling Method: Rotosonic  
 Bit Size: 4.25 inches  
 Rig Type: Sonic ATV  
 Sampling Method: Rotosonic

Northing: NA  
 Easting: NA  
 Casing Elevation: NA

Well/Bo. ID: X-4D  
 Client: General Motors Corporation

Borehole Depth: 57' bgs  
 Surface Elevation: NA

Location: GM SMI  
 Saginaw, Michigan

Descriptions By: Jim Kralik

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Protective steel casing 2 inch diameter schedule 40 PVC riser (2.5 ft. stickup to 40 ft. bgs)
										Brown (7.5 YR 4/2) Topsoil - fine to medium SAND, some Clay, roots and plant debris present, earthy odor, moist to wet.	2 x 2 ft. concrete pad (0-0.5 ft. bgs)
1	-1	0-7		7	NA	NR	BGND	SP		Brown (7.5 YR 4/2) fine SAND, poorly sorted, little to some Clay, some strong brown (7.5 YR 5/6) weathering, some plant debris present, medium dense, slight earthy odor, moist.  becomes dark gray at 6 ft. bgs.	Bentonite / cement grout (2-31 ft. bgs)
2	-2	7-17		9	NA	NR	BGND	SP		Dark gray (10 YR 4/1) fine to medium SAND, poorly sorted, little to some Clay, medium dense, no odor, wet.	
15	-15							SP			

Remarks: ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)



Client: General Motors Corporation

Well/Borehole ID: X-4D

Site Location:

GM SMI  
Saginaw, Michigan

Borehole Depth: 57' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20	-20									Dark gray (10 YR 4/1) fine to medium SAND, poorly sorted, little to some Clay, medium dense, no odor, wet. shell fragments present from 17 to 20 ft. bgs.	
		3	17-27	10	NA	NR	BGND	CL		Gray (10 YR 6/1) CLAY, some very fine to fine Sand, soft, medium to high plasticity, no odor, wet.	2 inch diameter schedule 40 PVC riser (2.5 ft. stickup to 40 ft. bgs) Bentonite / cement grout (2-31 ft. bgs)
25	-25							ML		Gray (10 YR 6/1) SILT, some very fine to fine Sand, soft, laminate bedding, numerous plant and shell fragments present, wet.	
30	-30							CL		Gray (10 YR 6/1) SANDY CLAY, fine to very fine Sand, trace fine rounded Gravel, soft, medium plasticity, numerous layers of plant debris present, no odor, wet.	
35	-35	4	27-37	10	NA	NR	BGND	CL		thin (less than or equal to 2" thick) layers of fine Sand and Silt from 29-37 ft. bgs.	Bentonite Seal (31-36 ft. bgs)



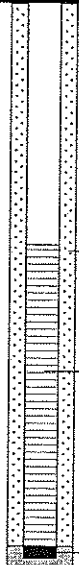

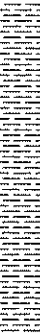
Remarks: ft. bgs = feet below ground surface  
NA = not applicable  
NR = not recorded  
BGND = Background (0.0 ppm)



Site Location:

GM SMI  
Saginaw, Michigan

Borehole Depth: 57' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/In/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
40	-40							SP	 thin (less than or equal to 2" thick) layers of fine Sand and Silt from 29-37 ft. bgs.		
									 Gray (10 YR 6/1) medium SAND, poorly sorted, medium dense, numerous wood and shell fragments present, no odor, wet.	 #5 filter sand (36-45 ft. bgs) 2 inch diameter schedule 40 PVC 0.010 slotted screen (40-45 ft. bgs) End cap	
45	-45								 Gray (10 YR 6/1) CLAY, some Cobbles and fine to medium Sand, little coarse Sand and fine Gravel, trace wood and shell fragments, soft, high plasticity, no odor, moist.		
		5	37-57	20	NA	NR	BGND				
50	-50								 Natural collapse and bentonite chips (45-57 ft. bgs)		
55	-55										

**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)



Client: Generators Corporation

Well/Bor. ID: X-4D

Site Location:  
GM SMI  
Saginaw, Michigan

Borehole Depth: 57' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
										Gray (10 YR 6/1) CLAY, some Cobbles and fine to medium Sand, little coarse Sand and fine Gravel, trace wood and shell fragments, soft, high plasticity, no odor, moist.	Natural collapse and bentonite chips (45-57 ft. bgs)
60	-60									End of boring at 57 ft. bgs.	
65	-65										
70	-70										
75	-75										



**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)

Date Start/Finis: 2/23/07 Drilling Company: Boart Longyear Driller's Name: Chris Barden Drilling Method: Rotasonic Bit Size: 4.25 inches Rig Type: Sonic ATV Sampling Method: Rotasonic	Northing: NA Easting: NA Casing Elevation: NA Borehole Depth: 57' bgs Surface Elevation: NA Descriptions By: Jim Kralik	Well/Bc ID: X-9D Client: General Motors Corporation Location: GM SMI Saginaw, Michigan
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DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blow Counts	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
0	0										Protective steel casing 2 inch diameter schedule 40 PVC riser (2.5 ft. stickup to 42.5 ft. bgs)
0	0									Brown (7.5 YR 4/2) Topsoil - fine to medium SAND, some CLAY, medium dense, roots and plant debris, earthy odor, moist.	2 x 2 ft. concrete pad (0-0.5 ft. bgs)
1	-1	0-7		6.5	NA	NR	BGND	SP		Brown (7.5 YR 4/2) fine SAND, poorly sorted, little to some Clay, some strong brown (7.5 YR 5/6) weathering, moist to wet.	Bentonite / cement grout (2-34 ft. bgs)
5	-5									becomes dark gray at 6.5' bgs.	
10	-10									Dark gray (10 YR 4/1) fine to medium SAND, poorly sorted, little to some Clay, medium dense, no odor, wet.	
2	-12	7-17		8	NA	NR	BGND	SP			
15	-15										


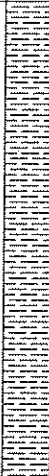
**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)



Site Location:

GM SMI  
Saginaw, Michigan

Borehole Depth: 57' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
20	-20	3	17-27	9	NA	NR	BGND	SP		Dark gray (10 YR 4/1) fine to medium SAND, poorly sorted, little to some Clay, medium dense, no odor, wet.	2 inch diameter schedule 40 PVC riser (2.5 ft. stickup to 42.5 ft. bgs)  Bentonite / cement grout (2-34 ft. bgs)
25	-25								little cobbles and shell fragments, trace to little fine to coarse sand at 28 ft. bgs.		
30	-30	4	27-37	10	NA	NR	BGND	CL		Gray (10 YR 6/1) CLAY, some fine to medium Sand, soft, medium to high plasticity, wet. shell fragments at 29, 31, and 33-35 ft. bgs.	Bentonite Seal (34-39 ft. bgs)
35	-35										

**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)



Site Location:

GM SMI  
Saginaw, Michigan

Borehole Depth: 57' bgs

DEPTH	ELEVATION	Sample Run Number	Sample/fnt/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
										wood and shell fragments at 36 ft. bgs.	
										Gray (10 YR 6/1) medium SAND, medium dense, wood and shell fragments present, no odor, wet.	Bentonite Seal (34-39 ft. bgs)
40	-40	5	37-47	5	NA	NR	BGND	SP			#5 filter sand (39-47.5 ft. bgs)
45	-45										2 inch diameter schedule 40 PVC 0.010 slotted screen (42.5-47.5 ft. bgs)
								GW		Gray COBBLES, some fine to coarse Sand, Gravel, trace to little fine to coarse Sand, subrounded to rounded, no odor, wet.	End cap
										Gray (10 YR 6/1) CLAY, some fine to medium Sand, little coarse Sand, fine Gravel, and Rock fragments, trace wood and Shell fragments, soft, high plasticity, no odor, moist.	Natural collapse and bentonite chips (47.5-57 ft. bgs)
50	-50	6	47-57	10	NA	NR	BGND	CL			
55	-55										

**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)



Site Location:

GM SMI  
Saginaw, Michigan

Borehole Depth: 57' bgs

DEPTH	ELEVATION	Sample Run Number	Sample Int/Type	Recovery (feet)	Blows / 6 Inches	N - Value	PID Headspace (ppm)	USCS Code	Geologic Column	Stratigraphic Description	Well/Boring Construction
										Gray (10 YR 6/1) CLAY, some fine to medium Sand, little coarse Sand, fine Gravel, and Rock fragments, trace wood and Shell fragments, soft, high plasticity, no odor, moist.	Natural collapse and bentonite chips (47.5-57 ft. bgs)
60	-60									End of boring at 57 ft. bgs.	
65	-65										
70	-70										
75	-75										



**Remarks:** ft. bgs = feet below ground surface  
 NA = not applicable  
 NR = not recorded  
 BGND = Background (0.0 ppm)