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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

Subject:
Monthly Report #165 – August 2008
GM SMI Plant Property, REALM Inc. Green Point Landfill and
Drum Remediation Area RI/FS/RAP, and Green Point Landfill Closure

Date:
September 15, 2008

Contact:
Lisa R. Coffey, P.G.

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315.671.9164

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Our ref:
B0027608 #2.08

Dear Mr. Brouillet:

On behalf of the General Motors Corporation (GM) and Waste Management, Inc. (WMI), the August 2008 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.

Sincerely,

ARCADIS

Lisa R. Coffey, P.G.
Principal Geologist

LRC/plf
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. Jo Ann Robertson, ARCADIS
Ms. Micki Maki, ARCADIS

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Monthly Report #165
General Motors Corporation Saginaw Malleable Iron Plant Property and REALM Inc. Green Point Landfill and Drum Remediation Area
August 2008

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 is not currently operating due to plant decommissioning activities. The recovery wells and the monitoring wells were gauged on September 8, 2008. Small accumulations of LNAPL were recorded (Table 1), and approximately 0.1 gallons of LNAPL were removed. The wells in this area will continue to be monitored and bailed, when possible, until power can be restored to the recovery system (once the building is down).

- The Quench Pit Area was not accessible during the month of August 2008. As allowed by plant decommissioning activities, the wells in this area will be manually bailed until power is restored to the automated recovery system.

Significant Green Point Landfill Closure Activities and Events

- The analytical data collected in July 2008 from monitoring wells X-4D and X-9D, located east of the Green Point Landfill and adjacent to the Saginaw River, are shown in Table 2 along with historical data. The latest data are consistent with the data previously collected. As agreed to with the MDEQ, these data are the last of the supplemental sampling data to be considered in conjunction with review of the July 30, 2008, Remedial Action Plan.

Key Correspondence and Communications

- The July 2008 monthly report, dated August 14, 2008, was submitted to the MDEQ.

Anticipated Activities for September 2008

- Continuation of LNAPL recovery activities using manual means, until a power supply to the automated recovery systems can be established given planned decommissioning and demolition activities.

- Submittal of a monthly report.

- Collection of a groundwater sample from monitoring well MW-186WT, located in the Saginaw River berm area, and analysis of the collected sample for PCBs.

- Submittal of a letter report presenting the results of the first 2008 semiannual round of groundwater sampling at the former underground storage tank (UST) 7 area.

- Completion of the second 2008 semiannual round of groundwater sampling at the former UST 7 area.

Table 1. Groundwater and LNAPL Measurement Summary, March 2004 Through the Present, GM Saginaw Malleable Iron Plant, Saginaw, Michigan

	MW-132WT reference elevation = 594.24				MW-147WT reference elevation = 592.07				MW-157WT reference elevation = 591.72				MW-158WT reference elevation = 591.78			
Date	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)
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	--	--	--	--	7.90	0.01	7.91	583.88
July 28, 2004	--	--	--	--	NA	NA	NA	NA	--	--	--	--	8.21	0.01	8.22	583.57
August 17, 2004	--	--	--	--	6.76	1.34	8.10	585.20	--	--	--	--	NP	0.00	8.39	583.39
September 27, 2004	--	--	--	--	6.91	1.61	8.52	585.03	--	--	--	--	8.41	0.01	8.42	583.37
October 29, 2004	--	--	--	--	7.04	1.78	8.82	584.89	--	--	--	--	8.56	0.01	8.57	583.22
November 30, 2004	--	--	--	--	6.35	1.72	8.07	585.58	--	--	--	--	8.35	0.01	8.36	583.43
December 27, 2004	--	--	--	--	NA	NA	NA	NA	--	--	--	--	NA	NA	NA	NA
January 26, 2005	--	--	--	--	6.28	2.03	8.31	585.63	--	--	--	--	NP	0.00	7.98	583.80
February 7, 2005	--	--	--	--	6.57	1.96	8.53	585.34	--	--	--	--	8.07	0.02	8.09	583.71
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	583.54
April 13, 2005	NP	0.00	10.94	583.30	6.44	1.74	8.18	585.49	7.18	0.18	7.36	584.53	NP	0.00	8.23	583.55
May 31, 2005	NP	0.00	10.91	583.33	6.53	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 16, 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	--	--	--	--	6.85	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	584.63	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	5.21	1.91	7.12	586.71	5.74	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	584.55	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	10.94	583.30	6.32	1.70	8.02	585.61	7.20	0.04	7.24	584.52	NP	0.00	8.17	583.61
July 11, 2006	NP	0.00	10.82	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	584.52	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	10.53	583.71	5.36	1.65	7.01	586.58	5.71	0.22	5.93	585.99	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	6.89	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	1.65	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	10.88	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	584.56	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	583.67
July 18, 2007	NP	0.00	11.01	583.23	6.42	1.62	8.04	585.52	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
September 19, 2007	NP	0.00	10.37	583.87	5.59	1.53	7.12	586.36	6.03	0.12	6.15	585.68	NP	0.00	7.51	584.27
October 25, 2007	NP	0.00	11.02	583.22	6.53	1.72	8.25	585.40	7.46	0.08	7.54	584.25	NP	0.00	8.31	583.47
November 27, 2007	NP	0.00	10.27	583.97	6.47	1.58	8.05	585.47	7.06	0.06	7.12	584.66	NP	0.00	7.64	584.14
January 7, 2008	NP	0.00	9.03	585.21	5.46	1.18	6.64	586.52	6.01	0.26	6.27	585.69	NP	0.00	6.49	585.29
February 22, 2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
March 17, 2008	NP	0.00	8.31	585.93	4.09	1.23	5.32	587.88	NA	NA	NA	NA	NP	0.00	5.42	586.36
April 7, 2008	NP	0.00	8.51	585.73	4.68	0.97	5.65	587.31	4.96	0.31	5.27	586.74	NP	0.00	5.66	586.12
May 5, 2008	NP	0.00	9.46	584.78	5.91	0.74	6.65	586.10	5.72	0.29	6.01	585.98	NP	0.00	6.68	585.10
June 2, 2008	NP	0.00	10.80	583.44	5.98	0.66	6.64	586.04	6.26	0.25	6.51	585.44	NP	0.00	6.81	584.97
July 7, 2007	NP	0.00	8.68	585.56	4.96	0.64	5.60	587.06	5.21	0.18	5.39	586.50	NP	0.00	6.00	585.78
September 8, 2008	NP	0.00	9.15	585.09	5.45	0.51	5.96	586.58	5.61	0.18	5.79	586.10	NP	0.00	6.35	585.43

See Notes on Page 6.

Table 1. Groundwater and LNAPL Measurement Summary, March 2004 Through the Present, GM Saginaw Malleable Iron Plant, Saginaw, Michigan

Date	MW-160WT reference elevation = 591.53				MW-161WT reference elevation = 591.80				MW-168WT reference elevation = 592.11				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)
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	7.62	0.01	7.63	584.20
June 30, 2004	8.25	0.09	8.34	583.27	--	--	--	--	NA	NA	NA	NA	7.94	0.01	7.95	583.88
July 28, 2004	8.43	0.11	8.54	583.09	--	--	--	--	NA	NA	NA	NA	NP	0.00	8.17	583.65
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	8.35	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	583.52
January 26, 2005	8.21	0.35	8.56	583.29	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA
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	NA	NA	NA	NA
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	583.15	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	7.38	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
September 19, 2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
October 25, 2007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
November 27, 2007	NP	0.00	7.61	583.92	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
January 7, 2008	NP	0.00	6.31	585.22	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
February 22, 2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
March 17, 2008	5.82	0.03	5.85	585.71	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
April 7, 2008	5.96	0.06	6.02	585.57	NP	0.00	6.49	585.31	NA	NA	NA	NA	NA	NA	NA	NA
May 5, 2008	6.89	0.03	7.13	584.43	NP	0.00	7.04	584.76	NA	NA	NA	NA	NA	NA	NA	NA
June 2, 2008	6.80	0.23	7.03	584.71	NP	0.00	7.12	584.68	NA	NA	NA	NA	NP	0.00	7.10	584.72
July 7, 2007	6.08	0.21	6.29	585.43	NP	0.00	6.79	585.01	NA	NA	NA	NA	NP	0.00	6.56	585.26
September 8, 2008	6.54	0.12	6.66	584.98	NP	0.00	7.20	584.60	NA	NA	NA	NA	NP	0.00	7.03	584.79

See Notes on Page 6.

Table 1. Groundwater and LNAPL Measurement Summary, March 2004 Through the Present, GM 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)
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	0.06	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	582.78
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	582.75
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	582.67
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 28, 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	8.51	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	NA	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
September 19, 2007	NA	NA	NA	NA	NP	0.00	6.66	NA	6.87	0.11	6.98	583.47
October 25, 2007	NP	0.00	8.42	583.09	NP	0.00	7.08	NA	7.59	0.25	7.84	582.74
November 27, 2007	7.50	0.02	7.52	584.01	NA	NA	NA	NA	6.52	0.14	6.66	583.82
January 7, 2008	NP	0.00	6.16	585.35	NP	0.00	6.53	NA	5.44	0.05	5.49	584.91
February 22, 2008	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
March 17, 2008	NP	0.00	5.73	585.78	NA	NA	NA	NA	NA	NA	NA	NA
April 7, 2008	NP	0.00	5.88	585.63	NP	0.00	5.84	NA	5.30	0.02	5.32	585.05
May 5, 2008	NP	0.00	6.85	584.66	NP	0.00	6.31	NA	6.25	0.02	6.27	584.10
June 2, 2008	NP	0.00	6.75	584.76	NP	0.00	6.39	NA	5.93	0.01	5.94	584.42
July 7, 2007	NP	0.00	5.99	585.52	NP	0.00	5.96	NA	5.32	0.02	5.34	585.03
September 8, 2008	NA	NA	NA	NA	NP	0.00	6.36	NA	5.86	0.01	5.87	584.49

See Notes on Page 6.

Table 1. Groundwater and LNAPL Measurement Summary, March 2004 Through the Present, GM 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)
March 8, 2004	--	--	--	--	--	--	--	--	8.10	0.18	8.28	584.07
April 29, 2004	--	--	--	--	--	--	--	--	8.63	0.17	8.80	583.54
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	583.25
September 27, 2004	--	--	--	--	--	--	--	--	8.87	0.38	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	0.59	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	583.59
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	583.62
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	6.64	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	583.65
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	584.09	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
September 19, 2007	NP	0.00	6.65	NA	NP	0.00	6.69	583.98	7.93	0.11	8.04	584.24
October 25, 2007	NP	0.00	6.98	NA	NP	0.00	7.02	583.65	8.80	0.45	9.25	583.34
November 27, 2007	NA	NA	NA	NA	NP	0.00	7.07	583.60	8.03	0.15	8.18	584.14
January 7, 2008	NA	NA	NA	NA	NP	0.00	7.01	583.66	6.76	0.04	6.80	585.42
February 22, 2008	NA	NA	NA	NA	NA	NA	NA	NA	6.06	0.03	6.09	586.12
March 17, 2008	NA	NA	NA	NA	NA	NA	NA	NA	5.95	0.02	5.97	586.23
April 7, 2008	NP	0.00	6.46	NA	NP	0.00	6.45	584.22	6.24	0.06	6.30	585.94
May 5, 2008	NA	NA	NA	NA	NP	0.00	6.52	584.15	7.17	0.02	7.19	585.01
June 2, 2008	NP	0.00	6.55	NA	NP	0.00	6.56	584.11	7.16	0.03	7.19	585.02
July 7, 2007	NA	NA	NA	NA	NP	0.00	6.14	584.53	6.24	0.01	6.25	585.94
September 8, 2008	NA	NA	NA	NA	NP	0.00	6.45	584.22	NP	NP	6.60	585.58

See Notes on Page 6.

Table 1. Groundwater and LNAPL Measurement Summary, March 2004 Through the Present, GM Saginaw Malleable Iron Plant, Saginaw, Michigan

	RW-2 reference elevation = 592.07				RW-3 reference elevation = 592.32				TP-2			
Date	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)
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	8.94	0.01	8.95	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	0.25	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	0.82	9.51	NA
October 18, 2005	NP	0.00	8.99	583.08	NP	0.00	8.41	583.91	--	--	--	NA
November 30, 2005	NP	0.00	8.93	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	0.96	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
September 19, 2007	NP	0.00	8.44	583.63	NP	0.00	7.03	585.29	7.82	0.11	7.93	NA
October 25, 2007	NP	0.00	8.93	583.14	NP	0.00	8.32	584.00	8.69	0.39	9.08	NA
November 27, 2007	NP	0.00	8.04	584.03	NP	0.00	8.22	584.10	7.95	0.22	8.17	NA
January 7, 2008	NA	NA	NA	NA	NP	0.00	7.30	585.02	6.66	0.04	6.70	NA
February 22, 2008	NP	0.00	6.56	585.51	NP	0.00	5.19	587.13	NA	NA	NA	NA
March 17, 2008	NP	0.00	6.36	585.71	NP	0.00	4.45	587.87	5.79	0.02	5.81	NA
April 7, 2008	NP	0.00	6.51	585.56	NP	0.00	5.03	587.29	6.15	0.02	6.17	NA
May 5, 2008	NP	0.00	6.18	585.89	NP	0.00	6.79	585.53	7.18	0.01	7.19	NA
June 2, 2008	NP	0.00	7.33	584.74	NP	0.00	7.51	584.81	7.09	0.02	7.11	NA
July 7, 2007	NA	NA	NA	NA	NP	0.00	6.78	585.54	6.13	0.03	6.16	NA
September 8, 2008	NA	NA	NA	NA	NP	0.00	7.31	585.01	6.60	0.02	6.62	NA

See Notes on Page 6.

Table 1. Groundwater and LNAPL Measurement Summary, March 2004 Through the Present, GM 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.

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	Groundwater Surface Water Interface Criteria (GSI)	Industrial & Commercial II, III, & IV Drinking Water Criteria (IDW)	X-4D 01/09/08	X-4D 4/1-3/08	X-4D 6/5/2008[1]	X-4D 7/10-11/2008
Volatile Organics							
1,1,1-Trichloroethane	mg/L	0.2	0.2 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,2,2-Tetrachloroethane	mg/L	0.078 {X}	0.035	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
1,1,2-trichloro-1,2,2-trifluoroethane	mg/L	0.032	170 {S}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1,2-Trichloroethane	mg/L	0.33 {X}	0.005 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethane	mg/L	0.74	2.5	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,1-Dichloroethene	mg/L	0.065 {I,X}	0.007 {I,A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2,4-Trichlorobenzene	mg/L	0.03	0.07 {A}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
1,2-Dibromo-3-chloropropane	mg/L	{NA}	0.0002 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dibromoethane	mg/L	0.0002 {X}	0.00005 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichlorobenzene	mg/L	0.016	0.6 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloroethane	mg/L	0.36 {I,X}	0.005 {I,A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,2-Dichloropropane	mg/L	0.29 {I,X}	0.005 {I,A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,3-Dichlorobenzene	mg/L	0.038	0.019	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
1,4-Dichlorobenzene	mg/L	0.013	0.075 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
2-Butanone	mg/L	2.2 {I}	38 {I}	ND(0.025)	ND(0.025)	NA	ND(0.025 J)
2-Hexanone	mg/L	{NA}	2.9	ND(0.050)	ND(0.050)	NA	ND(0.050)
4-Methyl-2-pentanone	mg/L	{ID}	5.2 {I}	ND(0.050)	ND(0.050)	NA	ND(0.050)
Acetone	mg/L	1.7 {I}	2.1 {I}	ND(0.025)	ND(0.025)	NA	ND(0.025 J)
Benzene	mg/L	0.2 {I,X}	0.005 {I,A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromodichloromethane	mg/L	{ID}	0.08 {A,W}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Bromoform	mg/L	{ID}	0.08 {A,W}	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010)
Bromomethane	mg/L	0.035	0.029	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Carbon Disulfide	mg/L	{ID}	2.3 {I,R}	ND(0.0050)	0.00045 J	NA	ND(0.0050)
Carbon Tetrachloride	mg/L	0.045 {X}	0.005 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chlorobenzene	mg/L	0.047 {I}	0.1 {I,A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroethane	mg/L	{ID}	1.7	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloroform	mg/L	0.17 {X}	0.08 {A,W}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Chloromethane	mg/L	{ID}	1.1 {I}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
cis-1,2-Dichloroethene	mg/L	0.62	0.07 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
cis-1,3-Dichloropropene	mg/L	- -	- -	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
Cyclohexane	mg/L	- -	- -	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Dibromochloromethane	mg/L	{ID}	0.08 {A,W}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Ethylbenzene	mg/L	0.018 {I}	0.7 {I,E}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
Isopropylbenzene	mg/L	{ID}	2.3	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Methyl acetate	mg/L	- -	- -	ND(0.010)	ND(0.010)	NA	ND(0.010)
Methyl cyclohexane	mg/L	- -	- -	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Methyl tert-butyl ether	mg/L	0.73 {X}	0.69 {E}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Methylene Chloride	mg/L	0.94 {X}	0.005 {A}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Styrene	mg/L	0.08	0.1 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
Tetrachloroethene	mg/L	0.045 {X}	0.005 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
Toluene	mg/L	0.14 {I}	1 {I,E}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
trans-1,2-Dichloroethene	mg/L	1.5	0.1 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	Groundwater Surface Water Interface Criteria (GSI)	Industrial & Commercial II, III, & IV Drinking Water Criteria (IDW)	X-4D 01/09/08	X-4D 4/1-3/08	X-4D 6/5/2008[1]	X-4D 7/10-11/2008
Volatile Organics (Cont.)							
trans-1,3-Dichloropropene	mg/L	--	--	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trichloroethene	mg/L	0.2 {X}	0.005 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Trichlorofluoromethane	mg/L	{NA}	7.3	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Vinyl Chloride	mg/L	0.015	0.002 {A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Total 1,3-Dichloropropenes	mg/L	{NA}	0.035	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Total Xylenes	mg/L	0.035 {I}	10 {I,E}	ND(0.0020)	ND(0.0020)	NA	ND(0.0020 J)
Semivolatile Organics							
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/L	--	--	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
2,4,5-Trichlorophenol	mg/L	{NA}	2.1	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
2,4,6-Trichlorophenol	mg/L	0.0044	0.47	ND(0.0040)	ND(0.0040)	NA	ND(0.0040)
2,4-Dichlorophenol	mg/L	0.019	0.21	ND(0.010)	ND(0.010)	NA	ND(0.010)
2,4-Dimethylphenol	mg/L	0.38	1	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
2,4-Dinitrophenol	mg/L	--	--	ND(0.020)	ND(0.020)	NA	ND(0.020)
2,4-Dinitrotoluene	mg/L	{NA}	0.032	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
2,6-Dinitrotoluene	mg/L	--	--	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
2-Chloronaphthalene	mg/L	{NA}	5.2	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J)
2-Chlorophenol	mg/L	0.022	0.13	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
2-Methylnaphthalene	mg/L	{ID}	0.75	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J)
2-Methylphenol	mg/L	--	--	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
2-Nitroaniline	mg/L	--	--	ND(0.020)	ND(0.020)	NA	ND(0.020)
2-Nitrophenol	mg/L	{ID}	0.058	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
3,3'-Dichlorobenzidine	mg/L	0.0003 {X}	0.0043	ND(0.0040)	ND(0.0040)	NA	ND(0.0040)
3-Nitroaniline	mg/L	--	--	ND(0.020)	ND(0.020)	NA	ND(0.020)
4,6-Dinitro-2-methylphenol	mg/L	{NA}	0.02 {M}	ND(0.020)	ND(0.020)	NA	ND(0.020)
4-Bromophenyl-phenylether	mg/L	--	--	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
4-Chloro-3-Methylphenol	mg/L	0.0074	0.42	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
4-Chloroaniline	mg/L	--	--	ND(0.010)	ND(0.010)	NA	ND(0.010)
4-Chlorophenyl-phenylether	mg/L	--	--	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
4-Methylphenol	mg/L	--	--	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
4-Nitroaniline	mg/L	--	--	ND(0.020)	ND(0.020)	NA	ND(0.020)
4-Nitrophenol	mg/L	--	--	ND(0.020)	ND(0.020)	NA	ND(0.020)
Acenaphthene	mg/L	0.019	3.8	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Acenaphthylene	mg/L	{ID}	0.15	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Acetophenone	mg/L	{ID}	4.4	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J)
Atrazine	mg/L	0.0073 {X}	0.003 {A}	ND(0.0030)	ND(0.0030)	NA	ND(0.0030)
Benzaldehyde	mg/L	--	--	ND(0.010)	ND(0.010)	NA	ND(0.010)
Benzo(a)anthracene	mg/L	{ID}	0.0085 {Q}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Benzo(a)pyrene	mg/L	{ID}	0.005 {Q,A}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Benzo(b)fluoranthene	mg/L	{ID}	0.0015 {Q,S,AA}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Benzo(g,h,i)perylene	mg/L	{NA}	0.001 {M}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Benzo(k)fluoranthene	mg/L	{NA}	0.001 {Q,M}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Biphenyl	mg/L	--	--	ND(0.010)	ND(0.010)	NA	ND(0.010)

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	Groundwater Surface Water Interface Criteria (GSI)	Industrial & Commercial II, III, & IV Drinking Water Criteria (IDW)	X-4D 01/09/08	X-4D 4/1-3/08	X-4D 6/5/2008[1]	X-4D 7/10-11/2008
Semivolatile Organics (Cont.)							
bis(2-Chloroethoxy)methane	mg/L	- -	- -	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
bis(2-Chloroethyl)ether	mg/L	0.015 {I,X}	0.0083 {I}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
bis(2-Ethylhexyl)phthalate	mg/L	0.032	0.006 {A}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Butylbenzylphthalate	mg/L	0.014 {X}	2.7 {S}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Caprolactam	mg/L	{NA}	17	ND(0.010)	ND(0.010 J)	NA	ND(0.010 J)
Carbazole	mg/L	0.01 {M}	0.35	ND(0.010)	ND(0.010)	NA	ND(0.010)
Chrysene	mg/L	{ID}	0.0016 {Q,S}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Dibenzo(a,h)anthracene	mg/L	{ID}	0.002 {Q,M}	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)
Dibenzofuran	mg/L	0.004	{ID}	ND(0.0040)	ND(0.0040)	NA	ND(0.0040)
Diethylphthalate	mg/L	0.11	16	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Dimethylphthalate	mg/L	{NA}	210	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Di-n-Butylphthalate	mg/L	0.0097	2.5	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Di-n-Octylphthalate	mg/L	{ID}	0.38	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Fluoranthene	mg/L	0.0016	0.21 {S}	ND(0.0010)	ND(0.0010)	NA	ND(0.0010)
Fluorene	mg/L	0.012	2 {S}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Hexachlorobenzene	mg/L	0.0002 {M}	0.001 {A}	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Hexachlorobutadiene	mg/L	0.00005	0.042	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J)
Hexachlorocyclopentadiene	mg/L	{ID}	0.05 {A}	ND(0.0050)	ND(0.0050)	NA	R
Hexachloroethane	mg/L	0.0067 {X}	0.021	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J)
Indeno(1,2,3-cd)pyrene	mg/L	{ID}	0.002 {Q,M}	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)
Isophorone	mg/L	0.57 {X}	3.1	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Naphthalene	mg/L	0.013	1.5	ND(0.0050)	ND(0.0050)	NA	ND(0.0050 J)
Nitrobenzene	mg/L	0.18 {I,X}	0.0096 {I}	ND(0.0030)	ND(0.0030)	NA	ND(0.0030)
N-Nitroso-di-n-propylamine	mg/L	{NA}	0.005 {M}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
N-Nitrosodiphenylamine	mg/L	{NA}	1.1	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Pentachlorophenol	mg/L	0.0028 {G,X}	0.001 {A}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Phenanthrene	mg/L	0.0024	0.15	ND(0.0020)	ND(0.0020)	NA	ND(0.0020)
Phenol	mg/L	0.21	13	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Pyrene	mg/L	{ID}	0.14 {S}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
Total Methylphenols	mg/L	0.071 {J}	1 {J}	ND(0.0050)	ND(0.0050)	NA	ND(0.0050)
PCBs							
Aroclor-1016	mg/L	- -	- -	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Aroclor-1221	mg/L	- -	- -	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Aroclor-1232	mg/L	- -	- -	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Aroclor-1242	mg/L	- -	- -	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Aroclor-1248	mg/L	- -	- -	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Aroclor-1254	mg/L	- -	- -	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Aroclor-1260	mg/L	- -	- -	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)
Total PCBs	mg/L	0.0002 {J,T,M}	0.0005 {J,T,A}	ND(0.00020)	ND(0.00020)	NA	ND(0.00020)

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	Groundwater Surface Water Interface Criteria (GSI)	Industrial & Commercial II, III, & IV Drinking Water Criteria (IDW)	X-4D 01/09/08	X-4D 4/1-3/08	X-4D 6/5/2008[1]	X-4D 7/10-11/2008
Inorganics							
Aluminum	mg/L	{NA}	4.1 {B,V}	ND(0.200)	ND(0.200)	NA	ND(0.200)
Antimony	mg/L	0.13 {X}	0.006 {A}	ND(0.00200)	ND(0.00200)	NA	ND(0.00200)
Arsenic	mg/L	0.15 {X}	0.01 {A}	ND(0.00500)	ND(0.00500)	NA	ND(0.00500)
Barium	mg/L	1.2 {B,G,X}	2 {B,A}	0.125	0.110	NA	0.100
Beryllium	mg/L	0.026 {G}	0.004 {A}	ND(0.00100)	ND(0.00100)	NA	ND(0.00100)
Cadmium	mg/L	0.0045 {B,G,X}	0.005 {B,A}	ND(0.00100)	ND(0.00100)	NA	ND(0.00100)
Calcium	mg/L	--	--	172	168	NA	172
Chromium Total	mg/L	0.011	0.1 {A}	ND(0.00500)	ND(0.00500)	NA	ND(0.00500)
Cobalt	mg/L	0.1	0.1	ND(0.00700)	ND(0.00700)	NA	ND(0.00700)
Copper	mg/L	0.02 {B,G}	4 {B,E}	ND(0.00200)	ND(0.00200)	NA	ND(0.00200)
Iron	mg/L	{NA}	13 {B,E}	2.25	1.64	NA	1.46
Lead	mg/L	0.028 {B,G,X}	0.006 {B,L}	ND(0.00300)	ND(0.00300)	NA	ND(0.00300)
Magnesium	mg/L	{B}	1,100 {B}	75.0	69.3	NA	72.7
Manganese	mg/L	4.4 {B,G,X}	2.5 {B,E}	0.327	0.263	NA	0.236
Mercury	mg/L	0.0000013 {B,Z}	0.002 {A,B,Z}	ND(0.000200)	ND(0.000200)	NA	ND(0.000200)
Nickel	mg/L	0.12 {B.G}	0.1 {B,A}	ND(0.0200)	ND(0.0200)	NA	ND(0.0200)
Potassium	mg/L	--	--	8.07	7.71 J	NA	8.16
Selenium	mg/L	0.005 {B}	0.05 {B,A}	ND(0.00500)	ND(0.00500)	NA	ND(0.00500)
Silver	mg/L	0.0002 {B,M}	0.098 {B}	ND(0.000200)	ND(0.000200)	NA	ND(0.000200)
Sodium	mg/L	{NA}	350	733 (IDW)	701 (IDW)	NA	725 (IDW)
Thallium	mg/L	0.0037 {B,I, X}	0.002 {B,A}	ND(0.00100)	ND(0.00100)	NA	ND(0.00100)
Vanadium	mg/L	0.012	0.062	ND(0.00400)	ND(0.00400)	NA	ND(0.00400)
Zinc	mg/L	0.26 {B,G}	20 {B,E}	ND(0.0200)	ND(0.0200)	NA	ND(0.0200)
Inorganics-Dissolved							
Aluminum	mg/L	{NA}	4.1 {B,V}	ND(0.2)	ND(0.2) [ND(0.2)]	NA	ND(0.2)
Antimony	mg/L	0.13 {X}	0.006 {A}	ND(0.002)	ND(0.002) [ND(0.002)]	NA	ND(0.002)
Arsenic	mg/L	0.15 {X}	0.01 {A}	ND(0.005)	ND(0.005) [ND(0.005)]	NA	ND(0.005)
Barium	mg/L	1.2 {B,G,X}	2 {B,A}	0.124	0.112 [0.111]	NA	0.101
Beryllium	mg/L	0.026 {G}	0.004 {A}	ND(0.001)	ND(0.001) [ND(0.001)]	NA	ND(0.001)
Cadmium	mg/L	0.0045 {B,G,X}	0.005 {B,A}	ND(0.001)	ND(0.001) [ND(0.001)]	NA	ND(0.001)
Calcium	mg/L	--	--	171	179 [176]	NA	178
Chromium Total	mg/L	0.011	0.1 {A}	ND(0.005)	ND(0.005) [ND(0.005)]	NA	ND(0.005)
Cobalt	mg/L	0.1	0.1	ND(0.007)	ND(0.007) [ND(0.007)]	NA	ND(0.007)
Copper	mg/L	0.02 {B,G}	4 {B,E}	ND(0.002)	ND(0.002) [0.00031 J]	NA	ND(0.002)
Cyanide	mg/L	0.0052 {P,R}	0.2 {P,R,A}	ND(0.01)	ND(0.01) [ND(0.01)]	NA	ND(0.01)
Iron	mg/L	{NA}	13 {B,E}	2.08	1.93 [1.78]	NA	1.62
Lead	mg/L	0.028 {B,G,X}	0.006 {B,L}	ND(0.003)	ND(0.003) [ND(0.003)]	NA	ND(0.003)
Magnesium	mg/L	{B}	1,100 {B}	74.6	73.6 [72.6]	NA	75.5
Manganese	mg/L	4.4 {B,G,X}	2.5 {B,E}	0.318	0.263 [0.258]	NA	0.235
Mercury	mg/L	0.0000013 {B,Z}	0.002 {A,B,Z}	ND(0.0002)	ND(0.0002) [ND(0.0002)]	NA	ND(0.0002)
Nickel	mg/L	0.12 {B.G}	0.1 {B,A}	ND(0.02)	ND(0.02) [ND(0.02)]	NA	ND(0.02)
Potassium	mg/L	--	--	8.08	8.06 [7.97]	NA	8.3 J

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	Groundwater Surface Water Interface Criteria (GSI)	Industrial & Commercial II, III, & IV Drinking Water Criteria (IDW)	X-4D 01/09/08	X-4D 4/1-3/08	X-4D 6/5/2008	X-4D 7/10-11/2008
Inorganics-Dissolved (Cont.)							
Selenium	mg/L	0.005 {B}	0.05 {B,A}	ND(0.005)	ND(0.005) [ND(0.005)]	NA	ND(0.005)
Silver	mg/L	0.0002 {B,M}	0.098 {B}	ND(0.0002)	ND(0.0002) [ND(0.0002)]	NA	ND(0.0002)
Sodium	mg/L	{NA}	350	718 (IDW)	726 (IDW) [708 (IDW)]	NA	729 (IDW)
Thallium	mg/L	0.0037 {B,I, X}	0.002 {B,A}	ND(0.001)	ND(0.001) [ND(0.001)]	NA	ND(0.001)
Vanadium	mg/L	0.012	0.062	ND(0.004)	ND(0.004) [ND(0.004)]	NA	ND(0.004)
Zinc	mg/L	0.26 {B,G}	20 {B,E}	ND(0.02)	ND(0.02) [ND(0.02)]	NA	ND(0.02)
Miscellaneous							
Ammonia Nitrogen	mg/L	--	10 {N}	6.9	8.8 [8.1]	6.2 [7.32] {7.41}	7.5
Chloride	mg/L	{FF}	250 {E}	1,400 (IDW)	1,460 (IDW) [1,460 (IDW)]	NA	1,340 (IDW)
Estimated Un-ionized Ammonia	mg/L	0.053 {CC}	--	0.4968(GSI)	0.6336(GSI) [0.5832(GSI)]	0.4464(GSI) [0.52704(GSI)] {0.53 (GSI)}	0.54(GSI)
Nitrate (as N)	mg/L	{NA}	10 {B,A,N}	ND(0.1)	ND(0.1) [ND(0.1)]	NA	ND(0.1)
Nitrite (as N)	mg/L	{NA}	1 {B,A,N}	ND(2)	ND(0.1) [ND(0.1)]	NA	ND(0.1 J)
pH (water)	none	--	--	7.6	7.3 [7.4]	NA	7.4
Sulfate	mg/L	{NA}	250 {E}	94.4	118 [118]	NA	122
Total Dissolved Solids (TDS)	mg/L	500 {EE}	500 {E}	2,300(GSI,IDW)	2,500(GSI,IDW) [2,600 J(GSI,IDW)]	3,300(GSI,IDW) [2,820(GSI,IDW)] {2,880(GSI)}	3,100(GSI,IDW)

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: Date Collected:	Units	X-9D 01/08/08	X-9D 03/11/08	X-9D 6/5/2008[1]	X-9D 7/10-11/2008
Volatile Organics					
1,1,1-Trichloroethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,1,2,2-Tetrachloroethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,1,2-trichloro-1,2,2-trifluoroethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,1,2-Trichloroethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,1-Dichloroethene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,2,4-Trichlorobenzene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
1,2-Dibromo-3-chloropropane	mg/L	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]
1,2-Dibromoethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,2-Dichlorobenzene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,2-Dichloroethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,2-Dichloropropane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,3-Dichlorobenzene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
1,4-Dichlorobenzene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
2-Butanone	mg/L	ND(0.025)	ND(0.025)	NA	ND(0.025 J) [ND(0.025 J)]
2-Hexanone	mg/L	ND(0.050)	ND(0.050 J)	NA	ND(0.050) [ND(0.050)]
4-Methyl-2-pentanone	mg/L	ND(0.050)	ND(0.050 J)	NA	ND(0.050) [ND(0.050)]
Acetone	mg/L	ND(0.025)	ND(0.025)	NA	ND(0.025 J) [ND(0.025 J)]
Benzene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Bromodichloromethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Bromoform	mg/L	ND(0.0010 J)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Bromomethane	mg/L	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]
Carbon Disulfide	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Carbon Tetrachloride	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Chlorobenzene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Chloroethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Chloroform	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Chloromethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
cis-1,2-Dichloroethene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
cis-1,3-Dichloropropene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Cyclohexane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Dibromochloromethane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Ethylbenzene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Isopropylbenzene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Methyl acetate	mg/L	ND(0.010)	ND(0.010)	NA	ND(0.010) [ND(0.010)]
Methyl cyclohexane	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Methyl tert-butyl ether	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Methylene Chloride	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Styrene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Tetrachloroethene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010 J) [ND(0.0010 J)]
Toluene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
trans-1,2-Dichloroethene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	X-9D 01/08/08	X-9D 03/11/08	X-9D 6/5/2008[1]	X-9D 7/10-11/2008
Volatile Organics (Cont.)					
trans-1,3-Dichloropropene	mg/L	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]
Trichloroethene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Trichlorofluoromethane	mg/L	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]
Vinyl Chloride	mg/L	ND(0.0010)	ND(0.0010 J)	NA	ND(0.0010) [ND(0.0010)]
Total 1,3-Dichloropropenes	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Total Xylenes	mg/L	ND(0.0020)	ND(0.0020)	NA	ND(0.0020) [ND(0.0020)]
Semivolatile Organics					
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2,4,5-Trichlorophenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2,4,6-Trichlorophenol	mg/L	ND(0.0040)	ND(0.0040)	NA	ND(0.0040) [ND(0.0040)]
2,4-Dichlorophenol	mg/L	ND(0.010)	ND(0.010)	NA	ND(0.010) [ND(0.010)]
2,4-Dimethylphenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2,4-Dinitrophenol	mg/L	ND(0.020)	ND(0.020 J)	NA	ND(0.020) [ND(0.020)]
2,4-Dinitrotoluene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2,6-Dinitrotoluene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2-Chloronaphthalene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2-Chlorophenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2-Methylnaphthalene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2-Methylphenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
2-Nitroaniline	mg/L	ND(0.020)	ND(0.020)	NA	ND(0.020) [ND(0.020)]
2-Nitrophenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
3,3'-Dichlorobenzidine	mg/L	ND(0.0040)	ND(0.0040)	NA	ND(0.0040) [ND(0.0040)]
3-Nitroaniline	mg/L	ND(0.020)	ND(0.020)	NA	ND(0.020) [ND(0.020)]
4,6-Dinitro-2-methylphenol	mg/L	ND(0.020)	ND(0.020)	NA	ND(0.020) [ND(0.020)]
4-Bromophenyl-phenylether	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
4-Chloro-3-Methylphenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
4-Chloroaniline	mg/L	ND(0.010)	ND(0.010)	NA	R [ND(0.010)]
4-Chlorophenyl-phenylether	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
4-Methylphenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
4-Nitroaniline	mg/L	ND(0.020)	ND(0.020)	NA	ND(0.020) [ND(0.020)]
4-Nitrophenol	mg/L	ND(0.020)	ND(0.020)	NA	ND(0.020) [ND(0.020)]
Acenaphthene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Acenaphthylene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Acetophenone	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Atrazine	mg/L	ND(0.0030)	ND(0.0030)	NA	ND(0.0030) [ND(0.0030)]
Benzaldehyde	mg/L	ND(0.010)	ND(0.010)	NA	ND(0.010) [ND(0.010)]
Benzo(a)anthracene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Benzo(a)pyrene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Benzo(b)fluoranthene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Benzo(g,h,i)perylene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Benzo(k)fluoranthene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Biphenyl	mg/L	ND(0.010)	ND(0.010)	NA	ND(0.010) [ND(0.010)]

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	X-9D 01/08/08	X-9D 03/11/08	X-9D 6/5/2008[1]	X-9D 7/10-11/2008
Semivolatile Organics (Cont.)					
bis(2-Chloroethoxy)methane	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
bis(2-Chloroethyl)ether	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
bis(2-Ethylhexyl)phthalate	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Butylbenzylphthalate	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Caprolactam	mg/L	ND(0.010 J)	ND(0.010)	NA	ND(0.010 J) [ND(0.010)]
Carbazole	mg/L	ND(0.010)	ND(0.010)	NA	ND(0.010) [ND(0.010)]
Chrysene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Dibenzo(a,h)anthracene	mg/L	ND(0.0020)	ND(0.0020)	NA	ND(0.0020) [ND(0.0020)]
Dibenzofuran	mg/L	ND(0.0040)	ND(0.0040)	NA	ND(0.0040) [ND(0.0040)]
Diethylphthalate	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Dimethylphthalate	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Di-n-Butylphthalate	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Di-n-Octylphthalate	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Fluoranthene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Fluorene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Hexachlorobenzene	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Hexachlorobutadiene	mg/L	ND(0.0010)	ND(0.0010)	NA	ND(0.0010) [ND(0.0010)]
Hexachlorocyclopentadiene	mg/L	ND(0.0050)	R	NA	ND(0.0050) [ND(0.0050)]
Hexachloroethane	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Indeno(1,2,3-cd)pyrene	mg/L	ND(0.0020)	ND(0.0020)	NA	ND(0.0020) [ND(0.0020)]
Isophorone	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Naphthalene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Nitrobenzene	mg/L	ND(0.0030)	ND(0.0030)	NA	ND(0.0030) [ND(0.0030)]
N-Nitroso-di-n-propylamine	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
N-Nitrosodiphenylamine	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Pentachlorophenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Phenanthrene	mg/L	ND(0.0020)	ND(0.0020)	NA	ND(0.0020) [ND(0.0020)]
Phenol	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Pyrene	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
Total Methylphenols	mg/L	ND(0.0050)	ND(0.0050)	NA	ND(0.0050) [ND(0.0050)]
PCBs					
Aroclor-1016	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Aroclor-1221	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Aroclor-1232	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Aroclor-1242	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Aroclor-1248	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Aroclor-1254	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Aroclor-1260	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]
Total PCBs	mg/L	ND(0.00020)	ND(0.00020)	NA	ND(0.00020) [ND(0.00020)]

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	X-9D 01/08/08	X-9D 03/11/08	X-9D 6/5/2008[1]	X-9D 7/10-11/2008
Inorganics					
Aluminum	mg/L	ND(0.200)	ND(0.200)	NA	ND(0.200) [ND(0.200)]
Antimony	mg/L	ND(0.00200)	ND(0.00200)	NA	ND(0.00200) [ND(0.00200)]
Arsenic	mg/L	ND(0.00500)	ND(0.00500)	NA	ND(0.00500) [ND(0.00500)]
Barium	mg/L	0.0942 J	0.0807 J	NA	0.0823 J [0.0781 J]
Beryllium	mg/L	ND(0.00100)	ND(0.00100)	NA	ND(0.00100) [ND(0.00100)]
Cadmium	mg/L	ND(0.00100)	ND(0.00100)	NA	ND(0.00100) [ND(0.00100)]
Calcium	mg/L	200	181	NA	200 [192]
Chromium Total	mg/L	ND(0.00500)	ND(0.00500)	NA	ND(0.00500) [ND(0.00500)]
Cobalt	mg/L	ND(0.00700)	ND(0.00700)	NA	ND(0.00700) [ND(0.00700)]
Copper	mg/L	ND(0.00200)	ND(0.00200)	NA	ND(0.00200) [ND(0.00200)]
Iron	mg/L	3.64	3.15	NA	3.42 [3.28]
Lead	mg/L	ND(0.00300)	ND(0.00300)	NA	ND(0.00300) [ND(0.00300)]
Magnesium	mg/L	81.1	72.2	NA	82.2 [78.9]
Manganese	mg/L	0.186	0.149	NA	0.141 [0.135]
Mercury	mg/L	ND(0.000200)	ND(0.000200)	NA	ND(0.000200) [ND(0.000200)]
Nickel	mg/L	ND(0.0200)	ND(0.0200)	NA	ND(0.0200) [ND(0.0200)]
Potassium	mg/L	8.07	6.73	NA	7.63 [7.27]
Selenium	mg/L	ND(0.00500)	ND(0.00500)	NA	ND(0.00500) [ND(0.00500)]
Silver	mg/L	ND(0.000200)	ND(0.000200)	NA	ND(0.000200) [ND(0.000200)]
Sodium	mg/L	717 (IDW)	635 (IDW)	NA	676 (IDW) [664 (IDW)]
Thallium	mg/L	ND(0.00100)	ND(0.00100)	NA	ND(0.00100) [ND(0.00100)]
Vanadium	mg/L	ND(0.00400)	ND(0.00400)	NA	ND(0.00400) [ND(0.00400)]
Zinc	mg/L	0.00860 J	ND(0.0200)	NA	ND(0.0200) [ND(0.0200)]
Inorganics-Dissolved					
Aluminum	mg/L	ND(0.2)	ND(0.2)	NA	ND(0.2) [ND(0.2)]
Antimony	mg/L	ND(0.002)	ND(0.002)	NA	ND(0.002) [ND(0.002)]
Arsenic	mg/L	ND(0.005)	ND(0.005)	NA	ND(0.005) [ND(0.005)]
Barium	mg/L	0.0878 J	0.0866 J	NA	0.0823 J [0.0781 J]
Beryllium	mg/L	ND(0.001)	ND(0.001)	NA	ND(0.001) [ND(0.001)]
Cadmium	mg/L	ND(0.001)	ND(0.001)	NA	ND(0.001) [ND(0.001)]
Calcium	mg/L	188	191	NA	201 [191]
Chromium Total	mg/L	ND(0.005)	ND(0.005)	NA	ND(0.005) [ND(0.005)]
Cobalt	mg/L	ND(0.007)	ND(0.007)	NA	ND(0.007) [ND(0.007)]
Copper	mg/L	ND(0.002)	ND(0.002)	NA	ND(0.002) [ND(0.002)]
Cyanide	mg/L	ND(0.01)	ND(0.01)	NA	ND(0.01) [ND(0.01)]
Iron	mg/L	3.37	3.57	NA	3.42 [3.25]
Lead	mg/L	ND(0.003)	ND(0.003)	NA	ND(0.003) [ND(0.003)]
Magnesium	mg/L	75.9	76.3	NA	82.5 [78.6]
Manganese	mg/L	0.173	0.155	NA	0.141 [0.135]
Mercury	mg/L	ND(0.0002)	ND(0.0002)	NA	ND(0.0002) [ND(0.0002)]
Nickel	mg/L	ND(0.02)	ND(0.02)	NA	ND(0.02) [ND(0.02)]
Potassium	mg/L	7.39	7.11	NA	7.68 J [7.24 J]

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Table 2. Groundwater Anaytical Results, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

Location ID: / Date Collected:	Units	X-9D 01/08/08	X-9D 03/11/08	X-9D 6/5/2008[1]	X-9D 7/10-11/2008
Inorganics-Dissolved (Cont.)					
Selenium	mg/L	ND(0.005)	ND(0.005)	NA	ND(0.005) [ND(0.005)]
Silver	mg/L	ND(0.0002)	ND(0.0002)	NA	ND(0.0002) [ND(0.0002)]
Sodium	mg/L	634 (IDW)	678 (IDW)	NA	681 (IDW) [664 (IDW)]
Thallium	mg/L	ND(0.001)	ND(0.001)	NA	ND(0.001) [ND(0.001)]
Vanadium	mg/L	ND(0.004)	ND(0.004)	NA	ND(0.004) [ND(0.004)]
Zinc	mg/L	ND(0.02)	ND(0.02)	NA	ND(0.02) [ND(0.02)]
Miscellaneous					
Ammonia Nitrogen	mg/L	8.5	9.7	5.9 (7.52)	6.7 [6.2]
Chloride	mg/L	1,370 (IDW)	1,340 (IDW)	NA	1,330 (IDW) [1,320 (IDW)]
Estimated Un-ionized Ammonia	mg/L	0.612(GSI)	0.6984(GSI)	0.4248(GSI) (0.54(GSI)	0.4824(GSI) [0.4464(GSI)]
Nitrate (as N)	mg/L	ND(0.1)	ND(0.1)	NA	ND(0.1) [ND(0.1)]
Nitrite (as N)	mg/L	ND(0.1)	ND(0.1 J)	NA	ND(0.1) [ND(0.1)]
pH (water)	none	7.4	7.3	NA	7.3 [7.3]
Sulfate	mg/L	194	185	NA	192 [190]
Total Dissolved Solids (TDS)	mg/L	2,400(GSI,IDW)	2,500(GSI,IDW)	2,900(GSI,IDW) (2,980 GSI, IDW)	3,100(GSI,IDW) [3,400(GSI,IDW)]

See Notes on Page 11.

Table 2. Notes For Groundwater Analytical Data Tables, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

General Notes:

Samples were collected by ARCADIS, and submitted Test America Laboratories in North Canton, Ohio for analysis.

Duplicate results are presented in brackets.

[1] Duplicate samples were also analyzed by Merit Laboratories of East Lansing, Michigan and results are shown in parentheses {}.

Groundwater concentrations are presented in milligram per liter (mg/L), except where noted.

Total PCBs reported as the sum of PCB Aroclors.

The estimated unionized ammonia (NH_3) concentrations calculated for the monitoring wells located adjacent to the Saginaw River are based on the MDEQ default value of 7.2% of total ammonia nitrogen for warm water surface water.

Shaded and bolded cells represent constituent concentrations that exceed at least one of the listed Michigan Part 201 Criteria:

For Groundwater:

IDW = Industrial Drinking Water criteria, updated January 2006.

For Groundwater Adjacent to Saginaw River:

GSI = Groundwater/Surface Water Interface criteria, updated January 2006.

Data Qualifiers:

ND = Not detected. The value in parentheses represents the associated detection limit.

NA = Not analyzed for this constituent.

B = Inorganics: the detected analyte is and estimated value between the instrument detection limit and the reporting limit.

B = Organics: the compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

BJ = The detected analyte is an estimated concentration between the IDL and the RL.

U = The constituent was analyzed for but not detected. The associated value is the constituent quantitation limit.

UJ = The constituent was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual result.

D = Concentration is based on a diluted sample analysis.

J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.

R = Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data shall not be used for any qualitative or quantitative purposes.

MDEQ Criteria Qualifiers:

ID = *Inadequate data* to develop criterion.

NA = Criterion or value is *not available* or, as is the case for Csat, *not applicable*.

NLV = Hazardous substance is *not likely to volatilize* under most conditions.

(A) Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 pa 399, mcl 325.1005.

(B) Background, as defined in R 299.5701(b), may be substituted if higher than the calculated cleanup criterion.

(C) Value presented is a screening level based on the chemical-specific generic soil saturation concentration since the calculated risk-based criterion is greater than Csat. Concentrations greater than Csat are acceptable cleanup criteria for this pathway where a site-specific demonstration indicates that free-phase material containing a hazardous substance is not present.

(D) Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

(E) Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA). A notice of aesthetic impact may be employed as an institutional control mechanism if groundwater concentrations exceed the aesthetic drinking water criterion, but do not exceed the applicable health-based drinking water value provided in the following table:

Hazardous Substance	Chemical Abstract Service Number	Residential Health-Based Drinking Water Value (ug/L)	Industrial-Commercial Health-Based Drinking Water Value (ug/L)
Aluminum	7429905	300	4,100
tertiary Amyl methyl ether	994058	910	2,600
Copper	7440508	1,400	4,000
Diethyl ether	60297	3,700	10,000

MDEQ Criteria Qualifiers (continued):

Hazardous Substance	Chemical Abstract Service Number	Residential Health-Based Drinking Water Value (ug/L)	Industrial-Commercial Health-Based Drinking Water Value (ug/L)
Ethylbenzene	100414	700	700
Iron	7439896	2,000	5,600
Manganese	7439965	860	2,500
Methyl-tert-butyl ether (MTBE)	1634044	240	690
Toluene	108883	1,000	1,000
1,2,4-Trimethylbenzene	95636	1,000	2,900
1,3,5-Trimethylbenzene	108678	1,000	2,900
Xylenes	1330207	10,000	10,000

(F) Criterion is based on adverse impacts to plant life and phytotoxicity.

(G) Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO3/L, use 400 mg CaCO3/L for the FCV calculation. The FCV formula provides values in units of ug/L or ppb. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Hazardous Substance	FCV Formula (ug/L)	FCV Conversion Factor (CF)	WV (ug/L)	HNDV (ug/L)
Acetate	7.0362)	NA	NA	1.30E+06
Barium[x]	EXP(1.0629*(LnH)+1.1869)	NA	NA	1.60E+05
Beryllium	EXP(2.5279*(LnH)-10.7689)	NA	NA	1,200
Cadmium[x]	(EXP(0.7852*(LnH)-2.715))*CF	1.101672-((LnH)*(0.041838))	NA	130
Chromium (III)[x]	(EXP(0.819*(LnH)+0.6848))*CF	0.86	NA	9,400
Copper	(EXP(0.8545*(LnH)-1.702)) *CF	0.96	NA	64,000
Lead[x]	(EXP(1.273*(LnH)-3.296))*CF	1.46203-((LnH)*(0.14571))	NA	190
Manganese	EXP(0.8784*(LnH)+3.5199)	NA	NA	59,000
Nickel	(EXP(0.846*(LnH)+0.0584))*CF	0.997	NA	2.10E+05
Pentachlorophenol[x]	EXP(1.005*(pH)-5.134)	NA	NA	2.8
Zinc	(EXP(0.8473*(LnH)+0.884))*CF	0.986	NA	22,000

where,

[x] =The GSI criterion developed here may not be protective for surface water that is used as a drinking water source.

Table 2. Notes For Groundwater Analytical Data Tables, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

MDEQ Criteria Qualifiers (continued):

(H) Valence-specific chromium data (Cr III and Cr VI) shall be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the drinking water criterion of 100 ug/l. If analytical data are provided for total chromium only, they shall be compared to the cleanup criteria for Cr VI. Cr III soil cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future, through an approved land or resource use restriction.

(I) Hazardous substance may exhibit the characteristic of ignitability as defined in 40 C.F.R. §261.21 (revised as of July 1, 2001).

(J) Hazardous substance may be present in several isomer forms. Isomer-specific concentrations shall be added together for comparison to criteria.

(K) Hazardous substance may be flammable or explosive, or both.

(L) Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules. The generic residential drinking water criterion of 4 ug/L is linked to the generic residential soil direct contact criterion of 400 mg/kg. A higher concentration in the drinking water, up to the state action level of 15 ug/L, may be allowed as a site-specific remedy and still allow for drinking water use, under Section 20120a(2) of the NREPA if soil concentrations are appropriately lower than 400 mg/kg. If a site-specific criterion is approved based on this subdivision, a notice shall be filed on the deed for all property where the groundwater concentrations will exceed 4 ug/L to provide notice of the potential for unacceptable risk if soil or groundwater concentrations increase. Acceptable combinations of site-specific soil and drinking water concentrations are presented in the following table:

Acceptable Combinations of Lead in Drinking Water and Soil

Drinking Water Concentration (ug/L)	Soil Concentration (mg/kg)
5	386-395
6	376-385
7	376-385
8	366-375
9	356-365
10	346-355
11	336-345
12	336-345
13	326-335
14	316-325
15	306-315

(M) Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

(P) Amenable cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with all groundwater criteria. Total cyanide methods or method OIA-1677 shall be used to quantify cyanide concentrations for compliance with soil criteria. Industrial-commercial direct contact criteria may not be protective of the potential for release of hydrogen cyanide gas. Additional land or resource use restrictions may be necessary to protect for the acute inhalation concerns associated with hydrogen cyanide gas.

(Q) Criteria for carcinogenic polycyclic aromatic hydrocarbons were developed using relative potential potencies to benzo(a)pyrene.

(R) Hazardous substance may exhibit the characteristic of reactivity as defined in 40 C.F.R. §261.23 (revised as of July 1, 2001)

(S) Criterion defaults to the hazardous substance-specific water solubility limit.

(W) Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L. Concentrations of trihalomethanes in soil shall be added together to determine compliance with the drinking water protection criterion of 1,600 ug/kg.

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source. For a groundwater discharge to the Great Lakes and their connecting waters or discharge in close proximity to a water supply intake in inland surface waters, the generic GSI criterion shall be the surface water human drinking water value (HDV) listed in the table in this footnote, except for those HDV indicated with an asterisk. For HDV with an asterisk, the generic GSI criterion shall be the lowest of the HDV, the WV, and the calculated FCV. See formulas in footnote (G). Soil protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria based on the HDV shall be as listed in the table in this footnote, except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk shall be the greater of 20 times the GSI criterion or the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

Table 2. Notes For Groundwater Analytical Data Tables, REALM, Inc. Green Point Landfill, Saginaw, Michigan, Environmental Monitoring Program

MDEQ Criteria Qualifiers (continued):

Hazardous Substance	Chemical Abstract Service Number	Surface Water Human Drinking Water Values (HDV) (ug/L)	Soil GSI Protection Criteria (HDV) (ug/L)
Acrylonitrile	107131	2.0 (M); 0.87	100 (M); 17
Alachlor	15972608	3.5	91
Antimony	7440360	2	1,400
Arsenic	7440382	50	23,000
Atrazine	1912249	4.3	86
Barium	7440393	1,900*	*
Benzene	71432	12	240
bis(2-Chloroethyl)ether	111444	1 (M); 0.79	100 (M); 20
Bromate	15541454	10 (M); 0.5	200 (M); 10
Butyl benzyl phthalate	85687	6.9	13,000
Cadmium	7440439	2.5*	*
Carbon tetrachloride	56235	5.6	110
Chloride	16887006	50,000	1.00E+06
Chloroform	67663	77	1,500
Chromium (III)	16065831	120*	*
Cyanazine	21725462	2 (M); 0.93	200 (M); 40
3,3'-Dichlorobenzidine	91941	0.3 (M); 0.14	2,000 (M); 7.7
1,2-Dichloroethane	107062	6	120
1,1-Dichloroethylene	75354	24	480
1,2-Dichloropropane	78875	9.1	180
N,N-Dimethylacetamide	127195	700	14,000
1,4-Dioxane	123911	34	680
Ethylene dibromide	106934	0.05 (M); 0.006	20 (M); 1.0
Ethylene glycol	107211	56,000	1.10E+06
Heptachlor	76448	0.01 (M); 0.0017	NLL
beta-Hexachlorocyclohexane	319857	0.024	20 (M)
Hexachloroethane	67721	5.3	310
Isophorone	78591	310	6,200
Isopropyl alcohol	67630	28,000	5.60E+05
Lead	7439921	14*	*
Manganese	7439965	3600	72,000
Methyl-tert-butyl ether (MTBE)	1634044	100	2,000
Methylene chloride	75092	47	940
Mirex	2385855	0.02 (M); 1.6E-5	NLL
Molybdenum	7439987	120	2,400
Nitrobenzene	98953	4.7	330 (M); 94
Pentachlorophenol	87865	1.8*	*
1,2,4,5-Tetrachlorobenzene	95943	2.8	3,300
1,1,1,2-Tetrachloroethane	630206	19	380
1,1,2,2-Tetrachloroethane	79345	3.2	64
Tetrachloroethylene	127184	11	220
Tetrahydrofuran	109999	350	7,000
Thallium	7440280	2.0 (M); 1.2	2,300
1,1,2-Trichloroethane	79005	12	240
Trichloroethylene	79016	29	580

{AA} = Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.