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Report.HW.204031.2011.01.20.NR72\_Battler\_Wall -  
Annual\_Report

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Mr. Anthony Karwiel  
Project Manager  
New York State Department of Environmental Conservation  
Remedial Bureau C, 11<sup>th</sup> Floor  
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JAN 24 2011

Remedial Bureau C  
Division of Environmental Remediation

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Subject:

Annual NAPL Monitoring Report – 2010  
Passive Barrier Wall – Interim Remedial Measure  
Binghamton Court Street, Former MGP  
Site #7-04-031

ENVIRONMENTAL

Date:

January 20, 2011

Dear Mr. Karwiel:

Contact:

Keith White

On behalf of the New York State Electric & Gas Corporation (NYSEG), ARCADIS is pleased to present this letter report summarizing the monitoring data collected in accordance with the *NAPL Barrier Wall Interim Remedial Measure Engineering Certification Report* (ARCADIS, 2007; referred to hereafter as the “Engineering Certification Report”). The purpose of the passive NAPL barrier is to prevent nonaqueous phase liquids (NAPLs) from leaving the site. The term “passive” refers to the fact that the barrier operates without the pumping or treating of groundwater. Construction of the passive NAPL barrier was substantially completed in November 2006; however, as discussed in the Engineering Certification Report, three NAPL-recovery wells (RW-20, RW-21, and RW-22) were not installed until January 2007. The formal monitoring program began in April 2007, although one round of preliminary monitoring data was collected in January 2007, immediately after the final three NAPL-recovery wells were installed.

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The current monitoring program consists of the following:

- Quarterly monitoring of all 22 NAPL-recovery wells (identified as RW-1 through RW-22 on the attached Figure 1).
- Semiannual monitoring of a series of “sentinel” wells located within Court Street between the barrier and the Susquehanna River (MW97-7S, NMW-2, PZ01-02, PZ03-01D, PZ03-02A, PZ03-02D, PZ03-03A, PZ03-03B, PZ03-03D, PZ03-04A, PZ03-04B, PZ03-04D, PZ03-05A, PZ03-05B, PZ03-05C, PZ03-05D, PZ03-06A, PZ03-06B, PZ03-06C, PZ03-06D, PZ03-07A, PZ03-07B, PZ03-07C, PZ03-07D, PZ03-08A, PZ03-08B, PZ03-08C, and PZ03-08D). The locations of these wells are shown on Figure 2.

Imagine the result



- Quarterly monitoring of well MW93-6D located immediately south of manhole MH-2 (used to access the 66-inch storm sewer during inspection events) in the northwest corner of the site (Figure 2).

During the quarterly and semiannual monitoring events, each location was monitored for depth to groundwater, depth to bottom, and, if present, the thickness of accumulated light NAPL (LNAPL) or dense NAPL (DNAPL). LNAPL thickness was measured using an oil-water interface probe and confirmed using a clear bailer. DNAPL presence was monitored using a weighted tape. If DNAPL was detected, the tape would also be used to determine its thickness.

Data collected during the recovery-well and sentinel-well monitoring events are contained in Tables 1 and 2, respectively. All monitoring was performed by ARCADIS staff, or by a combination of staff from ARCADIS and AES, Inc.

To date, no measurable NAPL has accumulated in any of the barrier trench recovery wells. Only odors, sheens and trace amount of tar-like material have been observed in them. As has been the case in the past, LNAPL was detected in several sentinel piezometers located in Court Street, downgradient of the barrier wall. Specifically in 2010, LNAPL was detected in May 2010 at PZ01-02 ( $\leq 0.67$  ft) and PZ-03-06B ( $\leq 0.00$  ft), and again in November 2010 at piezometers PZ01-02 ( $\leq 0.05$  ft), PZ-03-06B ( $\leq 0.15$  ft) and PZ03-06A ( $\leq 0.18$  ft), which are located downgradient of the barrier wall within Court Street. Measureable LNAPL and/or a zone of impacted soils near the water table were noted at these three locations prior to the installation of the barrier wall. In addition, LNAPL has never been identified in any on-site monitoring wells (upgradient of the barrier wall). These facts, coupled with the continued absence of LNAPL in the barrier wall monitoring wells, indicate that the presence of LNAPL in these sentinel piezometers is not related to the performance of the barrier wall. A peristaltic pump or disposable bailer was used to remove LNAPL from these wells. NAPL generated during pumping was contained in a drum and staged on-site for future disposal by NYSEG.

In July 2009, DNAPL was detected in monitoring well MW93-6D (see Figure 2). This well is located upgradient of the barrier wall and was not included in the barrier wall monitoring program; however, since historically this well had not had DNAPL observed in it, NYSEG decided to monitor it for DNAPL on a regular basis. Since November 2009, the monitoring of this well has been coupled with the quarterly barrier trench monitoring. As of the end of 2010, approximately 1.4 gallons of DNAPL have been removed from the monitoring well. Approximately half of that total was collected in 2010 Table 3 summarizes the monitoring data collected at MW93-6D. The bottom 1.85 feet of the screen of well MW93-6D are installed in the till confining unit at the site; therefore, this portion of the well screen acts as a natural sump for DNAPL collecting in the well. As the DNAPL-thickness data in Table 3 show, the height of the DNAPL column in the well for each of the 2010 monitoring events was

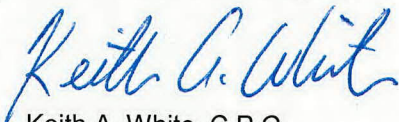
less than 1.85 feet. This observation demonstrates that quarterly monitoring frequency for this well is appropriate. Details regarding the detection of NAPL in well MW97-6D are contained in the annual NAPL Monitoring Report dated March 17, 2010 (ARCADIS 2010) describing the 2009 monitoring activities.

Based on our analysis of the monitoring data collected in 2010, NYSEG recommends continuing monitoring at the current frequency for 2011.

As the NYSDEC is aware, NYSEG is currently designing a remedy for the 66-inch storm sewer which could be implemented as soon as this year. Prior to initiating the remedy, NYSEG will evaluate whether an increase in monitoring frequency of one or more of the barrier wall monitoring wells will be necessary before, during, or after the implementation of the remedy. NYSEG will again prepare an annual report summarizing the findings of the quarterly and semi-annual monitoring events following the 2011 calendar year. The report will include updated versions of the three tables contained in this report. The report will also include recommendations for modifying the monitoring program, if necessary.

Sincerely,

ARCADIS of New York, Inc.



Keith A. White, C.P.G.  
 Principal-in-Charge

DAC/plf  
 Attachments

Copies:  
 David A. Cornell, ARCADIS

**References**

ARCADIS BBL, 2007. *NAPL Barrier Wall Interim Remedial Measure Engineering Certification Report*. Prepared for New York State Electric & Gas Corporation. March 2007.

ARCADIS, 2008. *NAPL Monitoring Report, Passive Barrier Wall - Interim Remedial Measure*. Prepared for New York State Department of Environmental Conservation. November 2008.

ARCADIS, 2010. *NAPL Monitoring Report, Passive Barrier Wall - Interim Remedial Measure*. Prepared for New York State Department of Environmental Conservation. March 2010.



ARCADIS

TABLES

Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-1													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	16:45	7.59	834.72	52.83	789.48	1.37	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
04/25/07	NR	7.22	835.09	52.50	789.81	1.70	--	--	--	--	--	--	Coal-tar-like odor.
05/30/07	NR	9.76	832.55	52.54	789.77	1.66	--	--	--	--	--	--	Trace yellow NAPL on top of probe, coal-tar-like odor.
06/27/07	8:48	10.73	831.58	52.85	789.46	1.35	--	--	--	--	--	--	Silt on the last 1" of probe.
07/24/07	10:01	10.41	831.90	52.60	789.71	1.60	--	--	--	--	--	--	Coal-tar-like odor.
08/28/07	10:00	10.87	831.44	52.71	789.60	1.49	--	--	--	--	--	--	Soft bottom, Silt on probe, VOC = 0.7ppm.
09/20/07	9:30	10.86	831.45	52.65	789.66	1.55	--	--	--	--	--	--	Able to penetrate sediment in well 0.25', coal-tar-like odor, coal-tar-like material on probe.
10/31/07	8:30	9.33	832.98	52.50	789.81	1.70	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor, VOCs = 0.0 ppm.
11/20/07	8:51	9.00	833.31	52.53	789.78	1.67	--	--	--	--	--	--	Coal-tar-like odor.
12/18/07	8:52	8.79	833.52	52.51	789.80	1.69	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:25	9.18	833.13	52.45	789.86	1.75	--	--	--	--	--	--	Soft bottom.
02/21/08	15:02	7.96	834.35	52.71	789.60	1.49	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
03/18/08	13:10	7.86	834.45	52.74	789.57	1.46	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
05/12/08	8:50	9.98	832.33	52.91	789.40	1.29	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/05/08	11:35	10.62	831.69	53.35	788.96	0.85	--	--	--	--	--	--	Trace sheen, soft bottom.
07/08/08	8:20	10.89	831.42	52.62	789.69	1.58	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
08/06/08	8:31	10.42	831.89	52.70	789.61	1.50	--	--	--	--	--	--	Soft bottom.
11/19/08	8:20	9.91	832.40	53.41	788.90	0.79	--	--	--	--	--	--	
02/06/09	8:53	10.36	831.95	52.69	789.62	1.51	--	--	--	--	--	--	
05/29/09	9:35	NR	NR	NR	NR	NR	--	--	--	--	--	--	Did not take fluid level. Curb box lid fractured. Riser no longer plumb, leaning toward the west.
08/11/09	9:28	8.36	833.95	53.50	788.81	0.70	--	--	--	--	--	--	Very Soft bottom, slight odor.
11/09/09	11:01	9.39	832.92	53.65	788.66	0.55	--	--	--	--	--	--	Soft bottom.
02/23/10	8:35	10.10	832.21	53.50	788.81	0.70	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, 0.0 ppm.
05/28/10	11:08	10.24	832.07	52.98	789.33	1.22	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	9:18	9.89	832.42	52.30	790.01	1.90	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
11/23/10	10:39	9.17	833.14	52.20	790.11	2.00	--	--	--	--	--	--	Soft bottom, 0.0 ppm.

Top of Casing (FAMSL) = 842.31  
 Well bottom elev. (installed; FAMSL) = 788.11  
 Installed Well Depth (ft) = 54.20

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-2													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	17:05	8.10	834.02	49.53	792.59	2.77	--	--	--	--	--	--	Soft Bottom.
04/25/07	NR	7.40	834.72	49.15	792.97	3.15	--	--	--	--	--	--	Sheen on probe.
05/30/07	NR	10.32	831.80	49.20	792.92	3.10	--	--	--	--	--	--	Trace Silt on probe.
06/27/07	9:24	11.25	830.87	49.52	792.60	2.78	--	--	--	--	--	--	Black material on probe, tape and floating on the surface of the water.
07/24/07	10:25	10.73	831.39	49.78	792.34	2.52	--	--	--	--	--	--	Able to penetrate sediment in well 0.15', faint organic-like odor.
08/28/07	10:22	11.38	830.74	49.27	792.85	3.03	--	--	--	--	--	--	Soft bottom.
09/20/07	9:50	11.42	830.70	49.04	793.08	3.26	--	--	--	--	--	--	Able to penetrate sediment in well 0.3', slight coal-tar-like odor.
10/31/07	8:59	9.93	832.19	49.17	792.95	3.13	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', strong coal-tar-like odor, manure-like odor, VOCs = 1.5 ppm.
11/20/07	9:16	9.60	832.52	49.30	792.82	3.00	--	--	--	--	--	--	Mild coal-tar-like odor.
12/18/07	9:25	9.42	832.70	49.10	793.02	3.20	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:19	9.69	832.43	49.28	792.84	3.02	--	--	--	--	--	--	Soft Bottom.
02/21/08	15:20	8.53	833.59	49.81	792.31	2.49	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
03/18/08	12:45	8.37	833.75	49.25	792.87	3.05	--	--	--	--	--	--	Soft bottom, sediment on probe. Vault lid will not close flush to the vault frame work, may be due to plowing or vehicles driving over the vault.
05/12/08	8:40	10.45	831.67	49.57	792.55	2.73	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, sediment on probe.
06/05/08	11:58	11.19	830.93	52.27	789.85	0.03	--	--	--	--	--	--	Foam on the surface of the water. Well redeveloped on June 5th 2008.
07/08/08	8:36	11.44	830.68	52.18	789.94	0.12	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
08/06/08	8:46	11.00	831.12	52.02	790.10	0.28	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
11/19/08	8:44	10.39	831.73	52.17	789.95	0.13	--	--	--	--	--	--	Firm bottom, steel casing has moved - well is no longer plumb.
02/06/09	9:25	10.50	831.62	52.15	789.97	0.15	--	--	--	--	--	--	
05/29/09	11:48	9.49	832.63	52.15	789.97	0.15	--	--	--	--	--	--	Firm bottom, riser leaning toward the east.
08/11/09	9:50	8.99	833.13	52.15	789.97	0.15	--	--	--	--	--	--	Firm bottom.
11/09/09	11:18	9.98	832.14	52.22	789.90	0.08	--	--	--	--	--	--	Firm bottom.
02/23/10	8:59	10.62	831.50	52.20	789.92	0.10	--	--	--	--	--	--	Firm bottom, 0.0 ppm.
05/28/10	11:27	10.78	831.34	52.05	790.07	0.25	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	9:37	10.44	831.68	52.12	790.00	0.18	--	--	--	--	--	--	Dark gray sediment on probe, mild coal tar-like odor, 0.0 ppm.
11/23/10	10:52	9.74	832.38	52.52	789.60	-0.22	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) = 842.12  
 Well bottom elev. (installed; FAMSL) = 789.82  
 Installed Well Depth (ft) = 52.30

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.
5. Well redeveloped on June 5th 2008.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-3													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	16:55	8.13	833.70	16.31	825.52	0.44	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	7.90	833.93	16.50	825.33	0.25	--	--	--	--	--	--	
05/30/07	NR	10.33	831.50	16.39	825.44	0.36	--	--	--	--	--	--	Firm bottom, little dark gray sediment on probe.
06/27/07	9:30	11.26	830.57	16.15	825.68	0.60	--	--	--	--	--	--	Silt on the last 4" of probe.
07/24/07	10:28	10.72	831.11	16.70	825.13	0.05	--	--	--	--	--	--	Able to penetrate sediment in well 0.5', faint organic-like odor.
08/28/07	10:22	11.38	830.45	16.20	825.63	0.55	--	--	--	--	--	--	Soft bottom.
09/20/07	9:54	11.42	830.41	16.25	825.58	0.50	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', slight coal-tar-like odor.
10/31/07	9:03	9.92	831.91	16.48	825.35	0.27	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', slight coal-tar-like odor, manure-like odor, VOCs = 4.7 ppm.
11/20/07	9:23	9.59	832.24	16.26	825.57	0.49	--	--	--	--	--	--	Mild coal-tar-like odor.
12/18/07	9:29	9.43	832.40	16.25	825.58	0.50	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:18	9.66	832.17	16.17	825.66	0.58	--	--	--	--	--	--	
02/21/08	15:25	8.51	833.32	16.59	825.24	0.16	--	--	--	--	--	--	Soft bottom.
03/18/08	12:48	8.35	833.48	16.49	825.34	0.26	--	--	--	--	--	--	Soft bottom, coal-tar-like odor. Vault lid will not close flush to the vault frame work, may be due to plowing or vehicles driving over the vault.
05/12/08	8:41	10.45	831.38	16.59	825.24	0.16	--	--	--	--	--	--	Soft bottom, sediment on probe.
06/05/08	11:59	11.16	830.67	16.65	825.18	0.10	--	--	--	--	--	--	Approximately 0.25' of gray sediment in well.
07/08/08	8:40	11.44	830.39	16.51	825.32	0.24	--	--	--	--	--	--	Firm bottom.
08/06/08	8:47	10.99	830.84	16.29	825.54	0.46	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	8:45	10.45	831.38	16.73	825.10	0.02	--	--	--	--	--	--	Firm bottom, steel casing has moved - wells no longer plumb.
02/06/09	9:27	10.84	830.99	16.61	825.22	0.14	--	--	--	--	--	--	
05/29/09	11:50	9.49	832.34	16.61	825.22	0.14	--	--	--	--	--	--	Firm bottom, riser leaning slightly.
08/11/09	9:56	8.99	832.84	16.40	825.43	0.35	--	--	--	--	--	--	Very soft, slight odor, 3.5" of dark gray sediment on probe.
11/09/09	11:18	9.98	831.85	16.70	825.13	0.05	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
02/23/10	9:07	10.63	831.20	16.60	825.23	0.15	--	--	--	--	--	--	Firm bottom, 0.0 ppm.
05/28/10	11:29	10.78	831.05	16.30	825.53	0.45	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	9:41	10.45	831.38	16.22	825.61	0.53	--	--	--	--	--	--	Gray sediment on probe, coal tar-like odor, 0.0 ppm.
11/23/10	10:53	9.74	832.09	16.40	825.43	0.35	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) = 841.83  
 Well bottom elev. (installed; FAMSL) = 825.08  
 Installed Well Depth (ft) = 16.75

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-4													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	16:15	8.72	833.79	15.61	826.90	1.49	--	--	--	--	--	--	Soft Bottom.
04/25/07	NR	5.92	836.59	15.75	826.76	1.35	--	--	--	--	--	--	
05/30/07	NR	11.03	831.48	15.90	826.61	1.20	--	--	--	--	--	--	Soft bottom, little Silt on probe.
06/27/07	9:35	11.96	830.55	15.89	826.62	1.21	--	--	--	--	--	--	Mild coal-tar-like odor, black material on probe.
07/24/07	10:37	11.42	831.09	15.76	826.75	1.34	--	--	--	--	--	--	Hard bottom, organic-like odor.
08/28/07	10:33	12.11	830.40	15.75	826.76	1.35	--	--	--	--	--	--	Mild manure-like odor.
09/20/07	9:58	12.14	830.37	15.76	826.75	1.34	--	--	--	--	--	--	Firm bottom, slight coal-tar-like odor, manure-like odor.
10/31/07	9:10	10.65	831.86	15.72	826.70	1.30	--	--	--	--	--	--	Firm bottom, slight coal-tar-like odor, manure-like odor, VOCs = 0.9 ppm.
11/20/07	9:31	10.32	832.19	15.79	826.72	1.31	--	--	--	--	--	--	Firm bottom.
12/18/07	9:39	10.14	832.37	15.80	826.71	1.30	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:12	10.38	832.13	15.69	826.82	1.41	--	--	--	--	--	--	Soft bottom.
02/21/08	13:30	9.08	833.43	15.88	826.63	1.22	--	--	--	--	--	--	Firm bottom, coal-tar-like odor, manure-like odor.
03/18/08	12:43	9.07	833.44	15.96	826.55	1.14	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
05/12/08	8:37	11.17	831.34	15.99	826.52	1.11	--	--	--	--	--	--	Firm bottom.
06/05/08	12:12	11.88	830.63	16.02	826.49	1.08	--	--	--	--	--	--	
07/08/08	8:45	12.16	830.35	15.91	826.60	1.19	--	--	--	--	--	--	Firm bottom.
08/06/08	8:50	11.70	830.81	15.90	826.61	1.20	--	--	--	--	--	--	Firm bottom.
11/19/08	8:50	11.19	831.32	15.99	826.52	1.11	--	--	--	--	--	--	Hard bottom.
02/06/09	9:43	11.57	830.94	15.82	826.69	1.28	--	--	--	--	--	--	
05/29/09	11:53	10.22	832.29	15.95	826.56	1.15	--	--	--	--	--	--	Hard bottom, riser leaning to the south.
08/11/09	10:00	9.74	832.77	15.90	826.61	1.20	--	--	--	--	--	--	Firm bottom, slight odor.
11/09/09	11:25	10.71	831.80	15.90	826.61	1.20	--	--	--	--	--	--	Firm bottom.
02/23/10	9:12	11.37	831.14	15.90	826.61	1.20	--	--	--	--	--	--	Firm bottom, 0.0 ppm.
05/28/10	11:30	11.51	831.00	15.85	826.66	1.25	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	9:53	11.12	831.39	15.82	826.69	1.28	--	--	--	--	--	--	Sediment on probe, 0.0 ppm.
11/23/10	10:57	10.47	832.04	15.90	826.61	1.20	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 842.51  
 Well bottom elev. (installed; FAMSL) = 825.41  
 Installed Well Depth (ft) = 17.10

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-5													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	16:19	8.76	833.72	39.95	802.53	8.65	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	5.58	836.90	40.10	802.38	8.50	--	--	--	--	--	--	Coal-tar-like odor.
05/30/07	NR	10.99	831.49	40.10	802.38	8.50	--	--	--	--	--	--	Soft bottom, trace Silt on probe, slight coal-tar-like odor.
06/27/07	9:41	11.94	830.54	40.22	802.26	8.38	--	--	--	--	--	--	Coal-tar-like odor, manure-like odor, Silt on the last 2" of probe.
07/24/07	10:40	11.41	831.07	40.07	802.41	8.53	--	--	--	--	--	--	Able to penetrate sediment in well 0.8'.
08/28/07	10:35	12.07	830.41	40.25	802.23	8.35	--	--	--	--	--	--	Silt on end of probe, manure-like odor.
09/20/07	10:04	12.09	830.39	40.11	802.37	8.49	--	--	--	--	--	--	Able to penetrate sediment in well 0.11', coal-tar-like odor, manure-like odor.
10/31/07	9:13	10.62	831.86	40.25	802.23	8.35	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', manure-like odor, VOCs = 2.0 ppm.
11/20/07	9:39	10.28	832.20	40.09	802.39	8.51	--	--	--	--	--	--	Mild coal-tar-like odor.
12/18/07	9:43	10.11	832.37	40.17	802.31	8.43	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:10	10.34	832.14	40.04	802.44	8.56	--	--	--	--	--	--	Soft bottom.
02/21/08	13:41	9.11	833.37	40.90	801.58	7.70	--	--	--	--	--	--	Soft bottom, manure-like odor.
03/18/08	12:40	9.05	833.43	40.90	801.58	7.70	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
05/12/08	8:38	11.18	831.30	42.89	799.59	5.71	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/05/08	12:13	11.83	830.65	48.60	793.88	0.00	--	--	--	--	--	--	Well redeveloped on June 5th 2008.
07/08/08	8:46	12.11	830.37	48.59	793.89	0.01	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
08/06/08	8:52	11.69	830.79	48.60	793.88	0.00	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	8:51	11.08	831.40	48.56	793.92	0.04	--	--	--	--	--	--	Firm bottom.
02/06/09	9:45	11.60	830.88	48.68	793.80	-0.08	--	--	--	--	--	--	
05/29/09	11:55	10.19	832.29	48.59	793.89	0.01	--	--	--	--	--	--	Hard bottom.
08/11/09	10:05	9.71	832.77	48.55	793.93	0.05	--	--	--	--	--	--	Firm bottom.
11/09/09	11:26	10.67	831.81	48.61	793.87	-0.01	--	--	--	--	--	--	Firm bottom.
02/23/10	9:14	11.32	831.16	48.60	793.88	0.00	--	--	--	--	--	--	Firm bottom, 0.0 ppm
05/28/10	11:32	11.49	830.99	48.67	793.81	-0.07	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	9:51	11.18	831.30	48.57	793.91	0.03	--	--	--	--	--	--	Sediment on probe, 0.0 ppm.
11/23/10	10:58	10.45	832.03	NR	-	-	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 842.48  
 Well bottom elev. (installed; FAMSL) = 793.88  
 Installed Well Depth (ft) = 48.60

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.
5. Well redeveloped on June 5th 2008.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-6													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	16:05	9.52	834.05	32.90	810.67	16.20	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	9.12	834.45	32.80	810.77	16.30	--	--	--	--	--	--	Silty bottom, coal-tar-like odor, sheen on probe.
05/30/07	NR	11.54	832.03	32.90	810.67	16.20	--	--	--	--	--	--	Very soft bottom, Silt on the end of probe, strong coal-tar-like odor.
06/27/07	9:52	12.32	831.25	32.95	810.62	16.15	--	--	--	--	--	--	Coal-tar-like odor, Silt on the last 3" of probe, black material on the end of the probe and on the water surface.
07/24/07	10:44	12.09	831.48	33.13	810.44	15.97	--	--	--	--	--	--	Trace sheen on sediment on probe, strong organic-like odor and manure like odor, able to penetrate sediment in well 0.1', black material on probe.
08/28/07	10:39	12.50	831.07	32.95	810.62	16.15	--	--	--	--	--	--	Soft bottom, Silt on end of probe, manure-like odor.
09/20/07	10:09	12.87	830.70	32.95	810.62	16.15	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', brown material at the water surface, manure-like odor.
10/31/07	9:19	11.20	832.37	32.98	810.59	16.12	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', film on water surface, brown slimy material on the probe (from the surface of the water), coal-tar-like and manure-like odors, VOCs = 1.3 ppm.
11/20/07	9:46	10.92	832.65	33.05	810.52	16.05	--	--	--	--	--	--	Manure-like odor.
12/18/07	9:49	10.71	832.86	33.20	810.37	15.90	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:09	10.92	832.65	33.00	810.57	16.10	--	--	--	--	--	--	
02/21/08	13:57	9.72	833.85	32.96	810.61	16.14	--	--	--	--	--	--	Soft bottom, strong coal-tar-like odor, manure-like odor, sheen on water surface, sheen on sediment on probe.
03/18/08	12:36	9.46	834.11	32.85	810.72	16.25	--	--	--	--	--	--	Soft bottom, trace sheen on sediment on probe, no odor.
05/12/08	8:34	11.55	832.02	35.69	807.88	13.41	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/05/08	14:15	11.68	831.89	48.75	794.82	0.35	--	--	--	--	--	--	Well redeveloped on June 5th 2008.
07/08/08	8:48	12.57	831.00	48.50	795.07	0.60	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
08/06/08	8:58	12.12	831.45	48.42	795.15	0.68	--	--	--	--	--	--	Firm bottom.
11/19/08	8:54	11.68	831.89	48.44	795.13	0.66	--	--	--	--	--	--	Firm bottom.
02/06/09	10:12	11.98	831.59	48.60	794.97	0.50	--	--	--	--	--	--	
05/29/09	12:05	10.92	832.65	48.42	795.15	0.68	--	--	--	--	--	--	Hard bottom.
08/11/09	10:07	10.52	833.05	48.50	795.07	0.60	--	--	--	--	--	--	Firm bottom.
11/09/09	11:31	11.22	832.35	48.52	795.05	0.58	--	--	--	--	--	--	Firm bottom.
02/23/10	9:25	11.91	831.66	48.52	795.05	0.58	--	--	--	--	--	--	Firm bottom, 0.0 ppm
05/28/10	11:34	11.92	831.65	48.62	794.95	0.48	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:05	11.74	831.83	48.40	795.17	0.70	--	--	--	--	--	--	0.0 ppm.
11/23/10	10:59	11.06	832.51	48.50	795.07	0.60	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) = 843.57  
 Well bottom elev. (installed; FAMSL) = 794.47  
 Installed Well Depth (ft) = 49.10

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.
5. Well redeveloped on June 5th 2008.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-7													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	16:08	9.58	834.00	18.75	824.83	0.04	--	--	--	--	--	--	Firm bottom.
04/25/07	NR	9.23	834.35	18.79	824.79	0.00	--	--	--	--	--	--	Coal-tar-like odor.
05/30/07	NR	11.55	832.03	18.87	824.71	-0.08	--	--	--	--	--	--	Trace Silt on probe.
06/27/07	9:57	12.40	831.18	18.85	824.73	-0.06	--	--	--	--	--	--	Mild coal-tar-like odor, black material on probe and on water surface.
07/24/07	10:49	12.04	831.54	18.72	824.86	0.07	--	--	--	--	--	--	Strong manure-like odor, firm bottom, trace sheen on sediment on probe.
08/28/07	10:43	12.59	830.99	18.78	824.80	0.01	--	--	--	--	--	--	Firm bottom, Silt on end of probe.
09/20/07	10:13	12.08	830.92	18.60	824.98	0.19	--	--	--	--	--	--	Firm bottom, trace sediment on probe, manure-like odor.
10/31/07	9:23	11.31	832.27	18.73	824.85	0.06	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, manure-like odor, VOCs = 6.3 ppm.
11/20/07	9:52	11.01	832.57	18.83	824.75	-0.04	--	--	--	--	--	--	Coal-tar-like odor, manure-like odor, sediment on probe.
12/18/07	9:53	10.76	832.82	18.95	824.63	-0.16	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:07	10.90	832.68	18.66	824.92	0.13	--	--	--	--	--	--	Soft bottom.
02/21/08	13:59	9.78	833.80	18.73	824.85	0.06	--	--	--	--	--	--	Firm bottom, coal-tar-like odor, manure-like odor.
03/18/08	12:34	9.55	834.03	18.80	824.78	-0.01	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, sediment on probe.
05/12/08	8:33	11.62	831.96	12.77	830.81	6.02	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
06/05/08	14:17	11.34	832.24	18.74	824.84	0.05	--	--	--	--	--	--	
07/08/08	8:49	12.62	830.96	18.73	824.85	0.06	--	--	--	--	--	--	Firm bottom, sediment on probe.
08/06/08	9:01	12.16	831.42	18.70	824.88	0.09	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
11/19/08	8:55	11.77	831.81	18.75	824.83	0.04	--	--	--	--	--	--	Firm bottom.
02/06/09	10:15	12.02	831.56	18.70	824.88	0.09	--	--	--	--	--	--	
05/29/09	12:07	10.92	832.66	18.77	824.81	0.02	--	--	--	--	--	--	Hard bottom.
08/11/09	10:09	10.57	833.01	18.72	824.86	0.07	--	--	--	--	--	--	Firm bottom, odor.
11/09/09	11:32	11.24	832.34	18.75	824.83	0.04	--	--	--	--	--	--	Firm bottom.
02/23/10	9:29	11.89	831.69	18.75	824.83	0.04	--	--	--	--	--	--	Firm bottom, 0.0 ppm
05/28/10	11:36	11.94	831.64	18.66	824.92	0.13	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:02	11.80	831.78	18.70	824.88	0.09	--	--	--	--	--	--	Sediment on probe, mild coal tar-like odor, 0.0 ppm.
11/23/10	11:00	11.05	832.53	18.65	824.93	0.14	--	--	--	--	--	--	Sediment on probe, mild coal tar-like odor, 0.0 ppm.

Top of Casing (FAMSL) = 843.58  
 Well bottom elev. (installed; FAMSL) = 824.79  
 Installed Well Depth (ft) = 18.79

**Notes:**

- Elevations referenced to the NAVD 88 Datum.
- Surface elevation = the elevation of the vault lid or curb box lid.
- Used weighted measuring tape for depth to bottom starting on 7/24/07.
- Well bottom elevation is based on averaged measured well depth over time.  
 The well bottom elevation was changed on 12/29/08 because sediment thickness values, using well bottom elevation from probing event on 1/13/08, were indicating negative sediment.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-8													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:00	9.58	833.47	14.09	828.96	4.01	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	9.20	833.85	14.10	828.95	4.00	--	--	--	--	--	--	Very Silty, Silt on probe, trace sheen on sediment on probe.
05/30/07	NR	11.48	831.57	14.02	829.03	4.08	--	--	--	--	--	--	Silt on 2" of end of probe.
06/27/07	10:05	12.32	830.73	14.05	829.00	4.05	--	--	--	--	--	--	Coal-tar-like odor, Silt on the last 4" of probe, black material on probe and tape.
07/24/07	10:53	11.99	831.06	14.68	828.37	3.42	--	--	--	--	--	--	Able to penetrate sediment in well 0.9', trace coal-tar-like blebs and sheen in sediment, strong manure-like odor.
08/28/07	10:53	12.50	830.55	14.04	829.01	4.06	--	--	--	--	--	--	Soft bottom, approximately 3" of Silt on end of probe, mild manure-like odor.
09/20/07	10:26	12.58	830.47	13.90	829.15	4.20	--	--	--	--	--	--	Firm bottom, slight coal-tar-like odor.
10/31/07	9:34	11.31	831.74	14.39	828.66	3.71	--	--	--	--	--	--	Able to penetrate sediment in well 0.6', coal-tar-like odor, VOCs = 1.5 ppm. Vault lid is not closing flush to the surrounding vault frame work.
11/20/07	10:01	11.03	832.02	13.97	829.08	4.13	--	--	--	--	--	--	Manure-like odor, sediment on probe, slight coal-tar-like odor.
12/18/07	10:04	10.76	832.29	14.15	828.90	3.95	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:06	10.82	832.23	13.87	829.18	4.23	--	--	--	--	--	--	Soft bottom.
02/21/08	14:11	9.76	833.29	14.21	828.84	3.89	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
03/18/08	11:51	9.49	833.56	14.61	828.44	3.49	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, trace brown/black oily coal-tar-like material on sediment on probe, sheen on sediment on probe.
05/12/08	8:28	11.50	831.55	14.84	828.21	3.26	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/05/08	12:46	12.10	830.95	18.03	825.02	0.07	--	--	--	--	--	--	Well redeveloped on June 5th 2008.
07/08/08	8:55	12.51	830.54	18.07	824.98	0.03	--	--	--	--	--	--	Firm bottom.
08/06/08	9:09	12.07	830.98	18.02	825.03	0.08	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
11/19/08	8:59	11.69	831.36	18.04	825.01	0.06	--	--	--	--	--	--	Firm bottom.
02/06/09	10:38	11.79	831.26	18.09	824.96	0.01	--	--	--	--	--	--	
05/29/09	12:13	10.93	832.12	18.05	825.00	0.05	--	--	--	--	--	--	Hard bottom, vault has rotated. NYSEG storing high tension power line poles around vault and may have disturbed the vault when bringing in the poles.
08/11/09	10:17	10.65	832.40	18.00	825.05	0.10	--	--	--	--	--	--	Firm bottom.
11/09/09	11:39	11.21	831.84	18.00	825.05	0.10	--	--	--	--	--	--	Hard bottom.
02/23/10	9:36	11.78	831.27	18.05	825.00	0.05	--	--	--	--	--	--	Firm bottom, 0.0 ppm
05/28/10	11:42	11.85	831.20	18.00	825.05	0.10	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:18	11.73	831.32	18.05	825.00	0.05	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:05	11.04	832.01	18.00	825.05	0.10	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 843.05  
 Well bottom elev. (installed; FAMSL) = 824.95  
 Installed Well Depth (ft) = 18.10

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.
5. Well redeveloped on June 5th 2008.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-9													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:10	9.59	833.93	52.93	790.59	0.02	--	--	--	--	--	--	Firm bottom.
04/25/07	NR	9.20	834.32	53.10	790.42	-0.15	--	--	--	--	--	--	
05/30/07	NR	11.44	832.08	53.25	790.27	-0.30	--	--	--	--	--	--	Trace Silt on probe.
06/27/07	10:11	12.32	831.20	53.05	790.47	-0.10	--	--	--	--	--	--	Mild coal-tar-like odor.
07/24/07	10:58	12.00	831.52	52.92	790.60	0.03	--	--	--	--	--	--	Able to penetrate sediment in well 0.1'.
08/28/07	10:49	12.51	831.01	53.05	790.47	-0.10	--	--	--	--	--	--	Trace black material on end of probe, mild manure-like odor.
09/20/07	10:20	12.59	830.93	52.91	790.61	0.04	--	--	--	--	--	--	Bubbles on surface of water, able to penetrate sediment in well 0.1', other wise firm bottom
10/31/07	9:31	11.33	832.19	52.90	790.62	0.05	--	--	--	--	--	--	Soft bottom, mild coal-tar-like odor, thin film on water surface, VOCs = 7.4 ppm. Vault lid is not closing flush to surrounding vault frame work.
11/20/07	10:08	11.03	832.49	53.31	790.21	-0.36	--	--	--	--	--	--	Manure-like odor.
12/18/07	9:59	10.77	832.75	53.30	790.22	-0.35	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:05	10.81	832.71	52.85	790.67	0.10	--	--	--	--	--	--	Soft bottom.
02/21/08	14:12	9.75	833.77	52.93	790.59	0.02	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
03/18/08	11:54	9.48	834.04	52.97	790.55	-0.02	--	--	--	--	--	--	Soft bottom.
05/12/08	8:28	11.49	832.03	53.01	790.51	-0.06	--	--	--	--	--	--	Soft bottom.
06/05/08	12:45	12.10	831.42	52.92	790.60	0.03	--	--	--	--	--	--	
07/08/08	8:54	12.50	831.02	52.92	790.60	0.03	--	--	--	--	--	--	Soft bottom, mild coal-tar-like odor.
08/06/08	9:06	12.07	831.45	52.92	790.60	0.03	--	--	--	--	--	--	Soft bottom, mild coal-tar-like odor.
11/19/08	8:58	11.73	831.79	52.96	790.56	-0.01	--	--	--	--	--	--	Firm bottom.
02/06/09	10:43	11.91	831.61	52.91	790.61	0.04	--	--	--	--	--	--	Firm bottom.
05/29/09	12:11	10.97	832.55	52.92	790.60	0.03	--	--	--	--	--	--	Firm bottom, vault has rotated. NYSEG storing high tension power line poles around vault and may have disturbed the vault when bringing in the poles.
08/11/09	10:18	10.66	832.86	52.92	790.60	0.03	--	--	--	--	--	--	Soft bottom.
11/09/09	11:38	11.21	832.31	52.94	790.58	0.01	--	--	--	--	--	--	Firm bottom.
02/23/10	9:39	11.81	831.71	52.91	790.61	0.04	--	--	--	--	--	--	Firm bottom, 0.0 ppm
05/28/10	11:40	11.87	831.65	52.90	790.62	0.05	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:12	11.73	831.79	52.95	790.57	0.00	--	--	--	--	--	--	Cow manure-like odor, 0.0 ppm.
11/23/10	11:06	11.01	832.51	53.03	790.49	-0.08	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) = 843.52  
 Well bottom elev. (installed; FAMSL) = 790.57  
 Installed Well Depth (ft) = 52.95

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-10													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:20	9.99	833.92	16.44	827.47	0.16	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	9.60	834.31	16.20	827.71	0.40	--	--	--	--	--	--	Soft bottom, trace sheen on probe.
05/30/07	NR	11.89	832.02	16.31	827.60	0.29	--	--	--	--	--	--	
06/27/07	10:16	12.40	831.51	16.05	827.86	0.55	--	--	--	--	--	--	Mild coal-tar-like odor, Silt on the last 2" of probe, trace sheen on probe.
07/24/07	11:01	12.41	831.50	16.78	827.13	-0.18	--	--	--	--	--	--	Able to penetrate sediment in well 0.6', black material on probe, trace coal-tar-like blebs on probe.
08/28/07	10:56	12.90	831.01	16.07	827.84	0.53	--	--	--	--	--	--	Soft bottom, approximately 3" Silt on end of probe, mild manure-like odor.
09/20/07	10:33	12.99	830.92	16.26	827.65	0.34	--	--	--	--	--	--	Brown material on probe (from water surface), bubbles on water surface, able to penetrate sediment in well 0.2', coal-tar-like odor and coal-tar-like material on probe.
10/31/07	9:43	11.73	832.18	16.31	827.60	0.29	--	--	--	--	--	--	Able to penetrate sediment in well 0.3', VOCs = 2.2 ppm.
11/20/07	10:15	11.46	832.45	16.16	827.75	0.44	--	--	--	--	--	--	Sediment on probe, strong coal-tar-like odor.
12/18/07	10:18	11.16	832.75	16.22	827.69	0.38	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:02	11.24	832.67	16.00	827.91	0.60	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
02/21/08	14:23	10.18	833.73	16.34	827.57	0.26	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
03/18/08	11:57	9.89	834.02	16.26	827.65	0.34	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, sheen on sediment on probe.
05/12/08	8:25	11.39	832.52	16.37	827.54	0.23	--	--	--	--	--	--	Sediment on probe, coal-tar-like odor.
06/05/08	12:49	12.51	831.40	16.79	827.12	-0.19	--	--	--	--	--	--	Soft, approximately 0.6' of gray sediment, trace sheen.
07/08/08	9:02	12.42	831.49	16.25	827.66	0.35	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, sediment on probe.
08/06/08	9:12	12.48	831.43	16.34	827.57	0.26	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	9:01	12.09	831.82	16.80	827.11	-0.20	--	--	--	--	--	--	Firm bottom.
02/06/09	11:06	12.15	831.76	16.59	827.32	0.01	--	--	--	--	--	--	
05/29/09	12:16	11.16	832.75	16.43	827.48	0.17	--	--	--	--	--	--	Firm bottom, soil around vault has settled.
08/11/09	10:22	11.09	832.82	16.49	827.42	0.11	--	--	--	--	--	--	Soft bottom, 4" of sediment on probe.
11/09/09	11:44	11.62	832.29	16.39	827.52	0.21	--	--	--	--	--	--	Soft bottom, 2" of sediment on probe.
02/23/10	9:42	12.21	831.70	16.28	827.63	0.32	--	--	--	--	--	--	Very soft bottom, 1" of sediment on probe, measured top of sediment at 15.81' (TIC), approximately 0.79' of sediment in well, 0.2 ppm
05/28/10	11:44	12.28	831.63	16.07	827.84	0.53	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:23	12.12	831.79	16.00	827.91	0.60	--	--	--	--	--	--	Sediment on probe, coal tar-like odor, 0.0 ppm.
11/23/10	11:10	11.39	832.52	16.08	827.83	0.52	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) = 843.91  
 Well bottom elev. (installed; FAMSL) = 827.31  
 Installed Well Depth (ft) = 16.60

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-11													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:23	9.97	833.87	49.51	794.33	0.19	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	9.60	834.24	49.50	794.34	0.20	--	--	--	--	--	--	Soft bottom, mothball-like odor.
05/30/07	NR	11.87	831.97	49.80	794.04	-0.10	--	--	--	--	--	--	Trace Silt on probe.
06/27/07	10:23	12.40	831.44	49.52	794.32	0.18	--	--	--	--	--	--	Mild coal-tar-like odor, trace Silt on probe, black material on probe and tape.
07/24/07	11:06	12.39	831.45	49.49	794.35	0.21	--	--	--	--	--	--	Able to penetrate sediment in well 0.3', black material on probe.
08/28/07	10:59	12.90	830.94	49.50	794.34	0.20	--	--	--	--	--	--	Soft bottom, manure-like odor.
09/20/07	10:40	12.97	830.87	49.39	794.45	0.31	--	--	--	--	--	--	Brown material on probe (from water surface), bubbles on water surface, firm bottom.
10/31/07	9:46	11.71	832.13	49.36	794.48	0.34	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, VOCs = 4.5 ppm.
11/20/07	10:20	11.41	832.43	49.39	794.45	0.31	--	--	--	--	--	--	Coal-tar-like odor.
12/18/07	10:23	11.13	832.71	49.75	794.09	-0.05	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:00	11.21	832.63	49.37	794.47	0.33	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
02/21/08	14:25	10.17	833.67	49.40	794.44	0.30	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
03/18/08	11:59	9.86	833.98	49.37	794.47	0.33	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
05/12/08	8:26	11.39	832.45	49.38	794.46	0.32	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/05/08	12:50	12.50	831.34	49.36	794.48	0.34	--	--	--	--	--	--	
07/08/08	9:07	12.58	831.26	49.38	794.46	0.32	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
08/06/08	9:15	12.47	831.37	49.45	794.39	0.25	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
11/19/08	9:03	12.05	831.79	49.40	794.44	0.30	--	--	--	--	--	--	Firm bottom.
02/06/09	11:09	12.14	831.70	49.25	794.59	0.45	--	--	--	--	--	--	
05/29/09	12:17	11.36	832.48	49.39	794.45	0.31	--	--	--	--	--	--	Firm bottom, soil around vault has settled.
08/11/09	10:26	11.07	832.77	49.30	794.54	0.40	--	--	--	--	--	--	Firm bottom.
11/09/09	11:45	11.62	832.22	49.41	794.43	0.29	--	--	--	--	--	--	Firm bottom.
02/23/10	9:45	12.21	831.63	49.36	794.48	0.34	--	--	--	--	--	--	Firm bottom, 0.1 ppm
05/28/10	11:45	12.23	831.61	49.55	794.29	0.15	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:28	12.05	831.79	49.40	794.44	0.30	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:11	11.41	832.43	49.37	794.47	0.33	--	--	--	--	--	--	0.0 ppm.

Top of Casing (FAMSL) = 843.84  
 Well bottom elev. (installed; FAMSL) = 794.14  
 Installed Well Depth (ft) = 49.70

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-12													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:39	11.09	833.56	47.92	796.73	0.04	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	10.53	834.12	47.95	796.70	0.01	--	--	--	--	--	--	Vault has been damaged, sides of vault have been pushed in, j-plugs cannot be placed in wells because the vault has settled and cannot close properly with j-plugs in place. This may have been caused by heavy equipment driving near vault and compacting sediment around vault (there are long plastic pipes stacked next to vault).
05/30/07	NR	12.68	831.97	48.00	796.65	-0.04	--	--	--	--	--	--	
06/27/07	10:32	13.42	831.23	48.05	796.60	-0.09	--	--	--	--	--	--	Mild coal-tar-like odor, trace Silt on probe.
07/24/07	11:12	13.28	831.37	47.88	796.77	0.08	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', sediment at water surface, no apparent odor.
08/28/07	11:03	13.68	830.97	48.00	796.65	-0.04	--	--	--	--	--	--	Soft bottom. Vault lid was difficult to close, appears that vault has had more damage done since the last time fluid levels were measured.
09/20/07	10:47	13.77	830.88	47.90	796.75	0.06	--	--	--	--	--	--	Soft bottom, slight coal-tar-like odor, drain material in vault has settled approximately 2.0'.
10/31/07	9:53	12.69	831.96	47.87	796.78	0.09	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, VOCs = 1.8 ppm.
11/20/07	10:24	12.47	832.18	48.00	796.65	-0.04	--	--	--	--	--	--	Mild coal-tar-like odor.
12/18/07	10:11	12.02	832.63	47.92	796.73	0.04	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	10:58	12.01	832.64	47.83	796.82	0.13	--	--	--	--	--	--	Soft bottom.
02/21/08	14:35	11.08	833.57	47.93	796.72	0.03	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
03/18/08	12:08	10.62	834.03	47.90	796.75	0.06	--	--	--	--	--	--	Soft bottom.
05/12/08	8:19	12.60	832.05	47.90	796.75	0.06	--	--	--	--	--	--	Soft bottom.
06/05/08	13:36	13.29	831.36	47.90	796.75	0.06	--	--	--	--	--	--	
07/08/08	9:12	13.69	830.96	47.95	796.70	0.01	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
08/06/08	9:18	13.24	831.41	47.95	796.70	0.01	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
11/19/08	9:11	13.13	831.52	47.93	796.72	0.03	--	--	--	--	--	--	
02/06/09	11:27	13.06	831.59	47.88	796.77	0.08	--	--	--	--	--	--	
05/29/09	12:19	12.72	831.93	47.90	796.75	0.06	--	--	--	--	--	--	Soil around the outside and on the inside of the vault has settled.
08/11/09	10:30	12.32	832.33	47.92	796.73	0.04	--	--	--	--	--	--	Soft bottom.
11/09/09	11:50	12.51	832.14	47.92	796.73	0.04	--	--	--	--	--	--	Soft bottom.
02/23/10	9:51	13.03	831.62	47.90	796.75	0.06	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, 0.2 ppm.
05/28/10	11:47	13.01	831.64	47.89	796.76	0.07	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:34	12.97	831.68	47.95	796.70	0.01	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:14	12.32	832.33	47.93	796.72	0.03	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) = 844.65  
 Well bottom elev. (installed; FAMSL) = 796.69  
 Installed Well Depth (ft) = 47.96

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-13													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:33	11.03	833.72	14.99	829.76	3.71	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
04/25/07	NR	10.52	834.23	14.89	829.86	3.81	--	--	--	--	--	--	Vault has been damaged, sides of vault have been pushed in, j-plugs cannot be placed in wells because the vault has settled and cannot close properly with j-plugs in place. This may have been caused by heavy equipment driving near vault and compacting sediment around vault (there are long plastic pipes stacked next to vault).
05/30/07	NR	12.70	832.05	14.95	829.80	3.75	--	--	--	--	--	--	
06/27/07	10:36	13.35	831.40	13.50	831.25	5.20	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, Silt on the last 2" of probe.
07/24/07	11:16	13.11	831.64	13.48	831.27	5.22	--	--	--	--	--	--	Able to penetrate sediment in well 0.5', organic-like odor, brown sediment at water surface.
08/28/07	11:06	13.30	831.45	13.30	831.45	5.40	--	--	--	--	--	--	Meter sounded at the bottom of well (saturated sediment in well bottom), approximately 1.5" of Silt on end of probe. Vault lid was difficult to close, appears that vault has had more damage done since the last time fluid levels were measured.
09/20/07	10:54	13.25	831.50	13.25	831.50	5.45	--	--	--	--	--	--	Meter sounded when it hit the sediment at the bottom of the well (saturated sediment in well bottom), no measurable water in well, sediment on the probe, drain material in vault has settled approximately 2.0'.
10/31/07	9:57	12.68	832.07	13.19	831.56	5.51	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, VOCs = 1.3 ppm.
11/20/07	10:29	12.22	832.53	13.22	831.53	5.48	--	--	--	--	--	--	Firm bottom.
12/18/07	10:15	12.02	832.73	13.18	831.57	5.52	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	10:56	12.03	832.72	13.14	831.61	5.56	--	--	--	--	--	--	
02/21/08	14:36	11.06	833.69	13.43	831.32	5.27	--	--	--	--	--	--	Firm bottom.
03/18/08	12:05	10.61	834.14	13.38	831.37	5.32	--	--	--	--	--	--	Firm bottom.
05/12/08	8:18	12.59	832.16	12.55	832.20	6.15	--	--	--	--	--	--	Soft bottom.
06/05/08	13:37	13.32	831.43	18.60	826.15	0.10	--	--	--	--	--	--	Hard bottom, well redeveloped on June 5th 2008.
07/08/08	9:15	13.71	831.04	18.55	826.20	0.15	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
08/06/08	9:20	13.25	831.50	18.55	826.20	0.15	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
11/19/08	9:12	13.12	831.63	18.55	826.20	0.15	--	--	--	--	--	--	
02/06/09	11:29	13.09	831.66	18.63	826.12	0.07	--	--	--	--	--	--	Brown NAPL-like material on tip of probe, coal-tar-like odor.
05/29/09	12:20	12.45	832.30	18.67	826.08	0.03	--	--	--	--	--	--	Soil around the outside and on the inside of the vault has settled.
08/11/09	10:34	12.33	832.42	17.79	826.96	0.91	--	--	--	--	--	--	Firm bottom, slight odor.
11/09/09	11:55	12.51	832.24	17.78	826.97	0.92	--	--	--	--	--	--	Firm bottom.
02/23/10	9:52	13.04	831.71	17.70	827.05	1.00	--	--	--	--	--	--	Soft bottom, 0.1 ppm
05/28/10	11:46	13.01	831.74	17.62	827.13	1.08	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:37	12.92	831.83	17.50	827.25	1.20	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:15	12.32	832.43	17.75	827.00	0.95	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 844.75  
 Well bottom elev. (installed; FAMSL) = 826.05  
 Installed Well Depth (ft) = 18.70

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.
5. Well redeveloped on June 5th 2008

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-14													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:44	12.07	833.20	17.09	828.18	0.51	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	11.57	833.70	17.20	828.07	0.40	--	--	--	--	--	--	
05/30/07	NR	14.74	830.53	17.07	828.20	0.53	--	--	--	--	--	--	
06/27/07	10:47	14.45	830.82	17.16	828.11	0.44	--	--	--	--	--	--	Mild, coal-tar-like odor, Silt on the last 2" of probe.
07/24/07	11:20	14.33	830.94	17.69	827.58	-0.09	--	--	--	--	--	--	Able to penetrate sediment in well 0.7', trace sheen and black material on end of probe, faint coal-tar-like odor.
08/28/07	11:10	14.72	830.55	17.12	828.15	0.48	--	--	--	--	--	--	Silt on end of probe, mild manure-like odor.
09/20/07	11:01	14.83	830.44	17.00	828.27	0.60	--	--	--	--	--	--	Firm bottom.
10/31/07	10:09	13.75	831.52	17.04	828.23	0.56	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, VOCs = 0.5 ppm.
11/20/07	10:34	13.45	831.82	17.05	828.22	0.55	--	--	--	--	--	--	Coal-tar-like odor.
12/18/07	10:20	13.05	832.22	17.30	827.97	0.30	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	10:53	13.06	832.21	16.93	828.34	0.67	--	--	--	--	--	--	
02/21/08	14:45	12.11	833.16	17.15	828.12	0.45	--	--	--	--	--	--	Firm bottom.
03/18/08	12:12	11.64	833.63	17.15	828.12	0.45	--	--	--	--	--	--	Firm bottom.
05/12/08	8:17	12.63	832.64	17.05	828.22	0.55	--	--	--	--	--	--	Soft bottom.
06/05/08	13:44	14.33	830.94	17.14	828.13	0.46	--	--	--	--	--	--	Hard bottom.
07/08/08	9:17	14.72	830.55	17.17	828.10	0.43	--	--	--	--	--	--	Firm bottom, coal-tar-like-odor.
08/06/08	9:24	14.28	830.99	17.12	828.15	0.48	--	--	--	--	--	--	Firm bottom, coal-tar-like-odor.
11/19/08	10:45	14.12	831.15	17.10	828.17	0.50	--	--	--	--	--	--	
02/06/09	11:37	14.08	831.19	17.05	828.22	0.55	--	--	--	--	--	--	Firm bottom.
05/29/09	12:25	13.76	831.51	17.12	828.15	0.48	--	--	--	--	--	--	Firm bottom.
08/11/09	10:37	13.42	831.85	17.11	828.16	0.49	--	--	--	--	--	--	Firm bottom.
11/09/09	11:56	13.53	831.74	17.11	828.16	0.49	--	--	--	--	--	--	Firm bottom.
02/23/10	9:59	14.04	831.23	17.05	828.22	0.55	--	--	--	--	--	--	Firm bottom, 0.1 ppm.
05/28/10	11:50	13.99	831.28	17.00	828.27	0.60	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:42	13.86	831.41	17.08	828.19	0.52	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:16	13.29	831.98	17.07	828.20	0.53	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 845.27  
 Well bottom elev. (installed; FAMSL) = 827.67  
 Installed Well Depth (ft) = 17.60

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-15													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	13:46	12.07	833.16	48.98	796.25	0.22	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
04/25/07	NR	11.54	833.69	48.95	796.28	0.25	--	--	--	--	--	--	
05/30/07	NR	13.66	831.57	49.30	795.93	-0.10	--	--	--	--	--	--	
06/27/07	10:51	14.43	830.80	49.00	796.23	0.20	--	--	--	--	--	--	Trace Silt on probe, mild coal-tar-like odor.
07/24/07	11:27	14.28	830.95	48.95	796.28	0.25	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', trace coal-tar-like blebs and black material on end of probe, organic-like odor.
08/28/07	11:13	14.68	830.55	48.97	796.26	0.23	--	--	--	--	--	--	Orange material on probe.
09/20/07	11:06	14.78	830.45	48.95	796.28	0.25	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
10/31/07	10:13	13.70	831.53	48.91	796.32	0.29	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, VOCs = 0.9 ppm.
11/20/07	10:38	13.42	831.81	49.05	796.18	0.15	--	--	--	--	--	--	Coal-tar-like odor.
12/18/07	10:29	13.02	832.21	51.72	793.51	-2.52	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	10:50	12.99	832.24	48.89	796.34	0.31	--	--	--	--	--	--	Soft bottom.
02/21/08	14:46	12.08	833.15	48.90	796.33	0.30	--	--	--	--	--	--	Firm bottom.
03/18/08	12:10	11.60	833.63	48.90	796.33	0.30	--	--	--	--	--	--	Firm bottom.
05/12/08	8:15	12.57	832.66	48.95	796.28	0.25	--	--	--	--	--	--	Firm bottom.
06/05/08	13:45	14.28	830.95	48.90	796.33	0.30	--	--	--	--	--	--	Hard bottom.
07/08/08	9:19	14.69	830.54	48.93	796.30	0.27	--	--	--	--	--	--	Coal-tar-like odor.
08/06/08	9:25	14.21	831.02	49.29	795.94	-0.09	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	10:47	14.10	831.13	48.97	796.26	0.23	--	--	--	--	--	--	
02/06/09	11:41	14.04	831.19	49.02	796.21	0.18	--	--	--	--	--	--	Firm bottom.
05/29/09	12:30	13.42	831.81	48.92	796.31	0.28	--	--	--	--	--	--	Hard bottom.
08/11/09	10:40	13.32	831.91	48.90	796.33	0.30	--	--	--	--	--	--	Firm bottom.
11/09/09	11:58	13.52	831.71	48.90	796.33	0.30	--	--	--	--	--	--	Firm bottom.
02/23/10	10:03	14.02	831.21	48.95	796.28	0.25	--	--	--	--	--	--	Firm bottom, 0.2 ppm
05/28/10	11:55	13.99	831.24	48.95	796.28	0.25	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:45	13.89	831.34	48.95	796.28	0.25	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:17	13.29	831.94	49.04	796.19	0.16	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 845.23  
 Well bottom elev. (installed; FAMSL) = 796.03  
 Installed Well Depth (ft) = 49.20

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



**Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York**

RECOVERY WELL RW-16													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	14:39	14.81	833.60	49.73	798.68	0.18	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
04/25/07	NR	14.21	834.20	49.75	798.66	0.16	--	--	--	--	--	--	Bubbles at surface of water, black material on probe.
05/30/07	NR	16.30	832.11	49.85	798.56	0.06	--	--	--	--	--	--	Trace Silt on probe.
06/27/07	11:13	17.05	831.36	49.80	798.61	0.11	--	--	--	--	--	--	Mild coal-tar-like odor, black material on probe.
07/24/07	11:35	16.95	831.46	49.78	798.63	0.13	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', strong coal-tar-like odor, trace coal-tar-like blebs on probe.
08/28/07	11:22	17.32	831.09	49.75	798.66	0.16	--	--	--	--	--	--	Firm bottom.
09/20/07	11:14	17.42	830.99	49.62	798.79	0.29	--	--	--	--	--	--	Soft bottom, brown material on probe (from water surface), slight coal tar like odor, coal tar like material on probe.
10/31/07	10:27	16.37	832.04	49.64	798.77	0.27	--	--	--	--	--	--	Firm bottom, brown slime on probe (from water surface), VOCs = 0.8 ppm.
11/20/07	10:45	16.09	832.32	49.80	798.61	0.11	--	--	--	--	--	--	Manure-like odor.
12/18/07	10:38	15.66	832.75	49.92	798.49	-0.01	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:35	15.61	832.80	49.78	798.63	0.13	--	--	--	--	--	--	Soft bottom.
02/21/08	15:31	14.73	833.68	49.75	798.66	0.16	--	--	--	--	--	--	Soft bottom, manure-like odor.
03/18/08	12:20	14.21	834.20	49.75	798.66	0.16	--	--	--	--	--	--	Firm bottom, coal-tar-like odor, trace brown/black sticky coal tar-like material on probe, bubbles on the water surface, brown slimy material on probe from water surface.
05/12/08	8:55	16.17	832.24	49.77	798.64	0.14	--	--	--	--	--	--	Firm bottom.
06/05/08	13:56	16.85	831.56	49.70	798.71	0.21	--	--	--	--	--	--	Sheen, foam.
07/08/08	9:23	17.26	831.15	49.72	798.69	0.19	--	--	--	--	--	--	Firm bottom.
08/06/08	9:32	16.83	831.58	49.75	798.66	0.16	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	10:50	16.73	831.68	49.70	798.71	0.21	--	--	--	--	--	--	
02/06/09	11:49	16.61	831.80	49.65	798.76	0.26	--	--	--	--	--	--	
05/29/09	12:40	16.13	832.28	49.69	798.72	0.22	--	--	--	--	--	--	Firm bottom, brown foam on the surface of the water.
08/11/09	10:47	16.09	832.32	49.69	798.72	0.22	--	--	--	--	--	--	Firm bottom.
11/09/09	12:01	16.09	832.32	49.65	798.76	0.26	--	--	--	--	--	--	Firm bottom.
02/23/10	10:07	16.62	831.79	49.70	798.71	0.21	--	--	--	--	--	--	0.0 ppm.
05/28/10	10:45	16.59	831.82	49.69	798.72	0.22	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:52	16.52	831.89	49.65	798.76	0.26	--	--	--	--	--	--	Mild coal tar-like odor, 0.0 ppm.
11/23/10	11:22	15.92	832.49	49.61	798.80	0.30	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 848.41  
 Well bottom elev. (installed; FAMSL) = 798.50  
 Installed Well Depth (ft) = 49.91

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-17													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	14:36	14.80	833.54	24.34	824.00	0.16	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	14.17	834.17	24.35	823.99	0.15	--	--	--	--	--	--	Bubbles at surface of water, black material on probe.
05/30/07	NR	16.28	832.06	24.34	824.00	0.16	--	--	--	--	--	--	Trace Silt on probe.
06/27/07	11:17	17.02	831.32	24.78	823.56	-0.28	--	--	--	--	--	--	Black material on probe.
07/24/07	11:39	16.92	831.42	24.70	823.64	-0.20	--	--	--	--	--	--	Able to penetrate sediment in well 0.5', black material on probe, trace coal-tar-like blebs on probe.
08/28/07	11:25	17.27	831.07	24.32	824.02	0.18	--	--	--	--	--	--	Firm bottom.
09/20/07	11:19	17.38	830.96	24.42	823.92	0.08	--	--	--	--	--	--	Firm bottom, brown material on probe (from water surface).
10/31/07	10:31	16.34	832.00	24.33	824.01	0.17	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, VOCs = 0.9 ppm.
11/20/07	10:48	16.09	832.25	24.39	823.95	0.11	--	--	--	--	--	--	Mild coal-tar-like odor.
12/18/07	10:41	15.65	832.69	24.53	823.81	-0.03	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:37	15.59	832.75	24.37	823.97	0.13	--	--	--	--	--	--	Soft bottom.
02/21/08	15:35	14.72	833.62	24.45	823.89	0.05	--	--	--	--	--	--	Firm bottom.
03/18/08	12:18	14.19	834.15	24.49	823.85	0.01	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, trace brown/black sticky coal-tar-like material on probe, bubbles on the water surface.
05/12/08	8:57	16.11	832.23	24.53	823.81	-0.03	--	--	--	--	--	--	Firm bottom.
06/05/08	13:57	16.83	831.51	24.70	823.64	-0.20	--	--	--	--	--	--	Slightly soft.
07/08/08	9:26	17.21	831.13	24.65	823.69	-0.15	--	--	--	--	--	--	Firm bottom, trace streaks of yellow coal-tar-like material on probe, coal-tar-like odor.
08/06/08	9:35	16.82	831.52	24.35	823.99	0.15	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	10:51	16.73	831.61	24.65	823.69	-0.15	--	--	--	--	--	--	
02/06/09	11:52	16.59	831.75	24.41	823.93	0.09	--	--	--	--	--	--	
05/29/09	12:41	16.09	832.25	24.54	823.80	-0.04	--	--	--	--	--	--	Hard bottom, riser leaning toward the south.
08/11/09	10:50	16.06	832.28	24.61	823.73	-0.11	--	--	--	--	--	--	Firm bottom, slight odor.
11/09/09	12:02	16.09	832.25	24.69	823.65	-0.19	--	--	--	--	--	--	Firm bottom.
02/23/10	10:10	16.60	831.74	24.65	823.69	-0.15	--	--	--	--	--	--	0.0 ppm.
05/28/10	10:51	16.56	831.78	24.40	823.94	0.10	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	10:54	16.50	831.84	24.50	823.84	0.00	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:24	15.91	832.43	24.33	824.01	0.17	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 848.34  
 Well bottom elev. (installed; FAMSL) = 823.84  
 Installed Well Depth (ft) = 24.50

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.
5. Installed well depth is an average of measured depths to bottom for measurements taken from 1/18/07-7/08/08.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-18													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	14:52	12.23	833.59	42.08	803.74	-0.10	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	11.62	834.20	42.05	803.77	-0.07	--	--	--	--	--	--	Coal-tar-like odor.
05/30/07	NR	13.71	832.11	42.15	803.67	-0.17	--	--	--	--	--	--	
06/27/07	11:07	14.44	831.38	42.05	803.77	-0.07	--	--	--	--	--	--	Mild coal-tar-like odor, black material on probe.
07/24/07	11:42	14.36	831.46	42.00	803.82	-0.02	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', reddish material on probe.
08/28/07	11:33	14.71	831.11	42.00	803.82	-0.02	--	--	--	--	--	--	Firm bottom, mild manure-like odor.
09/20/07	11:32	14.84	830.98	41.90	803.92	0.08	--	--	--	--	--	--	Firm bottom, brown material on probe (from water surface).
10/31/07	10:47	13.81	832.01	41.78	804.04	0.20	--	--	--	--	--	--	Firm bottom, coal-tar-like odor, VOCs = 0.4 ppm.
11/20/07	10:52	13.53	832.29	41.98	803.84	0.00	--	--	--	--	--	--	Strong coal-tar-like odor.
12/18/07	10:46	13.11	832.71	42.25	803.57	-0.27	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	NR	NR	NR	NR	NR	NR	--	--	--	--	--	--	Could not open vault lid.
02/21/08	15:43	12.17	833.65	41.98	803.84	0.00	--	--	--	--	--	--	Soft bottom.
03/18/08	12:28	11.62	834.20	41.93	803.89	0.05	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, trace brown/black sticky coal-tar-like material on probe, bubbles on the water surface, brown slimy material on probe from water surface.
05/12/08	9:03	13.57	832.25	41.97	803.85	0.01	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/05/08	14:03	14.27	831.55	42.04	803.78	-0.06	--	--	--	--	--	--	Slightly soft.
07/08/08	9:32	14.71	831.11	42.07	803.75	-0.09	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
08/06/08	9:38	14.24	831.58	41.95	803.87	0.03	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	10:53	14.19	831.63	41.97	803.85	0.01	--	--	--	--	--	--	
02/06/09	11:56	14.01	831.81	41.95	803.87	0.03	--	--	--	--	--	--	
05/29/09	12:45	13.55	832.27	42.00	803.82	-0.02	--	--	--	--	--	--	Firm bottom.
08/11/09	10:56	13.54	832.28	42.00	803.82	-0.02	--	--	--	--	--	--	Soft bottom, odor.
11/09/09	12:06	13.56	832.26	41.97	803.85	0.01	--	--	--	--	--	--	Firm bottom.
02/23/10	10:15	14.04	831.78	42.00	803.82	-0.02	--	--	--	--	--	--	0.0 ppm.
05/28/10	10:56	14.02	831.80	41.91	803.91	0.07	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	11:02	13.95	831.87	41.90	803.92	0.08	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:27	13.36	832.46	41.91	803.91	0.07	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 845.82  
 Well bottom elev. (installed; FAMSL) = 803.84  
 Installed Well Depth (ft) = 41.98

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.

TOC = Top of Casing.

-- = NAPL not present.

NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-19													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	14:47	12.25	833.56	19.08	826.73	0.03	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	11.63	834.18	16.16	829.65	2.95	--	--	--	--	--	--	Mild coal-tar-like odor. Depth to bottom measurement questionable.
05/30/07	NR	13.72	832.09	19.15	826.66	-0.04	--	--	--	--	--	--	Hard bottom, trace sediment on probe.
06/27/07	11:03	14.46	831.35	19.18	826.63	-0.07	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, black material on probe.
07/24/07	11:45	14.37	831.44	19.17	826.64	-0.06	--	--	--	--	--	--	Black material on probe, organic-like odor, trace coal-tar-like blebs on probe.
08/28/07	11:30	14.72	831.09	19.22	826.59	-0.11	--	--	--	--	--	--	Firm bottom, manure-like odor.
09/20/07	11:26	14.85	830.96	19.17	826.64	-0.06	--	--	--	--	--	--	Firm bottom, brown material on probe (from water surface), coal-tar-like odor, coal-tar-like material on probe.
10/31/07	10:43	13.83	831.98	19.16	826.65	-0.05	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor, VOCs = 0.9 ppm.
11/20/07	10:59	13.58	832.23	19.11	826.7	0.00	--	--	--	--	--	--	Strong coal-tar-like odor.
12/18/07	10:50	13.13	832.68	19.30	826.51	-0.19	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	NR	NR	NR	NR	NR	NR	--	--	--	--	--	--	Could not open vault lid.
02/21/08	15:38	12.20	833.61	19.17	826.64	-0.06	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
03/18/08	12:25	11.63	834.18	19.25	826.56	-0.14	--	--	--	--	--	--	Firm bottom, bubbles on the water surface.
05/12/08	9:05	13.59	832.22	19.21	826.60	-0.10	--	--	--	--	--	--	Firm bottom.
06/05/08	14:04	14.30	831.51	19.23	826.58	-0.12	--	--	--	--	--	--	Slightly soft.
07/08/08	9:35	14.72	831.09	19.22	826.59	-0.11	--	--	--	--	--	--	Firm bottom, coal-tar-like odor.
08/06/08	9:40	14.26	831.55	19.17	826.64	-0.06	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	10:54	14.21	831.60	19.10	826.71	0.01	--	--	--	--	--	--	
02/06/09	11:58	14.03	831.78	19.24	826.57	-0.13	--	--	--	--	--	--	
05/29/09	12:44	13.87	831.94	19.20	826.61	-0.09	--	--	--	--	--	--	Hard bottom.
08/11/09	11:00	13.56	832.25	19.19	826.62	-0.08	--	--	--	--	--	--	Firm bottom, odor.
11/09/09	12:07	13.57	832.24	19.15	826.66	-0.04	--	--	--	--	--	--	Firm bottom.
02/23/10	10:20	14.06	831.75	19.15	826.66	-0.04	--	--	--	--	--	--	0.0 ppm.
05/28/10	10:54	14.02	831.79	19.21	826.60	-0.10	--	--	--	--	--	--	Soft bottom, 0.0 ppm.
08/30/10	11:00	13.99	831.82	19.50	826.31	-0.39	--	--	--	--	--	--	0.0 ppm.
11/23/10	11:29	13.41	832.40	19.28	826.53	-0.17	--	--	--	--	--	--	Firm bottom.

Top of Casing (FAMSL) = 845.81  
 Well bottom elev. (installed; FAMSL) = 826.70  
 Installed Well Depth (ft) = 19.11

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well bottom elevations are approximate.

FAMSL = Feet Above Mean Sea Level.  
 TOC = Top of Casing.  
 -- = NAPL not present.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-20													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	16:25	7.59	834.37	13.80	828.16	1.65	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	6.88	835.08	13.90	828.06	1.55	--	--	--	--	--	--	Silty bottom.
05/30/07	NR	9.72	832.24	13.44	828.52	2.01	--	--	--	--	--	--	Soft bottom, entire probe covered with gray silt, coal-tar-like odor.
06/27/07	8:57	10.50	831.46	13.68	828.28	1.77	--	--	--	--	--	--	Very Silty bottom, entire probe (6") covered in silt.
07/24/07	10:13	10.18	831.78	15.33	826.63	0.12	--	--	--	--	--	--	Able to penetrate sediment in well 0.3', organic-like odor, soft bottom.
08/28/07	10:03	10.74	831.22	13.50	828.46	1.95	--	--	--	--	--	--	Approximately 4" of silt on end of probe. Curb box settled, j-plug rim cracked.
09/20/07	9:35	10.98	830.98	13.58	828.38	1.87	--	--	--	--	--	--	Able to penetrate sediment in well 0.4', sediment on probe, coal-tar-like odor, coal-tar-like material on probe.
10/31/07	8:37	9.38	832.58	13.64	828.32	1.81	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor, VOCs = 0.0 ppm.
11/20/07	8:57	8.61	833.35	13.48	828.48	1.97	--	--	--	--	--	--	Coal-tar-like odor.
12/18/07	8:57	7.80	834.16	13.62	828.34	1.83	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:23	8.41	833.55	12.44	829.52	3.01	--	--	--	--	--	--	Soft Bottom.
02/21/08	15:08	7.20	834.76	14.27	827.69	1.18	--	--	--	--	--	--	Soft Bottom, coal-tar-like odor.
03/18/08	13:05	7.19	834.77	13.53	828.43	1.92	--	--	--	--	--	--	Mild coal-tar-like odor, trace sheen on sediment on probe. J-plug rim cracked due to curb box settling.
05/12/08	8:51	9.94	832.02	13.57	828.39	1.88	--	--	--	--	--	--	Sediment on probe, faint coal-tar-like odor.
06/05/08	11:43	10.62	831.34	15.40	826.56	0.05	--	--	--	--	--	--	Little gray sediment on probe.
07/08/08	8:21	10.96	831.00	13.85	828.11	1.60	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
08/06/08	8:36	10.47	831.49	13.85	828.11	1.60	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
11/19/08	8:21	9.91	832.05	15.39	826.57	0.06	--	--	--	--	--	--	Soft bottom, approximately 1.5 foot of sediment on probe, coal tar-like odor.
02/06/09	8:23	10.31	831.65	14.28	827.68	1.17	--	--	--	--	--	--	Soft bottom.
05/29/09	11:33	9.31	832.65	13.50	828.46	1.95	--	--	--	--	--	--	Soft bottom.
08/11/09	9:34	8.72	833.24	15.40	826.56	0.05	--	--	--	--	--	--	Very soft bottom, slight odor, 1.6' of sediment on probe.
11/09/09	10:56	9.28	832.68	14.75	827.21	0.70	--	--	--	--	--	--	Very soft bottom, 1' of gray sediment on probe.
02/23/10	8:39	10.12	831.84	15.57	826.39	-0.12	--	--	--	--	--	--	0.0 ppm.
05/28/10	11:20	10.26	831.70	14.83	827.13	0.62	--	--	--	--	--	--	Soft bottom, gray sediment on probe, 0.0 ppm.
08/30/10	9:15	9.89	832.07	13.95	828.01	1.50	--	--	--	--	--	--	Dark gray sediment on probe, soft bottom, 0.0 ppm.
11/23/10	10:41	9.31	832.65	14.62	827.34	0.83	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) 841.96  
 Well bottom elev. (installed; FAMSL) = 826.51  
 Installed Well Depth (ft) = 15.45

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.

FAMSL = Feet Above Mean Sea Level.  
 bmp = below measuring point.  
 TOC = Top of Casing.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-21													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	8:10	8.13	833.89	13.25	828.77	2.75	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	7.54	834.48	15.30	826.72	0.70	--	--	--	--	--	--	Very Silty.
05/30/07	NR	9.80	832.22	14.38	827.64	1.62	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/27/07	9:10	10.46	831.56	14.03	827.99	1.97	--	--	--	--	--	--	Silt on the last 3" of the probe.
07/24/07	10:17	10.00	832.02	14.79	827.23	1.21	--	--	--	--	--	--	Soft bottom, sediment on probe, trace sheen on probe, faint coal-tar-like odor.
08/28/07	10:13	10.95	831.07	14.20	827.82	1.80	--	--	--	--	--	--	Soft bottom, approximately 3" of Silt on end of probe, manure-like odor. Curb box settled, lid will not close completely.
09/20/07	9:39	10.98	831.04	14.11	827.91	1.89	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', sediment on probe, coal-tar-like odor.
10/31/07	8:45	9.47	832.55	14.14	827.88	1.86	--	--	--	--	--	--	Able to penetrate sediment in well 0.2', mild coal-tar-like odor, VOCs = 0.0 ppm.
11/20/07	9:03	9.09	832.93	14.11	827.91	1.89	--	--	--	--	--	--	Coal-tar-like odor, sediment on probe.
12/18/07	9:16	9.17	832.85	13.95	828.07	2.05	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:17	9.41	832.61	13.97	828.05	2.03	--	--	--	--	--	--	Soft bottom.
02/21/08	15:14	8.15	833.87	14.37	827.65	1.63	--	--	--	--	--	--	Soft bottom, mild coal-tar-like odor.
03/18/08	13:00	8.04	833.98	14.28	827.74	1.72	--	--	--	--	--	--	Soft bottom.
05/12/08	8:50	9.97	832.05	13.86	828.16	2.14	--	--	--	--	--	--	Soft bottom, sediment on probe.
06/05/08	11:52	10.85	831.17	16.09	825.93	-0.09	--	--	--	--	--	--	Well redeveloped on June 5th 2008.
07/08/08	8:30	11.13	830.89	16.09	825.93	-0.09	--	--	--	--	--	--	Firm bottom, sediment on probe.
08/06/08	8:42	10.66	831.36	15.85	826.17	0.15	--	--	--	--	--	--	
11/19/08	8:25	10.07	831.95	15.88	826.14	0.12	--	--	--	--	--	--	Approximately 1inch of sediment on probe.
02/06/09	9:09	10.51	831.51	15.56	826.46	0.44	--	--	--	--	--	--	
05/29/09	11:41	9.14	832.88	15.87	826.15	0.13	--	--	--	--	--	--	Firm bottom, riser leaning to the west.
08/11/09	9:41	8.59	833.43	15.85	826.17	0.15	--	--	--	--	--	--	Soft bottom, 3" of gray sediment on probe, slight odor.
11/09/09	10:58	9.61	832.41	16.01	826.01	-0.01	--	--	--	--	--	--	Soft bottom.
02/23/10	8:43	10.31	831.71	16.07	825.95	-0.07	--	--	--	--	--	--	0.0 ppm.
05/28/10	11:15	10.41	831.61	15.75	826.27	0.25	--	--	--	--	--	--	Soft bottom, gray sediment on probe, 0.0 ppm.
08/30/10	9:23	10.09	831.93	15.75	826.27	0.25	--	--	--	--	--	--	Gray sediment on probe, coal tar-like odor, 0.0 ppm.
11/23/10	10:47	9.43	832.59	NR	-	-	--	--	--	--	--	--	Soft sediment.

Top of Casing (FAMSL) = 842.02  
 Well bottom elev. (installed; FAMSL) = 826.02  
 Installed Well Depth (ft) = 16.00

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well redeveloped on June 5th 2008.

FAMSL = Feet Above Mean Sea Level.  
 bmp = below measuring point.  
 TOC = Top of Casing.  
 NR = Not Recorded.



Table 1. Barrier Wall Fluid-Level Monitoring, New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, New York

RECOVERY WELL RW-22													
Date	Time	Depth to Water (ft bTOC)	GW Elevation (FAMSL)	Depth to Bottom (ft bTOC)	Well Bottom Elevation (FAMSL)	Sediment Thickness (ft)	LNAPL			DNAPL			Comments/Observations
							Depth to LNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	Depth to DNAPL (ft bTOC)	Thickness of Layer (ft)	Volume Purged (liters)	
01/18/07	8:04	8.02	833.95	49.12	792.85	3.08	--	--	--	--	--	--	Soft bottom.
04/25/07	NR	7.45	834.52	47.60	794.37	4.60	--	--	--	--	--	--	
05/30/07	NR	9.83	832.14	47.60	794.37	4.60	--	--	--	--	--	--	Little Silt on probe, slight coal-tar-like odor.
06/27/07	9:19	10.75	831.22	47.78	794.19	4.42	--	--	--	--	--	--	
07/24/07	10:20	10.28	831.69	48.98	792.99	3.22	--	--	--	--	--	--	Probe appeared to sink through 1' sediment, organic-like odor.
08/28/07	10:16	10.92	831.05	47.75	794.22	4.45	--	--	--	--	--	--	Soft bottom, LEL = 9%, O <sub>2</sub> = 19.3ppm, VOC = 9.4ppm.
09/20/07	9:45	10.97	831.00	48.75	793.22	3.45	--	--	--	--	--	--	Able to penetrate sediment in well 0.15'.
10/31/07	8:52	9.53	832.44	47.68	794.29	4.52	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', mild coal-tar-like odor, VOCs = 0.9 ppm.
11/20/07	9:09	9.19	832.78	47.82	794.15	4.38	--	--	--	--	--	--	Coal-tar-like odor.
12/18/07	9:00	9.00	832.97	47.64	794.33	4.56	--	--	--	--	--	--	Able to penetrate sediment in well 0.1', coal-tar-like odor.
01/31/08	11:16	9.22	832.75	47.65	794.32	4.55	--	--	--	--	--	--	Soft bottom.
02/21/08	15:17	8.71	833.26	48.88	793.09	3.32	--	--	--	--	--	--	Soft bottom, manure-like odor.
03/18/08	12:58	7.91	834.06	47.75	794.22	4.45	--	--	--	--	--	--	Soft bottom, coal-tar-like odor, black sediment on probe. Curb box has settled, tire tracks over and around curb box.
05/12/08	8:45	9.99	831.98	48.01	793.96	4.19	--	--	--	--	--	--	Soft bottom, coal-tar-like odor.
06/05/08	11:53	10.82	831.15	52.22	789.75	-0.02	--	--	--	--	--	--	Well redeveloped on June 5th 2008.
07/08/08	8:31	11.03	830.94	51.87	790.10	0.33	--	--	--	--	--	--	Firm bottom, mild coal-tar-like odor.
08/06/08	8:46	10.54	831.43	51.80	790.17	0.40	--	--	--	--	--	--	Coal-tar-like odor.
11/19/08	8:27	10.02	831.95	52.19	789.78	0.01	--	--	--	--	--	--	
02/06/09	9:11	10.45	831.52	51.49	790.48	0.71	--	--	--	--	--	--	
05/29/09	11:42	9.10	832.87	51.90	790.07	0.30	--	--	--	--	--	--	Firm bottom, riser leaning toward the east.
08/11/09	9:45	8.64	833.33	51.59	790.38	0.61	--	--	--	--	--	--	Soft bottom, slight odor.
11/09/09	10:59	9.52	832.45	51.91	790.06	0.29	--	--	--	--	--	--	Firm bottom.
02/23/10	8:45	10.18	831.79	51.75	790.22	0.45	--	--	--	--	--	--	0.0 ppm.
05/28/10	11:19	10.31	831.66	51.74	790.23	0.46	--	--	--	--	--	--	Soft bottom, gray sediment on probe, 0.0 ppm.
08/30/10	9:15	10.04	831.93	51.70	790.27	0.50	--	--	--	--	--	--	Soft bottom, dark gray sediment on probe, coal tar-like odor, 0.0 ppm.
11/23/10	10:49	9.32	832.65	51.92	790.05	0.28	--	--	--	--	--	--	Soft bottom.

Top of Casing (FAMSL) = 841.97  
 Well bottom elev. (installed; FAMSL) = 789.77  
 Installed Well Depth (ft) = 52.20

**Notes:**

1. Elevations referenced to the NAVD 88 Datum.
2. Surface elevation = the elevation of the vault lid or curb box lid.
3. Used weighted measuring tape for depth to bottom starting on 7/24/07.
4. Well redeveloped on June 5th 2008.

FAMSL = Feet Above Mean Sea Level.  
 bmp = below measuring point.  
 TOC = Top of Casing.  
 NR = Not Recorded.



Table 2. Offsite Fluid-Level Monitoring , New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, NY

Well ID	Installed Well Depth (ft-TIC)	11/24/2004				1/28/2005				8/9/2007				3/18/2008				11/19/2008			
		DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft-TIC)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft-TIC)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft-TIC)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft-TIC)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft-TIC)	NAPL Thickness (ft)
MW97-07S	NA	17.43	24.86	--	--	15.8	24.65	--	--	18.09	24.83	--	--	15.21	24.81	--	--	17.32	24.90	--	--
MW01-07R	108.02	16.47	100+	--	--	14.6	108.65	--	--	16.70	+100	--	--	13.71	108.79	--	--	16.37	109.02	--	--
NMW-1	43.45	14.38	40.35	--	--	15.87	40.35	--	--	18.01	40.05	--	--	15.70	40.03	--	--	18.20	40.52	--	--
NMW-2	43.73	14.47	42.66	--	--	NA	NA	--	--	15.10	42.78	--	--	12.26	42.75	--	--	14.59	42.95	--	--
PZ01-02	20.60	10.03	20.58	10.00	0.03	8.31	20.6	8.28	0.03	10.57	17.40	--	--	7.68	17.25	7.57	0.11	9.70	17.30	9.61	0.09
PZ03-01D	46.39	15.78	46.72	--	--	14.17	46.5	--	--	16.39	46.70	--	--	13.55	46.76	--	--	15.88	46.76	--	--
PZ03-02A	15.76	14.08	15.35	--	--	12.25	15.1	--	--	Dry	14.67	--	--	11.78	14.70	--	--	13.02	14.80	--	--
PZ03-02D	55.27	14.28	54.72	--	--	12.35	54.5	--	--	14.82	54.13	--	--	12.00	54.10	--	--	13.09	54.17	--	--
PZ03-03A	10.64	10.71	10.96	--	--	10.15	10.9	--	--	8.68	8.68	--	--	8.67	8.67	--	--	8.73	8.73	--	--
PZ03-03B	23.67	11.78	22.2	--	--	10.1	22.1	--	--	12.51	21.90	--	--	9.65	21.21	--	--	11.81	21.91	--	--
PZ03-03D	49.73	11.89	49.41	--	--	NA	NA	--	--	12.56	48.10	--	--	9.69	48.05	--	--	11.86	48.04	--	--
PZ03-04A	14.62	10.33	14.60	--	--	9.25	14.60	--	--	10.97	14.60	--	--	8.12	14.38	--	--	10.81	14.43	--	--
PZ03-04B	21.54	10.96	22.06	--	--	9.52	22.06	--	--	11.70	21.19	--	--	8.82	21.21	--	--	11.12	21.22	--	--
PZ03-04D	41.61	11.07	41.62	--	--	9.46	41.60	--	--	11.75	41.50	--	--	8.91	41.18	--	--	10.97	41.24	--	--
PZ03-05A	12.69	10.64	12.38	--	--	9.23	12.35	--	--	6.20	6.20	--	--	Dry	6.20	--	--	6.18	6.18	--	--
PZ03-05B	16.69	10.66	15.92	--	--	9.33	15.95	--	--	11.42	15.76	--	--	8.11	15.70	--	--	8.69	15.75	--	--
PZ03-05C	27.72	10.75	27.59	--	--	9.15	27.60	--	--	11.48	24.67	--	--	7.78	24.70	--	--	10.75	24.69	--	--
PZ03-05D	44.69	10.61	44.80	--	--	9.93	44.80	--	--	9.85	33.74	--	--	5.89	33.75	--	--	11.11	33.75	--	--
PZ03-06A	11.65	9.70	11.51	--	--	8.27	11.50	--	--	10.30	11.50	--	--	6.92	11.46	--	--	10.08	11.52	10.01	0.07
PZ03-06B	18.60	10.31	18.05	10.30	0.01	8.75	18.00	8.53	0.22	10.85	17.81	10.76	0.09	8.40	17.25	8.26	0.14	10.91	16.88	10.78	0.13
PZ03-06C	32.65	10.25	32.68	--	--	6.07	32.65	--	--	11.00	31.90	--	--	8.14	31.75	--	--	9.92	31.70	--	--
PZ03-06D	51.09	5.90	51.00	--	--	8.55	51.00	--	--	7.01	50.98	--	--	6.07	50.95	--	--	7.62	51.03	--	--
PZ03-07A	10.67	8.85	10.50	--	--	7.50	10.50	--	--	8.61	10.35	--	--	6.42	10.38	--	--	9.16	10.33	--	--
PZ03-07B	16.58	9.31	16.67	--	--	7.68	16.70	--	--	10.00	16.26	--	--	7.38	16.22	--	--	9.14	16.27	--	--
PZ03-07C	30.57	9.46	32.85	--	--	7.80	32.85	--	--	10.10	31.20	--	--	7.23	30.90	--	--	8.93	30.89	--	--
PZ03-07D	55.14	9.50	52.90	--	--	7.80	52.90	--	--	10.23	52.76	--	--	7.31	52.62	--	--	9.12	52.70	--	--
PZ03-08A	11.59	9.89	11.45	--	--	7.10	11.45	--	--	9.28	10.97	--	--	6.39	10.98	--	--	8.84	10.95	--	--
PZ03-08B	17.59	9.08	18.68	--	--	7.45	18.65	--	--	9.75	17.35	--	--	6.91	17.40	--	--	8.93	17.34	--	--
PZ03-08C	30.63	9.15	30.65	--	--	7.50	30.65	--	--	9.84	30.27	--	--	6.98	30.30	--	--	8.92	30.30	--	--
PZ03-08D	55.59	9.12	54.68	--	--	7.50	54.70	--	--	9.81	55.22	--	--	6.98	55.00	--	--	9.01	54.85	--	--
PZ03-09A	22.76	19.47	47.17	--	--	18.00	21.50	--	--	NA	NA	--	--	17.43	21.80	--	--	19.40	21.84	--	--
PZ03-09D	47.59	19.12	47.17	--	--	17.54	47.00	--	--	NA	NA	--	--	16.91	47.13	--	--	19.21	47.17	--	--

See Notes on Page 2.



Table 2. Offsite Fluid-Level Monitoring , New York State Electric & Gas Corporation, Binghamton Court Street Former MGP Site, Binghamton, NY

Well ID	Installed Well Depth (ft-TIC)	5/29/2009				11/9/2009				5/28/2010				11/23/2010			
		DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft TIC)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft TIC)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft TIC)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	DTNAPL (ft TIC)	NAPL Thickness (ft)
MW97-07S	NA	16.65	24.92	--	--	16.91	24.82	--	--	17.67	24.82	--	--	16.69	24.81	--	--
MW01-07R	108.02	15.48	110.00	--	--	15.48	110.00	--	--	15.82	108.80	--	--	15.51	108.80	--	--
NMW-1	43.45	17.58	40.40	--	--	17.67	40.35	--	--	18.24	40.31	--	--	17.26	40.31	--	--
NMW-2	43.73	13.94	43.02	--	--	14.17	42.80	--	--	15.64	42.70	--	--	13.85	42.76	--	--
PZ01-02	20.60	9.49	17.29	8.71	0.78	9.65	17.30	9.20	0.45	10.21	17.28	9.54	0.67	8.91	17.29	8.86	0.05
PZ03-01D	46.39	15.23	46.69	--	--	15.37	46.72	--	--	15.94	46.62	--	--	15.16	46.68	--	--
PZ03-02A	15.76	11.93	14.80	--	--	13.59	14.75	--	--	14.18	14.70	--	--	13.11	14.79	--	--
PZ03-02D	55.27	13.60	54.18	--	--	13.83	54.16	--	--	14.52	54.12	--	--	13.56	54.13	--	--
PZ03-03A	10.64	8.70	8.70	--	--	8.79	8.79	--	--	DRY	8.72	--	--	DRY	8.79	--	--
PZ03-03B	23.67	11.02	20.92	--	--	10.79	21.90	--	--	12.08	21.88	--	--	11.18	21.88	--	--
PZ03-03D	49.73	11.08	48.03	--	--	11.38	48.02	--	--	12.13	48.00	--	--	11.19	48.03	--	--
PZ03-04A	14.62	10.06	14.46	--	--	10.08	14.42	--	--	10.78	14.45	--	--	9.64	14.45	--	--
PZ03-04B	21.54	10.72	21.21	--	--	10.49	21.19	--	--	11.29	21.21	--	--	10.26	21.21	--	--
PZ03-04D	41.61	10.12	41.30	--	--	10.53	41.32	--	--	11.33	41.30	--	--	10.32	41.35	--	--
PZ03-05A	12.69	6.20	6.20	--	--	6.20	6.20	--	--	6.18	6.18	--	--	9.79	NA	--	--
PZ03-05B	16.69	10.12	15.71	--	--	9.78	15.75	--	--	10.94	15.75	--	--	10.37	15.81	--	--
PZ03-05C	27.72	10.00	24.72	--	--	9.92	24.64	--	--	10.81	24.75	--	--	9.75	24.67	--	--
PZ03-05D	44.69	9.61	33.79	--	--	9.23	33.80	--	--	9.81	33.75	--	--	9.26	32.47	--	--
PZ03-06A	11.65	9.32	11.50	--	--	9.38	11.50	9.32	0.06	9.97	11.47	--	--	9.25	11.51	9.07	0.18
PZ03-06B	18.60	9.81	16.90	8.19	1.62	9.71	16.80	9.51	0.20	11.32	16.45	10.32	1.00	12.60	16.76	12.45	0.15
PZ03-06C	32.65	9.02	31.72	--	--	9.59	31.69	--	--	10.62	31.60	--	--	9.34	31.61	--	--
PZ03-06D	51.09	7.93	51.00	--	--	8.41	50.80	--	--	9.07	50.90	--	--	8.56	50.42	--	--
PZ03-07A	10.67	8.60	10.35	--	--	8.27	10.35	--	--	8.72	10.32	--	--	8.31	10.35	--	--
PZ03-07B	16.58	8.22	16.25	--	--	8.72	16.24	--	--	9.69	16.25	--	--	8.57	16.28	--	--
PZ03-07C	30.57	8.61	30.95	--	--	7.88	30.92	--	--	9.38	30.87	--	--	7.78	30.91	--	--
PZ03-07D	55.14	9.07	52.56	--	--	8.83	52.75	--	--	9.48	52.60	--	--	8.47	52.61	--	--
PZ03-08A	11.59	8.12	11.00	--	--	8.27	11.00	--	--	9.00	10.98	--	--	8.09	10.98	--	--
PZ03-08B	17.59	7.98	17.42	--	--	8.42	17.40	--	--	9.32	17.37	--	--	8.24	17.41	--	--
PZ03-08C	30.63	8.93	30.36	--	--	8.02	30.30	--	--	9.28	30.30	--	--	7.98	30.29	--	--
PZ03-08D	55.59	8.11	55.01	--	--	8.44	54.95	--	--	9.48	54.80	--	--	8.26	54.86	--	--
PZ03-09A	22.76	18.77	21.78	--	--	18.97	21.71	--	--	19.63	21.70	--	--	18.76	21.81	--	--
PZ03-09D	47.59	18.59	46.97	--	--	18.69	46.90	--	--	19.27	46.95	--	--	18.48	47.03	--	--

**Notes:**

1. All elevations referenced to feet above mean sea level, North American Vertical Datum of 1988.
2. Ground surface elevation is approximate. City of Binghamton re-surfaced Court Street in 2008. The surveyed points are from 2007 before the road was re-surfaced.
3. Installed well depth taken from field geologist notes
4. If more than 0.16 ft of LNAPL was observed, it was collected and contained.



Table 3. DNAPL Monitoring Summary - MW93-06D, New York State Electric & Gas Corporation, Court Street Former MGP Site, Binghamton, New York

Well ID	Date	Time	Depth to Water (ft btoc)	Depth to Top of DNAPL (ft)	Measured Well Depth (ft-btoc)	Approx. DNAPL Thickness (ft)	Approx. Volume DNAPL Removed (gallons)
MW93-06D	7/14/09	13:00	13.95	60.72	62.62	1.90	0.00
	8/6/09	12:30	14.07	60.49	62.64	2.15	0.30
	8/11/09	13:30	14.04	62.03	62.63	0.60	0.05
	8/20/09	9:52	14.39	62.03	62.63	0.60	0.10
	9/9/09	9:19	14.45	62.19	62.64	0.45	0.07
	9/18/09	NA	NG	62.44	62.64	0.20	0.00
	9/28/09	11:30	NG	62.29	62.64	0.35	0.06
	11/9/09	NA	13.92	-	62.65	trace	0.00
	11/23/09	11:30	NG	61.94	62.64	0.70	0.10
	2/23/10	10:40	14.34	62.05	62.75	0.70	0.03
	6/23/10	13:00	14.48	61.49	62.64	1.15	0.18
	8/30/10	11:20	14.38	60.48	62.20	1.72	0.27
	11/23/10	11:40	13.74	60.96	62.63	1.67	0.25
<b>Cumulative Volume of DNAPL Removed at MW93-06D =</b>							<b>1.41</b>

**Notes:**

btoc = Below top of casing.

NG = Not Gauged.

NA = Not Available.

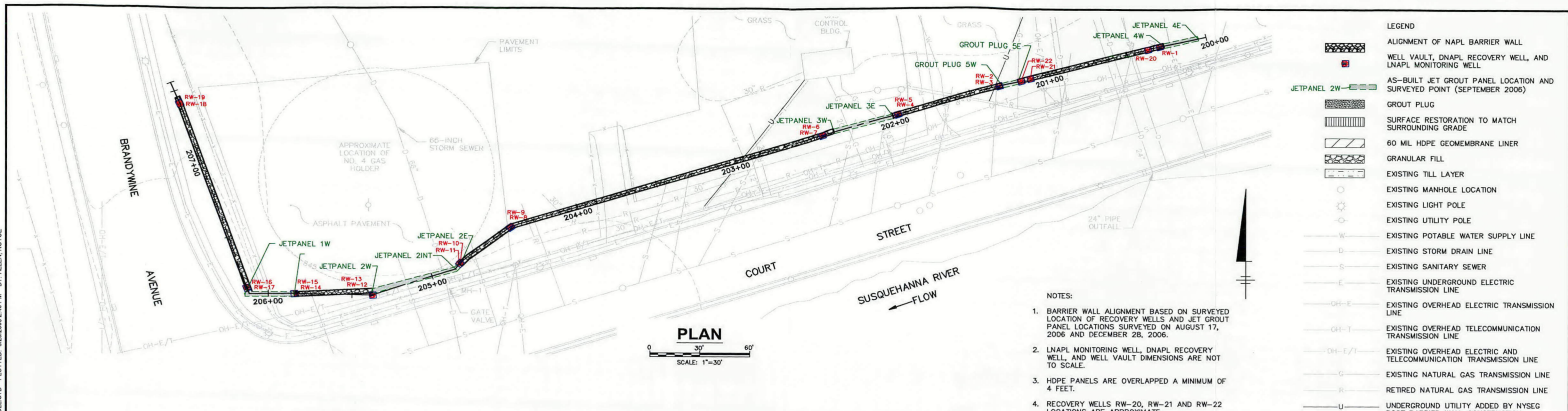


ARCADIS

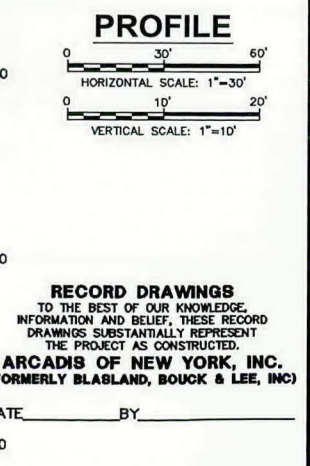
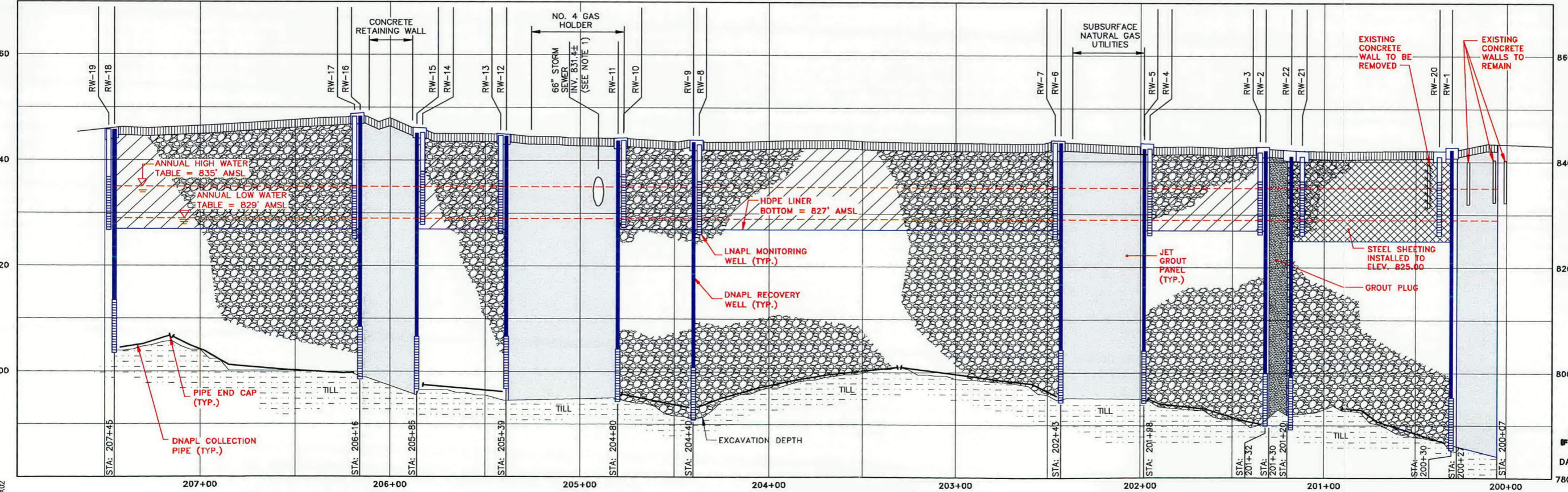
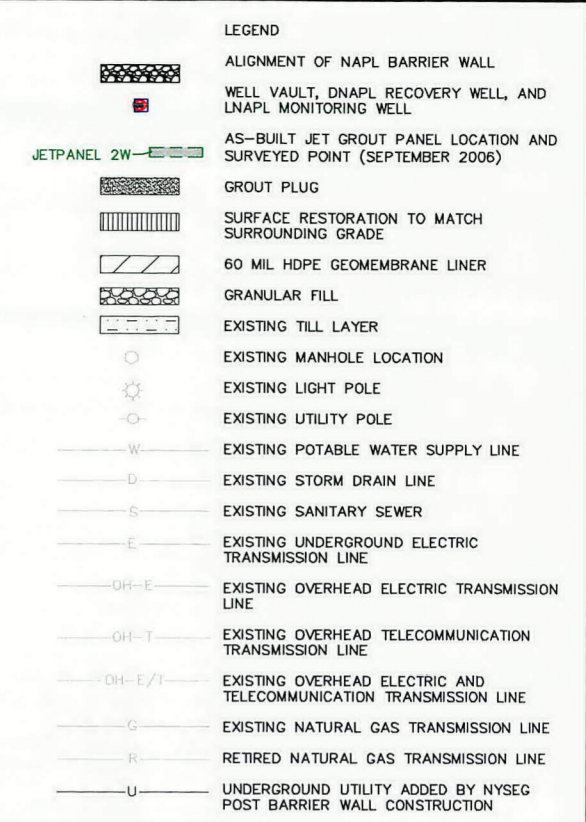
FIGURES



CITY: SYRACUSE DIVISION: 141 DB: GHS WJ RCA LD: PIC: PM: T.M. LYR ON\* OFF=REF-  
 G:\CAD\ACT18001\082000000000\10\WCV\13062002.DWG LAYOUT: 1 SAVED: 8/26/2008 2:38 PM ACADVER: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH) PAGES: 17.05 (LMS TECH)  
 REVISIONS: 13062002 13062001 13062002  
 PROJECT NAME: \_\_\_\_\_  
 DRAWN BY: DLM  
 CHECKED BY: GHS  
 DESIGNED BY: MCS  
 DATE: \_\_\_\_\_  
 BY: \_\_\_\_\_



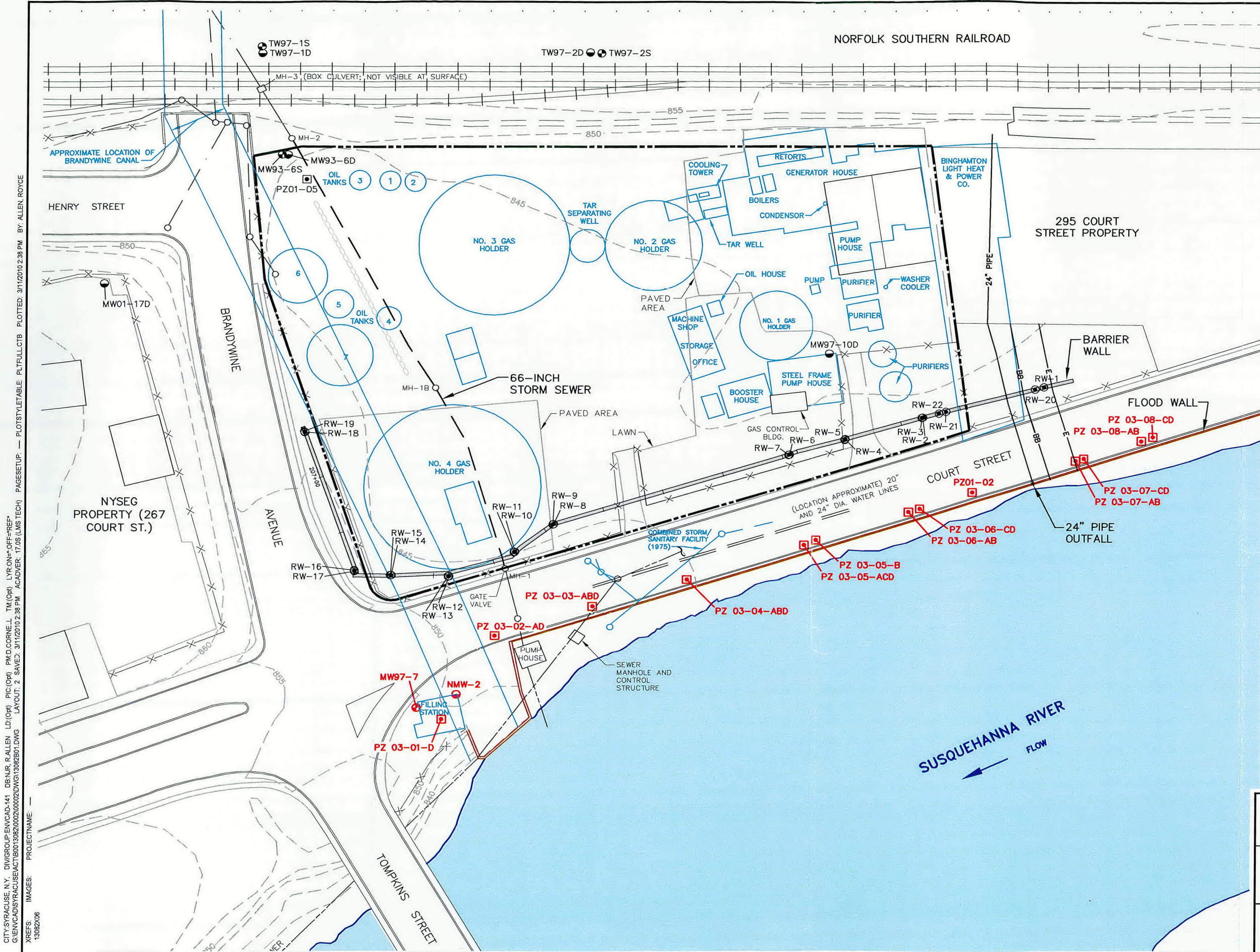
- NOTES:**
1. BARRIER WALL ALIGNMENT BASED ON SURVEYED LOCATION OF RECOVERY WELLS AND JET GROUT PANEL LOCATIONS SURVEYED ON AUGUST 17, 2006 AND DECEMBER 28, 2006.
  2. LNAPL MONITORING WELL, DNAPL RECOVERY WELL, AND WELL VAULT DIMENSIONS ARE NOT TO SCALE.
  3. HDPE PANELS ARE OVERLAPPED A MINIMUM OF 4 FEET.
  4. RECOVERY WELLS RW-20, RW-21 AND RW-22 LOCATIONS ARE APPROXIMATE.



(RECORD DRAWING: MADE FROM DRAWING NO. 2, TRACER NO. 13061001/13061002.dwg, DATED JULY 7, 2006)

SCALE(S) AS INDICATED	Professional Engineer's Name <b>(PE'S FULL NAME)</b> Professional Engineer's No. 082251 State NY Date Signed Project Mgr. Designed by DLM Drawn by MCS Checked by GHS	 ARCADIS U.S., INC.	NEW YORK STATE ELECTRIC & GAS CORPORATION BINGHAMTON, NEW YORK BINGHAMTON COURT STREET FORMER MGP SITE NAPL MONITORING REPORT <b>AS-BUILT NAPL BARRIER WALL LOCATION MAP</b>	ARCADIS Project No. 130.82 Date MARCH 2, 2007 ARCADIS 6723 Township Road Syracuse, NY 13214 CITY, STATE 315-448-9120	<b>FIGURE</b> <b>1</b>
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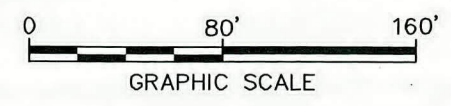




**LEGEND:**

	FLOOD WALL
	RAILROAD TRACK
	FENCE
	SITE PROPERTY LINES (APPROXIMATE)
	SEWER LINE (APPROXIMATE)
	GROUND SURFACE ELEVATION CONTOUR (FT. AMSL)
	HISTORICAL FEATURE
	BURIED CONCRETE WALL
	WELLS HIGHLIGHTED IN RED = WELLS OUTSIDE THE BARRIER WALL CURRENTLY MONITORED SEMI ANNUALLY
	BARRIER WALL RECOVERY WELL
	MONITORING WELL (SHALLOW)
	MONITORING WELL (DEEP)
	PIEZOMETER

- NOTES:**
1. BASE MAP PROVIDED BY NYSEG (JUNE 12, 1997).
  2. SURFACE ELEVATIONS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
  3. ALL ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL USING NATIONAL GEODETIC VERTICAL DATUM OF 1929, HORIZONTAL DATUM: NAD 83 NEW YORK STATE CENTRAL 3102.
  4. STORM SEWER LOCATION DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, ENTITLED: PRELIMINARY REPORT, COMPREHENSIVE STORM DRAINAGE, EXISTING FACILITIES. PREPARED BY VERNON O. SHUMAKER, CONSULTING ENGINEER, VESTAL, NEW YORK, DATE NOT PROVIDED.



NEW YORK STATE ELECTRIC & GAS CORP.  
 BINGHAMTON, NEW YORK COURT STREET SITE  
**NAPL MONITORING REPORT**

**SEMI ANNUAL "SENTINEL" MONITORING LOCATIONS**



CITY:SYRACUSE,N.Y. DIV:GROUP:ENV:CAD-141 DB:MR, R:ALLEN, LD:(CP), PIC:(CP), PM:D,CORNEILL, TM:(CP), LY:RONS+OFE+REF:  
 G:\ENV\CAD\SYRACUSE\ACT18001398200002000200\DWG13982001.DWG LAYOUT: 2. SAVE3, 3/1/2010 2:38 PM. ACADVER: 17.05 (LMS TECH)  
 PLOT: 3/1/2010 2:38 PM BY: ALLEN, ROYCE  
 PROJECTNAME: \_\_\_\_\_  
 XREFS: 13982006