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ENVIRONMENT

Ms. Kiera Thompson
Engineering Geologist
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, New York 12233-7014

Subject:
New York State Electric & Gas Corporation
Washington Development Associates, LLC
Washington Street Former MGP Site
NYSDEC BCP Site #C704046
City of Binghamton, Broome County, NY
2014 Groundwater Monitoring Summary Report

Date:
February 27, 2015

Contact:
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Our ref:
B0013097.0005 #10

Dear Ms. Thompson:

On behalf of New York State Electric & Gas Corporation (NYSEG), this letter summarizes the results of the July 2014 groundwater monitoring event performed at the Washington Street former manufactured gas plant (MGP) site located in Binghamton, New York (the site). The site location is shown on Figure 1. The 2014 groundwater monitoring event was conducted by ARCADIS in accordance with Section 3.3 of the New York State Department of Environmental Conservation-(NYSDEC-) approved *Site Management Plan* prepared by ARCADIS in December 2011 ("the SMP"). As noted in the SMP, the objectives of the groundwater monitoring are to collect the data needed to:

- Evaluate post-remedial groundwater quality in the remaining monitoring wells at the site.
- Confirm that post-remedial groundwater flow patterns are unchanged.
- Confirm that groundwater quality is improving and/or does not represent a significant threat to human health or the environment based on the site use.

Results of previous groundwater monitoring events are summarized in the NYSDEC-approved *Periodic Review Report* (ARCADIS, June 2013: "the PRR") and the *2013 Groundwater Monitoring Summary Report* (ARCADIS, October 2013).

The field work conducted during the 2014 event is summarized below, followed by a discussion of the monitoring results and conclusions drawn from the results.

Groundwater Monitoring Field Activities

ARCADIS conducted the monitoring event during the week of July 28, 2014. The event included collecting groundwater samples from each of the seven remaining monitoring wells at the site (MW-4R, MW-5, MW-5D, MW-6S, MW-6, MW-7D, and MW-7R, as shown on Figure 2). Construction details for each monitoring well are presented in Table 1.

Prior to sampling, a synoptic round of water-level measurements was obtained from the wells and piezometer PZ-1 on July 28, 2014. In addition, each well and the piezometer were checked for the presence of accumulated dense non-aqueous phase liquid (DNAPL). None was identified in any of the wells or the piezometer. The water-level data obtained on July 28, 2014 and corresponding groundwater elevations are presented in Table 2. For comparison, Table 2 also includes historical water level and elevation data.

Groundwater samples were collected using low-flow purging and sampling techniques (a peristaltic pump with dedicated disposable tubing), as described in the Field Sampling Plan (BBL, 2005a), included as Appendix H to the SMP. Field parameters (pH, conductivity, dissolved oxygen, temperature, turbidity, and oxidation-reduction potential) were monitored every 5 minutes during purging. After turbidity levels decreased to below 50 nephelometric turbidity units and parameters stabilized, groundwater samples were collected for laboratory analysis. Field parameter measurements obtained during purging and immediately prior to sampling are presented on the groundwater sampling logs included in Attachment A to this letter.

Groundwater samples, except those to be analyzed for volatile organic compounds (VOCs), were collected using low-flow sampling techniques. Groundwater samples analyzed for VOCs were collected using a disposable polyethylene bailer.

The groundwater samples were analyzed by TestAmerica of Buffalo, New York for analysis for the following analytes: Target Compound List (TCL) VOCs, TCL semi-volatile organic compounds (SVOCs), Target Analyte List (TAL) inorganic constituents (including cyanide), and polychlorinated biphenyls (PCBs). Analytical results were reported using NYSDEC Analytical Services Protocol Category B data deliverables. ARCADIS validated the analytical results in accordance with United States Environmental Protection Agency (USEPA) National Functional Guidelines. The laboratory analytical reports and the data usability summary report are included on the attached CD.

Groundwater Monitoring Results

On average, the water level measured in each well on July 28, 2014 (except in MW-6S) was approximately 5 feet deeper than the water level measured in the same well on July 1, 2013 but generally the same as the water level measured in 2012. The reason for this is related to rainfall amounts. The average monthly rainfall totals for Binghamton for the months of June and July, 2013 were approximately 1 inch (June) and 2.8 inches (July) greater in 2013 versus 2014[1], resulting in correspondingly higher groundwater levels in 2013. The water level in MW-6S was approximately 1 foot deeper than measured in 2012 and 2013. Water at MW-6S is perched above the water table and is not representative of the surrounding groundwater. When compared to previous years' data, the 2014 groundwater elevations are generally consistent, suggesting that groundwater flow patterns (directions) have not changed (groundwater continues to flow from the west portion of the site to the Chenango River and from the south portion of the site to Susquehanna River).

The validated groundwater analytical results for constituents detected in the groundwater samples are summarized in Table 3. Groundwater analytical results were compared to the NYSDEC groundwater standards/guidance values presented in the NYSDEC Division of Water, Technical and Operational Guidance Series (TOGS) document titled, "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1)," dated June 1998, as revised by addenda dated April 2000 and June 2004.

Results for constituents identified in groundwater samples at concentrations exceeding the TOGS 1.1.1 groundwater quality standards from July 2014 and previous years' events are shown on Figure 2. Note that Figure 2 also shows results for wells that no longer exist because they were decommissioned in connection with the site remediation. Analytical results for the groundwater samples collected during the July 2014 monitoring event are summarized below and compared to the results from previous monitoring events.

- **VOCs:** Historically, a relatively small number of VOCs have been detected at concentrations exceeding groundwater standards. Those VOCs can be divided into two groups: those that are potentially MGP-related (constituents that may have originated from the MGP, but also have other non-MGP origins), and those that are not. The potentially MGP-related VOCs historically detected above groundwater standards are generally limited to benzene, toluene, ethylbenzene,

[1] Source: National Weather Service online weather reports for Binghamton, NY -- http://www.weather.gov/climate/index.php?wfo=bgm.

and xylenes (referred-to collectively as "BTEX"). The non-MGP-related VOCs historically detected above groundwater standards are limited to tetrachloroethene and chloroform. In 2014, VOCs were only detected at concentrations exceeding their respective standards in the sample collected from monitoring well MW-5D. Consistent with past samples collected from this well, the VOCs are limited to one or more BTEX compounds[2], and concentrations were among the lowest ever measured at this well. Only two of the five VOCs historically identified above standards at MW-5D were identified above standards in the July 2014 sample from the well.

- **SVOCs:** Historically, the only samples that contained any SVOCs above their respective standards/guidance values were those collected from MW-5D. The 2014 sampling event represents the first time that no SVOC standards/guidance values were exceeded at any well, including well MW-5D. The laboratory detection limits are consistent with historical detection limits.

- **Inorganics:** Since remediation of the site, the primary inorganics detected above their respective standards are iron and manganese, except at well MW-5D. In 2014, like in previous sampling events, iron and/or manganese standards were exceeded in samples collected from all but one well (MW-6). Iron and manganese are common elements and often occur naturally in groundwater that is anoxic (that is, in groundwater with little or no dissolved oxygen). In 2014, as in previous sampling events, the groundwater samples collected from every well except MW-6 were anoxic; thus, the absence of dissolved oxygen is responsible for the elevated iron and manganese concentrations.

  At MW-5D, post-remediation samples (that is samples from 2012 and 2013) contained concentrations of lead above its groundwater standard. The 2013 sample also contained concentrations of arsenic, barium and selenium above their respective standards. In the sample collected in 2014, however, the only standard exceeded was for iron. Concentrations of inorganics in the groundwater at MW-5D will be further evaluated during the next monitoring event.

- **PCBs:** PCBs were not detected at concentrations above laboratory detection limits in any of the July 2014 groundwater samples. Historically, PCBs have only ever been identified in one duplicate sample (and not in the parent sample) from MW-6 and two samples from MW-6S.

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[2] Isopropylbenzene was detected once at this well (in 2013). In that sample, the detected concentration was relatively low (see Figure 2). Samples collected prior to 2012 were not analyzed for this compound.

Based on review of the analytical results, the quality of groundwater beneath the site is not adversely impacted by the former MGP, except near well MW-5D. This well is located near the western, downgradient edge of the parking lot (away from the Twin River Commons building). Available data demonstrate that the region of affected groundwater is small; however, there are not yet enough time-series data to evaluate whether there are trends in the concentrations of MGP-related constituents over time.

With three full years of post-remediation data now in hand, it is clear that the quality of groundwater at all wells but MW-5D is not adversely affected by the former MGP and therefore poses no threat to human health or the environment. In light of this fact, NYSEG proposes to focus future data-collection efforts on MW-5D and discontinue sampling at the remaining locations in 2015. The July 2014 results represent the sixth set of data collected from MW-5D. NYSEG proposes to sample MW-5D in 2015, and then sample the complete set of seven wells three years later, in July 2018. Following sampling in 2018, enough data will be collected to establish a statistically significant data trend at MW-5D (established after eight events), and if the concentrations of MGP-related constituents remain consistent with historical data or are declining, no additional sampling will be proposed, as the objectives of the groundwater monitoring program will have been met.

With NYSDEC approval, ARCADIS will sample MW-5D in July of this year, and will also collect a synoptic round of water level measurements from all monitoring locations. As usual, ARCADIS will summarize the results of that sampling effort in a letter report to the NYSDEC. In addition, results for each of the monitoring events performed between 2013 and 2015 will be summarized in the next PRR due to the NYSDEC on May 31, 2016.

Please do not hesitate to contact Mr. Tracy L. Blazicek, CHMM of NYSEG at 607.762.8839 (tlblazicek@nyseg.com) or the undersigned if you have any questions or require additional information.

Sincerely,

ARCADIS of New York, Inc.

John C. Brussel

John C. Brussel, PE
Principal Engineer

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Mr. Marc Newman, Washington Development Associates, LLC (via e-mail)
Mr. John M. Nicolich, Washington Development Associates, LLC (via e-mail and US Mail)
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Tables

TABLE 1
MONITORING WELL AND PIEZOMETER CONSTRUCTION DETAILS

2014 PERIODIC GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID	Material Screened/ Location	Date Completed	Date of Most-Recent Well Modification	Northing Coordinate	Easting Coordinate	Measuring Point Elev.		Ground Surface Elev.		Screen Length	Post-Remedy Depth to Screened Interval (ft. bgs)		Post-Remedy Well Depth	Estimated Hydraulic Conductivity (K)	Estimated Hydraulic Conductivity (K)
				ft.	ft.	ft. NAVD 88		ft. NAVD 88		ft.	Top	Bottom	ft. bgs	cm/sec	ft/day
						pre-remedy	post-remedy	pre-remedy	post-remedy						
MW-4R	sand, gravel and cobbles	11/3/11	7/17/12	763862.97	1001464.69	DNE	845.76	DNE	846.27	10.0	17.1	26.9	27.4	7.4E-03	2.1E+01
MW-5	silt, gravel, cobbles, and sand	6/8/06	7/17/12	763766.17	1001444.74	842.32	844.35	842.72	844.95	10.0	18.0	28.0	28.0	1.7E-02	4.8E+01
MW-5D	fine sandy silt, medium sand, and gravel	6/7/06	7/17/12	763767.20	1001441.76	842.58	844.23	842.81	844.81	5.0	39.0	44.0	44.0	8.3E-04	2.4E+00
MW-6S	sand, silt, clay, and organics	6/12/06	7/18/12	763645.42	1001463.98	841.61	844.08	842.10	844.44	5.0	10.0	15.0	15.0	3.2E-03	9.2E+00
MW-6	silt, clay, sand, gravel, and cobbles	6/12/06	7/18/12	763641.56	1001463.96	841.65	843.90	842.13	844.37	10.0	21.8	31.8	31.8	1.7E-04	4.9E-01
MW-7R	clay, silt, sand, and gravel, and cobbles	11/3/11	7/18/12	763543.99	1001506.05	DNE	842.93	DNE	843.21	10.0	14.5	24.3	24.5	1.2E-02	3.4E+01
MW-7D	clay, silt, gravel, and cobbles	6/9/06	7/18/12	763539.70	1001503.08	841.51	842.44	841.91	842.97	5.0	38.1	43.1	43.1	3.0E-03	8.5E+00
PZ-1	silt, sand, clay, and gravel	6/16/06	NA	763499.48	1001737.14	841.87	841.87	842.12	842.12	10.0	14.0	24.0	24.0	--	--

Notes:

1. MW = Monitoring Well; S = Shallow Well; D = Deep Well; PZ = Piezometer.
2. All wells are flush-mounted and are constructed of 2-inch diameter polyvinyl chloride (PVC) with 0.01 inch slots.
3. DNE = Did not exist. These wells were constructed during remedial construction, and did not exist prior to construction.
4. Elevations are in feet referenced to the North American Vertical Datum (NAVD) 1988. Datum: NAD 83, NYS Plane Central.
5. Depths are measured in feet referenced TIC.
6. -- = Data are not available.
7. Measuring point and ground surface elevations were modified one or two times during remediation and site redevelopment. Pre-remedy elevations are from surveys performed as part of the remedial investigation, and the post-remedy elevations are from a survey performed following site redevelopment on 8/16/2012.

TABLE 2
WATER-LEVEL DATA

2014 PERIODIC GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location	Reference Point Elevation		Depth to Groundwater (feet bmp)							Groundwater Elevation (feet, NAVD 1988)						
	pre-remedy	post-remedy	6/27/2006	7/24/2006	1/17/2008	5/15/2008	7/17/2012 & 7/20/2012	7/1/2013	7/28/2014	6/27/2006	7/24/2006	1/17/2008	5/15/2008	7/17/2012 & 7/20/2012	7/1/2013	7/28/2014
MW-1R	845.67	--	18.69	17.82	17.83	20.69	NA	NA	NA	826.98	827.85	827.84	824.98	NA	NA	NA
MW-2	844.88	--	NA	16.09	15.74	NA	NA	NA	NA	NA	828.79	829.14	NA	NA	NA	NA
MW-3	842.01	--	NA	13.60	5.48	6.45	NA	NA	NA	NA	828.41	836.53	835.56	NA	NA	NA
MW-4	843.62	--	15.69	16.51	16.93	19.60	NA	NA	NA	827.93	827.11	826.69	824.02	NA	NA	NA
MW-4R	--	845.76	NA	NA	NA	NA	22.50	16.55	22.41	NA	NA	NA	NA	823.26	829.21	823.35
MW-5	842.32	844.35	14.16	15.09	15.09	17.91	20.29	15.43	20.65	828.16	827.23	827.23	824.41	824.06	828.92	823.70
MW-5D	842.58	844.23	14.71	14.82	15.34	18.1	20.35	15.49	20.45	827.87	827.76	827.24	824.48	823.88	828.74	823.78
MW-6S	841.61	844.08	7.00	7.19	7.00	7.56	8.29	8.53	9.56	834.61	834.42	834.61	834.05	835.79	835.55	834.52
MW-6	841.65	843.90	13.25	13.72	14.25	15.67	20.09	14.71	19.71	828.40	827.93	827.40	825.98	823.81	829.19	824.19
MW-7	841.62	--	13.22	13.92	NA	16.29	NA	NA	NA	828.40	827.70	NA	825.33	NA	NA	NA
MW-7R	--	842.93	NA	NA	NA	NA	18.26	13.67	18.75	NA	NA	NA	NA	824.67	829.26	824.18
MW-7D	841.51	842.44	13.14	13.76	NA	NA	18.30	13.52	18.47	828.37	827.75	NA	NA	824.14	828.92	823.97
MW-8	845.60	--	18.39	17.81	18.21	20.76	NA	NA	NA	827.21	827.79	827.39	824.84	NA	NA	NA
MW-8D	844.84	--	17.16	17.96	18.15	20.47	NA	NA	NA	827.68	826.88	826.69	824.37	NA	NA	NA
MW-9	842.04	--	NA	NA	5.83	6.48	NA	NA	NA	NA	NA	836.21	835.56	NA	NA	NA
PZ-1	841.87	--	13.86	14.23	NA	NA	NA	12.48	17.69	828.01	827.64	NA	NA	NA	829.39	824.18
SG-1	847.86	--	17.14	21.35	NA	NA	NA	NA	NA	830.72	826.51	NA	NA	NA	NA	NA
SG-2	855.76	--	25.02	29.40	NA	NA	NA	NA	NA	830.74	826.36	NA	NA	NA	NA	NA

Notes:

1. MW = Monitoring Well; R = Replacement Well; S = Shallow Well; D = Deep Well; PZ = Piezometer; SG = Staff Gauge (reference point on bridge).
2. -- = Not Installed; bmp = Below Measuring Point; NA = not available.
3. TIC = Top of Inner Well Casing.
4. Reference point elevations for monitoring wells and piezometer are the top of the inner casing.
5. Elevations are in feet referenced to the North American Vertical Datum (NAVD) 1988.
6. Measuring point elevations were modified multiple times during remediation and site redevelopment. Pre-remedy elevations are from surveys performed as part of the remedial investigation, and the post-remedy elevations are from a survey performed following site redevelopment on 8/16/2012 .
7. Groundwater elevations calculated for 2006 and 2008 were measured from the pre-remedy reference point elevation. Groundwater elevations calculated for 2012, 2013, and 2014 were measured from the post-remedy reference point elevation.

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	MW-1R		MW-2	MW-4		MW-4R			MW-5				
Date Collected:	*Guidance* Values	07/25/06	01/18/08	01/18/08	07/25/06	01/18/08	07/17/12	07/02/13	07/28/14	07/26/06	01/18/08	07/17/12	07/02/13	07/29/14
Detected Volatile Organics														
1,1,1-Trichloroethane	5	1.0 J	1.0 J	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0 J	<5.0	<1.0	<1.0	<1.0
1,2-Dichloroethene (Total)	- -	<10	<10	<10	<10	<10	NA	NA	NA	<10	<10	NA	NA	NA
Acetone	*50*	<25	<25	<25	<25	<25	8.8 J	<10	<10 J	<25 J	<25	9.3 J	<10	<10 J
Benzene	1	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0
Bromodichloromethane	*50*	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0
Bromoform	*50*	<5.0 J	<5.0	<5.0	<5.0 J	<5.0	<1.0	<1.0 J	<1.0 J	<5.0 J	<5.0	<1.0	<1.0 J	<1.0 J
Bromomethane	5	<5.0	<5.0	<5.0 J	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0 J	<5.0 J	<1.0	<1.0	<1.0
Carbon disulfide	- -	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0
Chloroform	7	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	2.9	**7.6**	0.80 J
cis-1,2-Dichloroethene	5	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	<1.0
Cyclohexane	- -	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	<1.0
Dichlorodifluoromethane	5	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	<1.0
Ethylbenzene	5	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0
Isopropylbenzene	5	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	<1.0
Methyl ethyl ketone (MEK)	- -	<25	<25	<25 J	<25	<25	<10	<10	<10	<25 J	<25 J	<10	<10	<10
Methyl tert-butyl ether	- -	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0 J	<5.0	<1.0	<1.0	<1.0
Methylcyclohexane	- -	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	<1.0	<1.0	<1.0
Tetrachloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	0.60 J	<5.0	0.41 J	<1.0	<1.0
Toluene	5	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	0.88 J	<1.0
Total Xylenes	5	<15	<15	<15	<15	<15	<2.0	<2.0	<2.0	<15	<15	<2.0	<2.0	<2.0
Trichloroethene	5	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0	<5.0	<5.0	<1.0	<1.0	<1.0
Vinyl chloride	2	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0	<1.0 J	<5.0 J	<5.0	<1.0	<1.0	<1.0 J
Total BTEX	- -	<15	<15	<15	<15	<15	<2.0	<2.0	<2.0	<15	<15	<2.0	0.88 J	<2.0
Total VOCs	- -	1.0 J	1.0 J	<25	<25	<25	8.8 J	<10	<10	0.60 J	<25	13 J	8.5 J	0.80 J
Detected Semivolatile Organics														
2,4-Dimethylphenol	*50*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
2-Methylnaphthalene	- -	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
2-Methylphenol	- -	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
4,6-Dinitro-2-methylphenol	- -	<50	<10	<9.0	<48	<10	<11	<9.4 J	<10	<47	<49	<9.6	<10	<10
4-Methylphenol	- -	<10	<5.0	<5.0	<10	<5.0	<11	<9.4 J	<10	<9.0	<24	<9.6	<10	<10
Acenaphthene	20	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Acenaphthylene	- -	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Acetophenone	- -	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Anthracene	*50*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Benzo(a)anthracene	*0.002*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Benzo(a)pyrene	- -	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Benzo(b)fluoranthene	*0.002*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Biphenyl	5	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Bis(2-ethylhexyl) phthalate	5	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Carbazole	- -	NA	NA	NA	NA	NA	<5.6	<4.7 J	<5.0	NA	NA	<4.8	<5.0	<5.0
Chrysene	*0.002*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Dibenzofuran	- -	<10	<5.0	<5.0	<10	<5.0	<11	<9.4 J	<10	<9.0	<24	<9.6	<10	<10
Diethyl phthalate	*50*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	0.31 J	<9.0	<24	<4.8	<5.0	0.32 J

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	MW-1R		MW-2	MW-4		MW-4R			MW-5				
Date Collected:	*Guidance* Values	07/25/06	01/18/08	01/18/08	07/25/06	01/18/08	07/17/12	07/02/13	07/28/14	07/26/06	01/18/08	07/17/12	07/02/13	07/29/14
Di-n-butyl phthalate	50	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 BJ	<5.0	<9.0	<24	<4.8	0.57 J	<5.0
Fluoranthene	*50*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Fluorene	*50*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Detected Semivolatile Organics														
Naphthalene	10	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Phenanthrene	*50*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Phenol	1	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Pyrene	*50*	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7 J	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Total Carcinogenic PAHs	- -	<10	<5.0	<5.0	<10	<5.0	<5.6	<4.7	<5.0	<9.0	<24	<4.8	<5.0	<5.0
Total PAHs	- -	<10	<5.0	<5.0	<10	<5.0	<11	<9.4	<10	<9.0	<24	<9.6	<10	<10
Total SVOCs	- -	<150	<140	<140	<140	<140	<11	<9.4	0.31 J	<140	<740	<9.6	0.57 J	0.32 J
Detected Inorganics														
Aluminum	- -	NA	NA	NA	NA	NA	1,700	2,000	<200	NA	NA	<200	<200	<200
Arsenic	25	<10.0	<10.0	NA	<10.0	<10.0	<10.0	<10.0	<15.0	<10.0 J	<10.0	<10.0	<10.0	<15.0
Barium	1,000	73.4	87.1	NA	79.2	92.9	81.0	93.0	93.0	81.2	85.6	49.0	34.0	62.0
Cadmium	5	<1.00	<1.00	NA	<1.00	<1.00	<1.00	<0.500	<2.00	<1.00	<1.00	<1.00	<0.500	<2.00
Calcium	- -	NA	NA	NA	NA	NA	137,000	150,000	149,000	NA	NA	108,000	79,600	116,000
Chromium	50	<4.00	<4.00	NA	<4.00	<4.00	2.60 J	4.50	<4.00	<4.00	<4.00	3.20 J	2.40 J	1.70 J
Cobalt	- -	NA	NA	NA	NA	NA	1.70 J	1.30 J	<4.00	NA	NA	<4.00	<4.00	<4.00
Copper	200	NA	NA	NA	NA	NA	3.30 J	5.20 J	1.90 J	NA	NA	<10.0	<10.0	7.10 J
Cyanide	200	71.3	168 J	NA	33.3	66.0 J	150	100	88	**1,650**	**269 J**	21.0	26.0	60
Iron	300	NA	NA	NA	NA	NA	**1,900**	**2,800**	130	NA	NA	<50.0	46.0 J	84.0
Lead	25	<5.00	<5.00	NA	<5.00	<5.00	<5.00	<5.00	<10.0	<5.00	<5.00	<5.00	<5.00	<10.0
Magnesium	- -	NA	NA	NA	NA	NA	23,300	24,500	25,900	NA	NA	14,400	11,000	19,700
Manganese	300	NA	NA	NA	NA	NA	**660**	**660**	**310**	NA	NA	<3.00	3.30	9.30
Nickel	100	NA	NA	NA	NA	NA	2.50 J	3.80 J	<10.0	NA	NA	<10.0	<10.0	<10.0
Potassium	- -	NA	NA	NA	NA	NA	10,000	8,900	8,400	NA	NA	9,400	7,400	8,900
Selenium	10	<15.0	<15.0	NA	<15.0	<15.0	<15.0	<15.0	<25.0	<15.0	**20.6**	<15.0	<15.0	<25.0
Sodium	- -	NA	NA	NA	NA	NA	116,000	137,000	119,000	NA	NA	46,500	42,300	136,000
Thallium	- -	NA	NA	NA	NA	NA	<20.0	<20.0	<20.0	NA	NA	<20.0	<20.0	<20.0
Vanadium	- -	NA	NA	NA	NA	NA	3.10 J	2.70 J	<5.00	NA	NA	<5.00	<5.00	<5.00
Zinc	*2,000*	NA	NA	NA	NA	NA	5.90 J	11.0	<10.0 B	NA	NA	<10.0	<10.0	<10.0 B
Detected PCBs														
Aroclor 1248	0.09	<0.50	<0.048	NA	<0.48	<0.048	<0.055	<0.048	<0.048	<0.47	<0.047	<0.059	<0.049	<0.048
Aroclor 1254	0.09	<0.50	<0.048	NA	<0.48	<0.048	<0.055	<0.048	<0.048	<0.47	**0.16**	<0.059	<0.049	<0.048
Total PCBs	- -	<0.50	<0.048	NA	<0.48	<0.048	<0.055	<0.048	<0.048	<0.47	0.16	<0.059	<0.049	<0.048

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	MW-5D						MW-6					
Date Collected:	*Guidance* Values	07/26/06	01/18/08	05/15/08	07/17/12	07/01/13	07/29/14	06/27/06	07/26/06	01/17/08	07/20/12	07/01/13	07/28/14
Detected Volatile Organics													
1,1,1-Trichloroethane	5	<5.0 J	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
1,2-Dichloroethene (Total)	- -	<10	<50 [<10]	<10 [<10]	NA	NA	NA	<10	<10 [<10]	<40	NA	NA	NA
Acetone	*50*	<25 J	22 J [10 J]	13 J [11 J]	20	<20	3.7 J	5.0 J	<25 [<25]	13 J	<10 [<10]	3.0 J	<10 J
Benzene	1	**31**	<25 [<5.0]	**3.0 J [4.0 J]**	**8.8**	**90**	**6.3**	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Bromodichloromethane	*50*	<5.0	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0	1.0 J	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Bromoform	*50*	5.0 J	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0 J	<1.0 J	<5.0	<5.0 J [<5.0 J]	<20	<1.0 J [<1.0 J]	<1.0	<1.0 J
Bromomethane	5	<5.0	<25 J [<5.0]	<5.0 [<5.0]	<2.0	<2.0	1.1	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Carbon disulfide	- -	<5.0	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0	<5.0	<5.0 [<5.0]	<20	2.2 J [2.4 J]	<1.0	<1.0
Chloroform	7	<5.0	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0	**8.0**	0.50 J [0.70 J]	<20	<1.0 [<1.0]	<1.0	<1.0
cis-1,2-Dichloroethene	5	NA	NA	NA	<2.0	<2.0	<1.0	NA	NA	NA	<1.0 [<1.0]	<1.0	<1.0
Cyclohexane	- -	NA	NA	NA	<2.0	0.47 J	<1.0	NA	NA	NA	<1.0 [<1.0]	<1.0	<1.0
Dichlorodifluoromethane	5	NA	NA	NA	<2.0	<2.0	<1.0	NA	NA	NA	<1.0 [<1.0]	<1.0	<1.0
Ethylbenzene	5	**98**	<25 J [0.90 J]	**6.0 [7.0]**	**13**	**45**	4.5	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Isopropylbenzene	5	NA	NA	NA	<2.0	**11**	<1.0	NA	NA	NA	<1.0 [<1.0]	<1.0	<1.0
Methyl ethyl ketone (MEK)	- -	<25 J	<120 J [<25]	1.0 J [1.0 J]	<20	<20	<10	<25	<25 [<25]	<100	<10 [<10]	<10	<10
Methyl tert-butyl ether	- -	<5.0 J	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Methylcyclohexane	- -	NA	NA	NA	<2.0	<2.0	0.25 J	NA	NA	NA	<1.0 [<1.0]	<1.0	<1.0
Tetrachloroethene	5	<5.0 J	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Toluene	5	**28**	<25 [<5.0]	2.0 J [2.0 J]	**7.7**	2.3	1.3	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Total Xylenes	5	**280**	<75 J [2.0 J]	**17 [20]**	**110**	**180**	**40**	<15	<15 [<15]	<60	<2.0 [<2.0]	<2.0	<2.0
Trichloroethene	5	<5.0	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0
Vinyl chloride	2	<5.0 J	<25 [<5.0]	<5.0 [<5.0]	<2.0	<2.0	<1.0 J	<5.0	<5.0 [<5.0]	<20	<1.0 [<1.0]	<1.0	<1.0 J
Total BTEX	- -	440	<75 [2.9 J]	28 J [33 J]	140	320	52	<15	<15 [<15]	<60	<2.0 [<2.0]	<2.0	<2.0
Total VOCs	- -	440 J	22 J [13 J]	42 J [45 J]	160	330	57 J	14 J	0.50 J [0.70 J]	13 J	2.2 J [2.4 J]	3.0 J	<10
Detected Semivolatile Organics													
2,4-Dimethylphenol	*50*	<9.0	<5.0 [<5.0]	0.90 J [2.0 J]	1.6 J	5.0	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0
2-Methylnaphthalene	- -	120	0.60 J [2.0 J]	19 J [40 J]	17	3.3 J	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
2-Methylphenol	- -	<9.0	<5.0 [<5.0]	0.20 J [0.50 J]	<4.8	<4.6	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0
4,6-Dinitro-2-methylphenol	- -	<47	<10 [<10]	11 [<10]	<9.6	<9.3	<10	NA	<47 [<48]	<10	<9.5 [<9.5]	<9.6	<10 J
4-Methylphenol	- -	<9.0	<5.0 [<5.0]	<5.0 [0.50 J]	<9.6	<9.3	<10	NA	<9.0 [<10]	<5.0	<9.5 [<9.5]	<9.6	<10 J
Acenaphthene	20	**63**	**19 [21]**	**33 [50]**	**39**	**21**	8.4	NA	<9.0 [<10]	0.20 J	<4.7 [<4.8]	<4.8	<5.0 J
Acenaphthylene	- -	15	3.0 J [4.0 J]	4.0 J [6.0]	2.8 J	2.0 J	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Acetophenone	- -	<9.0	<5.0 [<5.0]	<5.0 [<5.0]	<4.8	0.93 J	0.54 J	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Anthracene	*50*	11	4.0 J [4.0 J]	5.0 [7.0]	3.3 J	1.1 J	0.53 J	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Benzo(a)anthracene	*0.002*	**1.0 J**	<5.0 [<5.0]	**0.30 J [0.40 J]**	**0.58 J**	**0.44 J**	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Benzo(a)pyrene	- -	0.50 J	<5.0 [<5.0]	<5.0 [<5.0]	<4.8	<4.6	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Benzo(b)fluoranthene	*0.002*	<9.0	<5.0 [<5.0]	<5.0 [<5.0]	<4.8	**0.32 J**	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0
Biphenyl	5	**14**	3.0 J [4.0 J]	**5.0 [10]**	**7.4**	<4.6	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Bis(2-ethylhexyl) phthalate	5	<9.0	<5.0 [<5.0]	<5.0 [<5.0]	<4.8	<4.6	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Carbazole	- -	NA	NA	NA	32	11	1.4 J	NA	NA	NA	<4.7 [<4.8]	<4.8	<5.0 J
Chrysene	*0.002*	**0.90 J**	<5.0 [<5.0]	<5.0 [<5.0]	**0.41 J**	**0.41 J**	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Dibenzofuran	- -	24	7.0 [7.0]	8.0 [14]	14	3.5 J	<10	NA	<9.0 [<10]	<5.0	<9.5 [<9.5]	<9.6	<10 J
Diethyl phthalate	*50*	<9.0	<5.0 [<5.0]	<5.0 [<5.0]	<4.8	<4.6	0.30 J	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	0.40 J

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	MW-5D						MW-6					
Date Collected:	*Guidance* Values	07/26/06	01/18/08	05/15/08	07/17/12	07/01/13	07/29/14	06/27/06	07/26/06	01/17/08	07/20/12	07/01/13	07/28/14
Di-n-butyl phthalate	50	<9.0	<5.0 [<5.0]	0.30 J [<5.0]	<4.8	0.63 J	<5.0	NA	<9.0 [<10]	0.30 J	<4.7 [<4.8]	0.36 J	<5.0 J
Fluoranthene	*50*	7.0 J	3.0 J [3.0 J]	4.0 J [6.0]	2.3 J	2.0 J	1.1 J	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Fluorene	*50*	40	12 [12]	16 [25]	14	5.5	1.2 J	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Detected Semivolatile Organics													
Naphthalene	10	**670 D**	**36 J [67 J]**	**280 DJ [710 DJ]**	**260 D**	3.4 J	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [2.2 J]	<4.8	<5.0 J
Phenanthrene	*50*	38	15 [16]	15 [24]	10	0.77 J	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Phenol	1	<9.0	<5.0 [<5.0]	<5.0 [0.70 J]	<4.8	<4.6	0.40 J	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0
Pyrene	*50*	5.0 J	2.0 J [2.0 J]	2.0 J [3.0 J]	1.6 J	1.6 J	0.68 J	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0 J
Total Carcinogenic PAHs	- -	2.4 J	<5.0 [<5.0]	0.30 J [0.40 J]	0.99 J	1.2 J	<5.0	NA	<9.0 [<10]	<5.0	<4.7 [<4.8]	<4.8	<5.0
Total PAHs	- -	960 J	90 J [130 J]	370 J [860 J]	350 J	40 J	11 J	NA	<9.0 [<10]	0.20 J	<9.5 [2.2 J]	<9.6	<10
Total SVOCs	- -	1,000 J	110 J [140 J]	400 J [900 J]	370 J	52 J	13 J	NA	<140 [<140]	0.50 J	<9.5 [2.2 J]	0.36 J	0.40 J
Detected Inorganics													
Aluminum	- -	NA	NA	NA	1,600	4,300	1,800	NA	NA	NA	160 J [170 J]	1,400	60.0 J
Arsenic	25	10.1 J	12.7 [12.7]	NA	<10.0	**180**	<15.0	NA	11.3 [11.3]	17.1	7.60 J [9.10 J]	12.0	7.50 J
Barium	1,000	689	**1,270 [1,290]**	NA	210	**1,200**	240	NA	136 [135]	197	140 [140]	130	170
Cadmium	5	<1.00	<1.00 [<1.00]	NA	2.10	3.40	1.30 J	NA	<1.00 [<1.00]	<1.00	<1.00 [0.570 J]	**7.30**	0.520 J
Calcium	- -	NA	NA	NA	43,600	163,000	14,700	NA	NA	NA	157,000 [160,000]	153,000	198,000
Chromium	50	<4.00	<4.00 [<4.00]	NA	2.30 J	7.80	2.90 J	NA	<4.00 [<4.00]	<4.00	<4.00 [1.90 J]	3.60 J	<4.00
Cobalt	- -	NA	NA	NA	1.00 J	<4.00	0.670 J	NA	NA	NA	1.00 J [1.10 J]	1.30 J	0.770 J
Copper	200	NA	NA	NA	7.00 J	8.10 J	4.20 J	NA	NA	NA	1.70 J [<10.0]	2.60 J	<10.0
Cyanide	200	13.7	17.8 J [20.4 J]	NA	5.70 J	12.0	5.5 J	56.6 J	55.0 [<10.0]	71.2 J	63.0 [63.0]	54.0	45
Iron	300	NA	NA	NA	**2,000**	**10,900**	**1,800**	NA	NA	NA	**2,000 [2,100]**	**4,300**	**2,300**
Lead	25	<5.00	<5.00 [<5.00]	NA	**27.0**	**47.0**	13.0	NA	<5.00 [<5.00]	<5.00	<5.00 [<5.00]	3.90 J	<10.0
Magnesium	- -	NA	NA	NA	2,000	39,700	4,600	NA	NA	NA	10,400 [10,600]	11,100	15,900
Manganese	300	NA	NA	NA	150	**2,000**	42.0	NA	NA	NA	**5,700 [5,800]**	**6,100**	**8,700**
Nickel	100	NA	NA	NA	3.90 J	23.0	2.80 J	NA	NA	NA	<10.0 B [<10.0 B]	7.00 J	2.10 J
Potassium	- -	NA	NA	NA	14,500	8,200	25,200	NA	NA	NA	16,800 [17,200]	17,200	18,800
Selenium	10	<15.0	<15.0 [<15.0]	NA	<15.0	**86.0**	<25.0	NA	<15.0 [<15.0]	<15.0	<15.0 [<15.0]	<15.0	<25.0
Sodium	- -	NA	NA	NA	41,300	101,000	143,000	NA	NA	NA	340,000 [348,000]	240,000	273,000
Thallium	- -	NA	NA	NA	<20.0	68.0	<20.0	NA	NA	NA	<20.0 [<20.0]	<20.0	<20.0
Vanadium	- -	NA	NA	NA	3.70 J	6.80	2.70 J	NA	NA	NA	4.80 J [5.00]	2.50 J	<5.00
Zinc	*2,000*	NA	NA	NA	27.0	43.0	17.0	NA	NA	NA	<10.0 B [<10.0 B]	19.0	<10.0 B
Detected PCBs													
Aroclor 1248	0.09	<0.47	<0.047 [<0.047]	NA	<0.053	<0.048	<0.048	<0.60	**<0.48 [0.52]**	<0.048	<0.048 [<0.048]	<0.048	<0.048
Aroclor 1254	0.09	<0.47	<0.047 [<0.047]	NA	<0.053	<0.048	0.030 J	<0.60	**<0.48 [0.30 J]**	<0.048	<0.048 [<0.048]	<0.048	<0.048
Total PCBs	- -	<0.47	<0.047 [<0.047]	NA	<0.053	<0.048	0.030 J	<0.60	<0.48 [0.82 J]	<0.048	<0.048 [<0.048]	<0.048	<0.048

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	MW-6S						MW-7			MW-7D				MW
Date Collected:	*Guidance* Values	06/27/06	07/26/06	01/17/08	07/20/12	07/01/13	07/28/14	06/26/06	07/27/06	01/24/08	06/27/06	07/27/06	01/24/08	07/20/12	07/01/13
Detected Volatile Organics															
1,1,1-Trichloroethane	5	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	<5.0	<5.0 J	<5.0	<5.0	<5.0 J	<5.0	<1.0	<1.0 [<1.0]
1,2-Dichloroethene (Total)	- -	<10 [<10]	<10	<40	NA	NA	NA	14	12	<10	<10	<10	<10	NA	NA
Acetone	*50*	<25 [<25]	<25	<100	<10	<10	<10 J	4.0 J	<25 J	<25	3.0 J	<25 J	<25	3.0 J	<10 [<10]
Benzene	1	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	**8.0**	**5.0**	0.70 J	<1.0	<1.0 [<1.0]
Bromodichloromethane	*50*	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.47 J	<1.0 [<1.0]
Bromoform	*50*	<5.0 [<5.0]	<5.0 J	<20	<1.0 J	<1.0	<1.0 J	<5.0	<5.0 J	<5.0	<5.0	<5.0 J	<5.0	<1.0 J	<1.0 [<1.0]
Bromomethane	5	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0 J	<5.0	<5.0	<5.0 J	<1.0	<1.0 [<1.0]
Carbon disulfide	- -	<5.0 [<5.0]	<5.0	<20	<1.0 J	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0 J	<1.0 [<1.0]
Chloroform	7	0.50 J [0.60 J]	1.0 J	<20	0.42 J	<1.0	<1.0	0.80 J	<5.0	<5.0	<5.0	<5.0	<5.0	3.6	<1.0 [<1.0]
cis-1,2-Dichloroethene	5	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	<1.0	<1.0 [<1.0]
Cyclohexane	- -	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	<1.0	<1.0 [<1.0]
Dichlorodifluoromethane	5	NA	NA	NA	<1.0	0.85 J	<1.0	NA	NA	NA	NA	NA	NA	<1.0	<1.0 [<1.0]
Ethylbenzene	5	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0 [<1.0]
Isopropylbenzene	5	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	<1.0	<1.0 [<1.0]
Methyl ethyl ketone (MEK)	- -	<25 [<25]	<25	<100	<10	<10	<10	<25	<25 J	<25	<25	<25 J	<25	<10	<10 [<10]
Methyl tert-butyl ether	- -	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	<5.0	<5.0 J	<5.0	1.0 J	0.70 J	<5.0	<1.0	<1.0 [<1.0]
Methylcyclohexane	- -	NA	NA	NA	<1.0	<1.0	<1.0	NA	NA	NA	NA	NA	NA	<1.0	<1.0 [<1.0]
Tetrachloroethene	5	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	2.0 J	**6.0 J**	<5.0	<5.0	<5.0 J	<5.0	<1.0	<1.0 [<1.0]
Toluene	5	<5.0 J [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	0.95 J	<1.0 [<1.0]
Total Xylenes	5	<15 [<15]	<15	<60	<2.0	<2.0	<2.0	<15	<15	<15	<15	<15	<15	0.68 J	<2.0 [<2.0]
Trichloroethene	5	<5.0 J [<5.0]	<5.0	<20	<1.0	<1.0	<1.0	3.0 J	4.0 J	<5.0	<5.0	<5.0	<5.0	<1.0	<1.0 [<1.0]
Vinyl chloride	2	<5.0 [<5.0]	<5.0	<20	<1.0	<1.0	<1.0 J	**5.0**	**3.0 J**	<5.0	<5.0	<5.0 J	<5.0	<1.0	<1.0 [<1.0]
Total BTEX	- -	<15 [<15]	<15	<60	<2.0	<2.0	<2.0	<15	<15	<15	8.0	5.0	0.70 J	1.6 J	<2.0 [<2.0]
Total VOCs	- -	0.50 J [0.60 J]	1.0 J	<100	0.42 J	0.85 J	<10	29 J	25 J	<25	12 J	5.7 J	0.70 J	8.7 J	<10 [<10]
Detected Semivolatile Organics															
2,4-Dimethylphenol	*50*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
2-Methylnaphthalene	- -	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
2-Methylphenol	- -	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
4,6-Dinitro-2-methylphenol	- -	NA	<47	<10	<9.5	<9.6	<10	NA	<48	<10	NA	<47	<9.0	<9.7	<9.3 [<9.2]
4-Methylphenol	- -	NA	<9.0	<5.0	<9.5	<9.6	<10	NA	<10	<5.0	NA	<9.0	<5.0	<9.7	<9.3 [<9.2]
Acenaphthene	20	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Acenaphthylene	- -	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Acetophenone	- -	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Anthracene	*50*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Benzo(a)anthracene	*0.002*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Benzo(a)pyrene	- -	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Benzo(b)fluoranthene	*0.002*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Biphenyl	5	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Bis(2-ethylhexyl) phthalate	5	NA	<9.0	<5.0	<4.7	<4.8	2.1 J	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Carbazole	- -	NA	NA	NA	<4.7	<4.8	<5.0	NA	NA	NA	NA	NA	NA	<4.9	<4.6 [<4.6]
Chrysene	*0.002*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Dibenzofuran	- -	NA	<9.0	<5.0	<9.5	<9.6	<10	NA	<10	<5.0	NA	<9.0	<5.0	<9.7	<9.3 [<9.2]
Diethyl phthalate	*50*	NA	<9.0	<5.0	<4.7	<4.8	0.37 J	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	MW-6S						MW-7			MW-7D				MW
Date Collected:	*Guidance* Values	06/27/06	07/26/06	01/17/08	07/20/12	07/01/13	07/28/14	06/26/06	07/27/06	01/24/08	06/27/06	07/27/06	01/24/08	07/20/12	07/01/13
Di-n-butyl phthalate	50	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	0.31 J [0.41 J]
Fluoranthene	*50*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Fluorene	*50*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Detected Semivolatile Organics															
Naphthalene	10	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Phenanthrene	*50*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Phenol	1	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Pyrene	*50*	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Total Carcinogenic PAHs	- -	NA	<9.0	<5.0	<4.7	<4.8	<5.0	NA	<10	<5.0	NA	<9.0	<5.0	<4.9	<4.6 [<4.6]
Total PAHs	- -	NA	<9.0	<5.0	<9.5	<9.6	<10	NA	<10	<5.0	NA	<9.0	<5.0	<9.7	<9.3 [<9.2]
Total SVOCs	- -	NA	<140	<140	<9.5	<9.6	2.5 J	NA	<140	<150	NA	<140	<140	<9.7	0.31 J [0.41 J]
Detected Inorganics															
Aluminum	- -	NA	NA	NA	86.0 J	130 J	<200	NA	NA	NA	NA	NA	NA	860	83.0 J [77.0 J]
Arsenic	25	NA	<10.0	<10.0	5.80 J	6.60 J	<15.0	NA	**25.8**	**62.2**	NA	14.5 J	16.9	<10.0	<10.0 [6.50 J]
Barium	1,000	NA	73.9	97.7	93.0	220	290	NA	419	552	NA	258	330	26.0	250 [240]
Cadmium	5	NA	<1.00	<1.00	0.860 J	2.10	0.650 J	NA	<1.00	<1.00	NA	<1.00	<1.00	<1.00	0.570 J [<0.500]
Calcium	- -	NA	NA	NA	200,000	412,000	462,000	NA	NA	NA	NA	NA	NA	45,700	211,000 [206,000]
Chromium	50	NA	<4.00	<4.00	3.50 J	1.70 J	<4.00	NA	<4.00	<4.00	NA	<4.00	<4.00	5.80	1.90 J [<4.00]
Cobalt	- -	NA	NA	NA	4.50	7.20	7.70	NA	NA	NA	NA	NA	NA	<4.00	0.960 J [0.750 J]
Copper	200	NA	NA	NA	2.10 J	<10.0	2.00 J	NA	NA	NA	NA	NA	NA	3.70 J	<10.0 [<10.0]
Cyanide	200	63.4 J [55.5 J]	112	148 J	34.0	23.0	37	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0 [<10.0]
Iron	300	NA	NA	NA	**3,400**	**11,600**	**6,300**	NA	NA	NA	NA	NA	NA	47.0 J	200 [200]
Lead	25	NA	<5.00	<5.00	4.20 J	<5.00	4.60 J	NA	<5.00	<5.00	NA	<5.00	<5.00	<5.00	<5.00 [<5.00]
Magnesium	- -	NA	NA	NA	18,200	44,500	52,300	NA	NA	NA	NA	NA	NA	3,400	39,200 [38,100]
Manganese	300	NA	NA	NA	**630**	**3,500**	**3,000**	NA	NA	NA	NA	NA	NA	5.60	**1,800 [1,700]**
Nickel	100	NA	NA	NA	12.0	6.40 J	7.50 J	NA	NA	NA	NA	NA	NA	<10.0	2.50 J [2.70 J]
Potassium	- -	NA	NA	NA	9,500	10,900	12,800	NA	NA	NA	NA	NA	NA	10,600	11,400 [11,100]
Selenium	10	NA	<15.0	**16.2**	<15.0	<15.0	<25.0	NA	<15.0	<15.0	NA	<15.0	<15.0	<15.0	<15.0 [<15.0]
Sodium	- -	NA	NA	NA	116,000	422,000	722,000	NA	NA	NA	NA	NA	NA	34,300	254,000 [246,000]
Thallium	- -	NA	NA	NA	<20.0	<20.0	<20.0	NA	NA	NA	NA	NA	NA	<20.0	<20.0 [<20.0]
Vanadium	- -	NA	NA	NA	1.50 J	<5.00	<5.00	NA	NA	NA	NA	NA	NA	2.10 J	<5.00 [<5.00]
Zinc	*2,000*	NA	NA	NA	12.0	36.0	38.0	NA	NA	NA	NA	NA	NA	28.0	160 [160]
Detected PCBs															
Aroclor 1248	0.09	<0.48 [<0.48]	**0.37 J**	<0.050	<0.048	<0.047	<0.048	<0.47	<0.47	<0.048	<0.57	<0.47	<0.047	<0.051	<0.048 [<0.047]
Aroclor 1254	0.09	<0.48 [<0.48]	**0.21 J**	<0.050	<0.048	**0.15 J**	<0.048	<0.47	<0.47	<0.048	<0.57	<0.47	<0.047	<0.051	<0.048 [<0.047]
Total PCBs	- -	<0.48 [<0.48]	0.58 J	<0.050	<0.048	0.15 J	<0.048	<0.47	<0.47	<0.048	<0.57	<0.47	<0.047	<0.30	<0.048 [<0.047]

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	-7D	MW-7R			MW-8		MW-8D	
Date Collected:	*Guidance* Values	07/28/14	07/20/12	07/01/13	07/28/14	07/26/06	01/18/08	07/25/06	01/17/08
Detected Volatile Organics									
1,1,1-Trichloroethane	5	<1.0 [<1.0]	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
1,2-Dichloroethene (Total)	- -	NA	NA	NA	NA	<10	<10	<10	<10
Acetone	*50*	<10 J [3.0 J]	<10	<10	<10 J	<25	<25	<25 J	<25
Benzene	1	<1.0 [<1.0]	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Bromodichloromethane	*50*	<1.0 [<1.0]	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Bromoform	*50*	<1.0 J [<1.0 J]	<1.0 J	<1.0	<1.0 J	<5.0 J	<5.0	<5.0	<5.0
Bromomethane	5	<1.0 [<1.0]	<1.0	<1.0	<1.0	<5.0	<5.0 J	<5.0	<5.0
Carbon disulfide	- -	<1.0 [<1.0]	<1.0 J	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Chloroform	7	<1.0 [<1.0]	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethene	5	<1.0 [<1.0]	3.4	2.4	1.9	NA	NA	NA	NA
Cyclohexane	- -	<1.0 [<1.0]	<1.0	<1.0	<1.0	NA	NA	NA	NA
Dichlorodifluoromethane	5	<1.0 [<1.0]	<1.0	<1.0	<1.0	NA	NA	NA	NA
Ethylbenzene	5	<1.0 [<1.0]	<1.0	<1.0	<1.0	0.50 J	<5.0	<5.0	<5.0
Isopropylbenzene	5	<1.0 [<1.0]	<1.0	<1.0	<1.0	NA	NA	NA	NA
Methyl ethyl ketone (MEK)	- -	<10 [<10]	<10	<10	<10	<25	5.0 J	<25	<25
Methyl tert-butyl ether	- -	<1.0 [<1.0]	<1.0	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Methylcyclohexane	- -	<1.0 [<1.0]	<1.0	<1.0	<1.0	NA	NA	NA	NA
Tetrachloroethene	5	<1.0 [<1.0]	4.3	**5.9**	4.5	<5.0	<5.0	<5.0	<5.0
Toluene	5	<1.0 [<1.0]	0.74 J	<1.0	<1.0	<5.0	<5.0	<5.0	<5.0
Total Xylenes	5	<2.0 [<2.0]	<2.0	<2.0	<2.0	<15	<15	<15	<15
Trichloroethene	5	<1.0 [<1.0]	0.98 J	0.87 J	0.83 J	<5.0	<5.0	<5.0	<5.0
Vinyl chloride	2	<1.0 J [<1.0 J]	<1.0	<1.0	<1.0 J	<5.0	<5.0	<5.0	<5.0
Total BTEX	- -	<2.0 [<2.0]	0.74 J	<2.0	<2.0	0.50 J	<15	<15	<15
Total VOCs	- -	<10 [3.0 J]	9.4 J	9.2 J	7.2 J	0.50 J	5.0 J	<25	<25
Detected Semivolatile Organics									
2,4-Dimethylphenol	*50*	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
2-Methylnaphthalene	- -	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	1.0 J	<10	<5.0
2-Methylphenol	- -	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
4,6-Dinitro-2-methylphenol	- -	<10 [<10]	<9.6	<9.1	<10	<47	<10	<48	<9.0
4-Methylphenol	- -	<10 [<10]	<9.6	<9.1	<10	<9.0	<5.0	<10	<5.0
Acenaphthene	20	<5.0 [<5.0]	<4.8 J	<4.6	<5.0	<9.0	0.80 J	<10	<5.0
Acenaphthylene	- -	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Acetophenone	- -	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Anthracene	*50*	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Benzo(a)anthracene	*0.002*	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Benzo(a)pyrene	- -	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Benzo(b)fluoranthene	*0.002*	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Biphenyl	5	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Bis(2-ethylhexyl) phthalate	5	<5.0 [<5.0]	<4.8 J	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Carbazole	- -	<5.0 [<5.0]	<4.8	<4.6	<5.0	NA	NA	NA	NA
Chrysene	*0.002*	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Dibenzofuran	- -	<10 [<10]	<9.6	<9.1	<10	<9.0	0.30 J	<10	<5.0
Diethyl phthalate	*50*	0.38 J [0.36 J]	<4.8	<4.6	0.39 J	<9.0	<5.0	<10	<5.0

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Location ID:	NYSDEC Water Standard/	-7D	MW-7R			MW-8		MW-8D	
Date Collected:	*Guidance* Values	07/28/14	07/20/12	07/01/13	07/28/14	07/26/06	01/18/08	07/25/06	01/17/08
Di-n-butyl phthalate	50	<5.0 [<5.0]	<4.8	0.35 J	<5.0	<9.0	<5.0	<10	<5.0
Fluoranthene	*50*	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Fluorene	*50*	<5.0 [<5.0]	<4.8 J	<4.6	<5.0	<9.0	0.50 J	<10	<5.0
Detected Semivolatile Organics									
Naphthalene	10	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Phenanthrene	*50*	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	0.30 J	<10	<5.0
Phenol	1	<5.0 [<5.0]	<4.8 J	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Pyrene	*50*	<5.0 [<5.0]	<4.8 J	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Total Carcinogenic PAHs	- -	<5.0 [<5.0]	<4.8	<4.6	<5.0	<9.0	<5.0	<10	<5.0
Total PAHs	- -	<10 [<10]	<9.6	<9.1	<10	<9.0	2.4 J	<10	<5.0
Total SVOCs	- -	0.38 J [0.36 J]	<9.6	0.35 J	0.39 J	<140	2.9 J	<140	<140
Detected Inorganics									
Aluminum	- -	<200 [<200]	940	<200	<200	NA	NA	NA	NA
Arsenic	25	5.60 J [<15.0]	<10.0	<10.0	<15.0	**43.6**	<10.0	<10.0	<10.0
Barium	1,000	210 [200]	200	230	250	295	224	**1,110**	**1,590**
Cadmium	5	0.760 J [0.920 J]	<1.00	<0.500	<2.00	<1.00	<1.00	<1.00	<1.00
Calcium	- -	169,000 [170,000]	105,000	143,000	153,000	NA	NA	NA	NA
Chromium	50	<4.00 [<4.00]	2.50 J	1.80 J	<4.00	<4.00	<4.00	<4.00	<4.00
Cobalt	- -	<4.00 [<4.00]	1.10 J	<4.00	0.830 J	NA	NA	NA	NA
Copper	200	<10.0 [<10.0]	4.10 J	1.80 J	<10.0	NA	NA	NA	NA
Cyanide	200	<10 [<10]	5.50 J	<10.0	<10	18.3	11.8 J	13.8	<10.0
Iron	300	45.0 J [42.0 J]	**2,100**	91.0	<50.0	NA	NA	NA	NA
Lead	25	3.60 J [<10.0]	4.40 J	<5.00	<10.0	<5.00	<5.00	<5.00	<5.00
Magnesium	- -	35,200 [34,700]	17,800	25,200	29,000	NA	NA	NA	NA
Manganese	300	**1,100 [1,100]**	**5,100**	**5,300**	**5,700**	NA	NA	NA	NA
Nickel	100	2.20 J [1.90 J]	<10.0 B	2.60 J	2.70 J	NA	NA	NA	NA
Potassium	- -	8,200 [8,000]	14,100	13,900	13,800	NA	NA	NA	NA
Selenium	10	<25.0 [<25.0]	<15.0	<15.0	<25.0	<15.0	<15.0	<15.0	<15.0
Sodium	- -	298,000 [299,000]	146,000	150,000	156,000	NA	NA	NA	NA
Thallium	- -	<20.0 [<20.0]	<20.0	<20.0	<20.0	NA	NA	NA	NA
Vanadium	- -	<5.00 [<5.00]	5.20	<5.00	<5.00	NA	NA	NA	NA
Zinc	*2,000*	59.0 [59.0]	<100 B	3.60 J	<10.0 B	NA	NA	NA	NA
Detected PCBs									
Aroclor 1248	0.09	<0.047 [<0.047]	<0.052	<0.047	<0.048	<0.48	<0.048	<0.48	<0.048
Aroclor 1254	0.09	<0.047 [<0.047]	<0.052	<0.047	<0.048	<0.48	<0.048	<0.48	<0.048
Total PCBs	- -	<0.047 [<0.047]	<0.052	<0.047	<0.048	<0.48	<0.048	<0.48	<0.048

TABLE 3
GROUNDWATER ANALYTICAL RESULTS FOR DETECTED CONSTITUENTS (ppb)

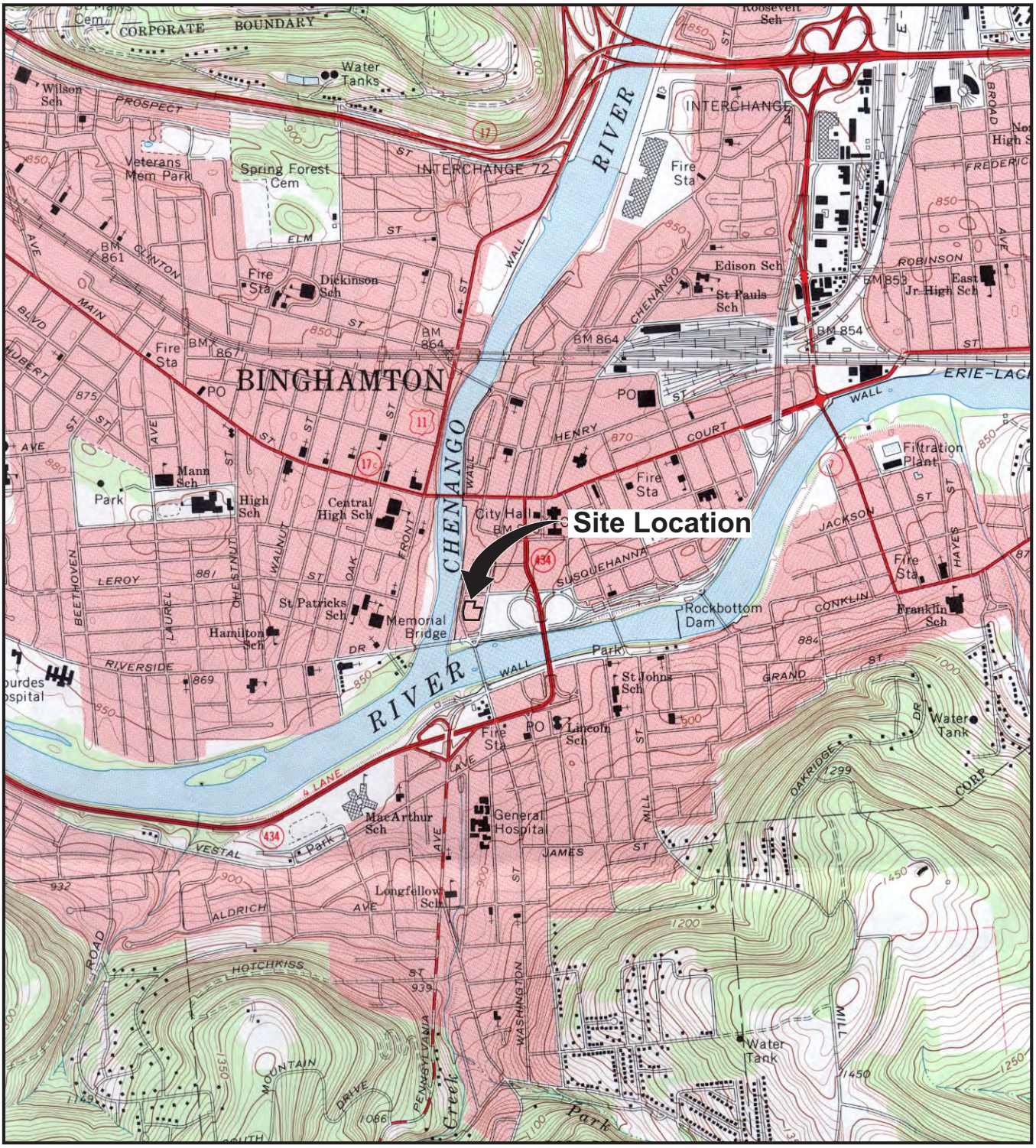
2014 GROUNDWATER MONITORING
NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

Notes:

1. Samples were collected by ARCADIS on the dates indicated.
2. VOCs = Target Compound List (TCL) Volatile Organic Compounds and Methyl-t-Butyl Ether (MTBE).
3. BTEX = Benzene, toluene, ethylbenzene and xylenes.
4. SVOCs = TCL Semi-Volatile Organic Compounds and Pyridine.
6. PAHs = Polycyclic aromatic hydrocarbons.
7. PCBs = Polychlorinated Biphenyls.
8. Laboratory analysis was performed by TestAmerica Laboratories, Inc. (TestAmerica), formerly Severn Trent Laboratories, Inc. (STL), of Buffalo, New York.
   - VOCs using United States Environmental Protection Agency (USEPA) SW-846 Method 8260B;
   - SVOCs using USEPA SW-846 Method 8270C;
   - Inorganics using USEPA SW-846 Methods 6010, 7470 and 9012A; and
   - PCBs using USEPA SW-846 Method 8082.
9. Total Carcinogenic PAHs consist of Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene.
10. Only those constituents detected in one or more samples are summarized.
11. Concentrations reported in parts per billion (ppb), which is equivalent to micrograms per liter (ug/L).
12. Field duplicate sample results are presented in brackets.
13. Data qualifiers are defined as follows:
    < = Constituent not detected at a concentration above the reported detection limit.
    B (Inorganic) - Indicates an estimated value between the instrument detection limit and the Reporting Limit (RL).
    D - Compound quantitated using a secondary dilution.
    J - Indicates that the associated numerical value is an estimated concentration.
14. NYSDEC groundwater standards/guidance values (guidance values shown in italics) are from the NYSDEC Division of Water, Technical and Operational Guidance Series (TOGS) document titled "Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations" (TOGS 1.1.1) dated June 1998, revised April 2000 and June 2004.
15. Shading and bolding indicates that the result exceeds the TOGS 1.1.1 Water Quality Standard/Guidance Value.
16. - - = No TOGS 1.1.1 Water Quality Standard/Guidance Value listed.
17. NA = Not Analyzed.
18. Results have been validated.

ARCADIS

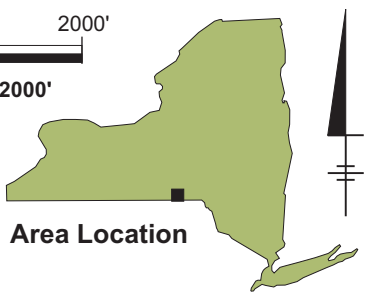
Figures



REFERENCE: BASE MAP USGS 7.5 MIN. QUAD., BINGHAMTON WEST, NY, 1968, PHOTOINSPECTED 1976.

2000' 0 2000'

Approximate Scale: 1" = 2000'



NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK

SITE LOCATION MAP

ARCADIS

FIGURE
1

05/09/2013 SYRACUSE, NY-ENV/141-DJHOWES
B0013097/0004/00001/CDR/13097N01.CDR

MW-4	
Date	7/25/2006 | 1/18/2008
All Analytes	No Exceedances

MW-4R			
Date	7/17/2012	7/2/2013	7/28/2014
Inorganics			
Iron	**1,900**	**2,800**	130
Manganese	**660**	**660**	**310**

MW-1R	
Date	7/25/2006 | 1/18/2008
All Analytes	No Exceedances

MW-5D						
Date	7/26/2006	1/18/2008	5/15/2008	7/17/2012	7/1/2013	7/29/2014
VOCs						
Benzene	**31**	<25 [<5.0]	**3.0 J [4.0 J]**	**8.8**	**90**	**6.3**
Ethylbenzene	**98**	<25 J [0.90 J]	**6.0 [7.0]**	**13**	**45**	4.5
Isopropylbenzene	NA	NA	NA	<2.0	**11**	<1.0
Toluene	**28**	<25 [<5.0]	2.0 J [2.0 J]	**7.7**	2.3	1.3
Total Xylenes	**280**	<75 J [2.0 J]	**17 [20]**	**110**	**180**	**40**
SVOCs						
Acenaphthene	**63**	**19 [21]**	**33 [50]**	**39**	**21**	8.4
Benzo(a)anthracene	**1.0 J**	<5.0 [<5.0]	**0.30 J [0.40 J]**	**0.58 J**	**0.44 J**	<5.0
Benzo(b)fluoranthene	<9.0	<5.0 [<5.0]	<5.0 [<5.0]	<4.8	**0.32 J**	<5.0
Biphenyl	**14**	3.0 J [4.0 J]	**5.0 [10]**	**7.4**	<4.6	<5.0
Chrysene	**0.90 J**	<5.0 [<5.0]	<5.0 [<5.0]	**0.41 J**	**0.41 J**	<5.0
Naphthalene	**670 D**	**36 J [67 J]**	**280 DJ [710 DJ]**	**260 D**	3.4 J	<5.0
Inorganics						
Iron	NA	NA	NA	**2,000**	**10,900**	**1,800**
Manganese	NA	NA	NA	150	**2,000**	42.0
Arsenic	10.1 J	12.7 [12.7]	NA	<10.0	**180**	<15.0
Barium	689	**1,270 [1,290]**	NA	210	**1,200**	240
Lead	<5.00	<5.00 [<5.00]	NA	**27.0**	**47.0**	13.0
Selenium	<15.0	<15.0 [<15.0]	NA	<15.0	**86.0**	<25.0

MW-5					
Date	7/26/2006	1/18/2008	7/17/2012	7/2/2013	7/29/2014
VOCs					
Chloroform	<5.0	<5.0	2.9	**7.6**	0.80 J
Inorganics					
Cyanide	**1,650**	**269 J**	21.0	26.0	60
Selenium	<15.0	**20.6**	<15.0	<15.0	<25.0
PCBs					
Aroclor 1254	<0.47	**0.16**	<0.059	<0.049	<0.048

MW-6S						
Date	6/27/2006	7/26/2006	1/17/2008	7/20/2012	7/1/2013	7/28/2014
Inorganics						
Iron	NA	NA	NA	**3,400**	**11,600**	**6,300**
Manganese	NA	NA	NA	**630**	**3,500**	**3,000**
Selenium	NA	<15.0	**16.2**	<15.0	<15.0	<25.0
PCBs						
Aroclor 1248	<0.48 [<0.48]	**0.37 J**	<0.050	<0.048	<0.047	<0.048
Aroclor 1254	<0.48 [<0.48]	**0.21 J**	<0.050	<0.048	**0.15 J**	<0.048

MW-6						
Date	6/27/2006	7/26/2006	1/17/2008	7/20/2012	7/1/2013	7/28/2014
VOCs						
Chloroform	**8.0**	0.50 J [0.70 J]	<20	<1.0 [<1.0]	<1.0	<1.0
Inorganics						
Iron	NA	NA	NA	**2,000 [2,100]**	**4,300**	**2,300**
Manganese	NA	NA	NA	**5,700 [5,800]**	**6,100**	**8,700**
Cadmium	NA	<1.00 [<1.00]	<1.00	<1.00 [0.570 J]	**7.30**	0.520 J
PCBs						
Aroclor 1248	<0.60	**<0.48 [0.52]**	<0.048	<0.048 [<0.048]	<0.048	<0.048
Aroclor 1254	<0.60	**<0.48 [0.30 J]**	<0.048	<0.048 [<0.048]	<0.048	<0.048

MW-7				
Date	6/26/2006	7/27/2006	1/24/2008	
VOCs				
Tetrachloroethene	2.0 J	**6.0 J**	<5.0	
Vinyl chloride	**5.0**	**3.0 J**	<5.0	
Inorganics				
Arsenic	NA	**25.8**	**62.2**	

MW-7R			
Date	7/20/2012	7/1/2013	7/28/2014
VOCs			
Tetrachloroethene	4.3	**5.9**	4.5
Inorganics			
Iron	**2,100**	91.0	<50.0
Manganese	**5,100**	**5,300**	**5,700**

MW-7D						
Date	6/27/2006	7/27/2006	1/24/2008	7/20/2012	7/1/2013	7/28/2014
VOCs						
Benzene	**8.0**	**5.0**	0.70 J	<1.0	<1.0 [<1.0]	<1.0 [<1.0]
Inorganics						
Manganese	NA	NA	NA	5.60	**1,800 [1,700]**	**1,100 [1,100]**

MW-8		
Date	7/26/2006	1/18/2008
Inorganics		
Arsenic	**43.6**	<10.0

MW-8D		
Date	7/25/2006	1/17/2008
Inorganics		
Barium	**1,110**	**1,590**

MW-2	
Date	1/18/2008
All Analytes	No Exceedances

NYSDEC TOGS 1.1.1	
Constituent	
VOCs	
Benzene	Standard/*Guidance* Value
Chloroform	7
Ethylbenzene	5
Isopropylbenzene	5
Tetrachloroethene	5
Toluene	5
Total Xylenes	5
Vinyl chloride	2
SVOCs	
Acenaphthene	20
Benzo(a)anthracene	*0.002*
Biphenyl	5
Chrysene	*0.002*
Naphthalene	10
Inorganics	
Iron	300
Manganese	300
Arsenic	25
Barium	1,000
Cyanide	200
Lead	25
Selenium	10
PCBs	
Aroclor 1248	0.09
Aroclor 1254	0.09

MW-4R
MW-1R
MW-5D
MW-5
MW-6S
MW-6
MW-7R
MW-7D
MW-8
SB-12/MW-8
MW-8D
MW-2
SB-28/MW-9
MW-3
PZ-1
FORMER LOCATION OF WATER STREET
WASHINGTON STREET
RIVERSIDE DRIVE
FLOW
CHENANGO RIVER

0 60' 120'
GRAPHIC SCALE

LEGEND:

- EXISTING MONITORING WELL LOCATION
- EXISTING PIEZOMETER LOCATION
- FORMER MONITORING WELL LOCATION
- FORMER EXCAVATION AREAS 1 & 2 (21–FOOT AVERAGE DEPTH)
- FORMER EXCAVATION AREA 3 (14–FOOT AVERAGE DEPTH)
- FORMER EXCAVATION AREA 4 (2–FOOT AVERAGE DEPTH)
- FORMER EXCAVATION AREA 5 (SURFACE COVER [ASPHALT/CONCRETE] REMOVAL)
- FORMER TAR WELL EXCAVATION (16–FOOT AVERAGE DEPTH)
- FORMER WASHINGTON STREET MGP PROPERTY
- FORMER HOLDERS AND TAR WELL
- FENCE

NOTES:

1. BASE MAP INFORMATION WAS PROVIDED BY NYSEG AND NYSEG DRAWINGS TITLED "WASHINGTON STREET MGP SITE, CITY OF BINGHAMTON, BROOME COUNTY NEW YORK" RECEIVED 8/3/06 & 8/17/06 FILE INDEX: BING_WASH2.DGN.
2. LOCATIONS OF FORMER HOLDERS ARE BASED ON SURVEY PERFORMED BY KEYSTONE ASSOCIATES DURING REMEDIAL ACTIVITIES IN 2010.
3. LOCATION AND SIZE OF FORMER TAR WELL IS APPROXIMATE, BASED ON FIELD OBSERVATIONS.
4. NYSDEC TOGS 1.1.1 = GROUNDWATER STANDARDS/GUIDANCE VALUES FOR CLASS GA WATER AS PRESENTED IN THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1, DATED JUNE 1998, LAST UPDATED JUNE 2004.
5. SHADING AND BOLDING INDICATES THAT THE VALUE EXCEEDS THE TOGS 1.1.1 STANDARD/GUIDANCE VALUE.
6. ALL CONCENTRATIONS ARE PRESENTED IN PARTS PER BILLION (PPB), WHICH ARE EQUIVALENT TO MICROGRAMS PER LITER (ug/L).
7. FIELD DUPLICATE SAMPLE RESULTS ARE PRESENTED IN BRACKETS [].
8. J = THE COMPOUND WAS POSITIVELY IDENTIFIED; HOWEVER, THE ASSOCIATED VALUE IS AN ESTIMATED CONCENTRATION.
9. D = COMPOUND QUANTITATED USING A SECONDARY DILUTION.
10. < = CONSTITUENT WAS NOT DETECTED AT A CONCENTRATION EXCEEDING THE PRESENTED LABORATORY DETECTION LIMIT.
11. VOCs = VOLATILE ORGANIC COMPOUNDS.
12. SVOCs = SEMI–VOLATILE ORGANIC COMPOUNDS.
13. PCBs = POLYCHLORINATED BIPHENYLS.
14. NA = NOT ANALYZED.

NEW YORK STATE ELECTRIC & GAS CORPORATION
WASHINGTON STREET FORMER MGP SITE
BINGHAMTON, NEW YORK
2014 PERIODIC GROUNDWATER MONITORING

GROUNDWATER ANALYTICAL RESULTS EXCEEDING STANDARDS/ GUIDANCE VALUES

ARCADIS

FIGURE **2**

Attachment A

Groundwater Logs

W. Stephens GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~		Well ID: MW-4	
Client / Job Number: NYSEG	B0013047.0005	Date: 7/28/14	
Weather: Cloudy, Scattered showers mid 70's		Time in: 1430	Time out: 1600

Well Information

Depth to water:	22.41	(feet)	Well Type:	Flushmount	Stick-up
Total depth:	26.96	(feet)	Well Material:	Stainless Steel	PVC
Length of water column:	4.55	(feet)	Well locked:	Yes	No
Volume of water in well:	0.7	(gal)	Measuring point marke	Yes	No
Three well volumes:	2.1	(gal)	Well Diameter:	1" 2"	Other

Purging Information

					Unit Stability	
Purging Method:	Bailer	Peristaltic	Grundfos	Other:	pH	± 0.1
Tubing/Bailer Material:	St. Steel	Polyethylene	Teflon	Other:	DO	± 10%
Sampling Method:	Bailer	Peristaltic	Grundfos	Other:	Cond.	± 3.0%
Pump Start: 1440	Pumpe End:	Total Pump Duration:			ORP	± 10 mV
Total Volume Removed:	(gal)	Did well go dry?	Y N			
Water-Quality Meter: Horiba						

Parameter	1 1450	2 1455	3 1500	4 1505	5 1510	6 1515	7 1520	8 1525	1530
Total Volume Purged (mL)									
Rate (mL/min)	170	170	170	170	170	170	170	170	S
Depth to Water (ft)	22.71	22.81	22.84	22.87	22.90	22.91	22.91	22.91	A
pH	7.56	7.47	7.44	7.42	7.40	7.40	7.38	7.38	M
Temp (°C)	18.91	18.69	18.27	17.84	17.88	17.77	17.87	17.79	P
Conductivity (mS/cm)	1.53	1.51	1.47	1.45	1.44	1.44	1.43	1.44	L
Dissolved Oxygen	2.42	1.52	0.91	0.67	0.56	0.38	0.37	0.36	E
ORP (mV)	42	39	47	55	59	63	65	68	
Turbidity (NTU)	18.9	14.5	4.1	2.9	3.9	3.2	3.2	3.5	
Notes:									

Sampling Information

Analyses	#	Laboratory
VOC	3	
SVOC's	2	
PCB's	2	
Metals	1	
Cyanide	1	
Sample ID: MW-4		Sample Time: 1530
MS/MSD:	Yes No	
Duplicate:	Yes No	
Duplicate ID:		Duplicate Time:
Chain of Custody Signed By:		

Conversion Factors				
gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft				

Problems/Observations

Clear, colorless, odorless

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ → N. Griffith / W. Stephens	Well ID: ~~MW-5S~~ MW-5S	MW-5	
Client / Job Number: BOD 180471.0005	Date: 7/29/14		
Weather: Cloudy 60°F	Time in: 0845	Time out: 1030	

Well Information

Depth to water:	20.65' (TIC)	(feet)	Well Type:	Flushmount	Stick-up
Total depth:	27.72	(feet)	Well Material:	Stainless Steel	PVC
Length of water column:	7.07	(feet)	Well locked:	Yes	No
Volume of water in well:	1.15	(gal)	Measuring point marke	Yes	No
Three well volumes:	3.45	(gal)	Well Diameter:	1"	2" Other

Purging Information

Purging Method:	Bailer	Peristaltic	Grundfos	Other:	
Tubing/Bailer Material:	St. Steel	Polyethylene	Teflon	Other:	
Sampling Method:	Bailer	Peristaltic	Grundfos	Other:	
Pump Start: 920	Pumpe End: 1015	Total Pump Duration:	55 min		
Total Volume Removed:	2.5 (gal)	Did well go dry?	Y/N		
Water-Quality Meter:	Horiba				

Unit Stability	
pH	± 0.1
DO	± 10%
Cond.	± 3.0%
ORP	± 10 mV

Parameter	935 [1]	940 [2]	945 [3]	950 [4]	955 [5]	1000 [6]	1005 [7]	1010 [8]
Total Volume Purged (mL)								
Rate (mL/min)	175	150	150	150	180	170	170	150
Depth to Water (ft)	20.66	20.66	20.66	20.66	20.66	20.66	20.66	20.66
pH	7.46	7.44	7.46	7.47	7.48	7.56	7.52	7.53
Temp (°C)	17.14	16.98	16.91	16.91	16.92	16.92	16.93	16.93
Conductivity (mS/cm)	1.25	1.23	1.24	1.24	1.25	1.28	1.29	1.29
Dissolved Oxygen	10.71	9.52	8.94	8.79	8.49	8.83	8.66	8.39
ORP (mV)	151	156	148	145	129	116	114	111
Turbidity (NTU)	2.1	3.3	5.0	5.1	5.3	4.8	4.2	4.1
Notes:								

1015

SAMPLED

Sampling Information

Analyses	#	Laboratory
VOC's	3	Test America
SVOC	2	
PCB	2	
metals	1	
cyanide	1	

Sample ID:	MW-5	Sample Time:	
MS/MSD:	Yes	(No)	
Duplicate:	Yes	(No)	1015
Duplicate ID:		Duplicate Time:	
Chain of Custody Signed By:			

Conversion Factors				
gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft				

Problems/Observations

Clear, odorless

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ N. Griffith W. Stephens		Well ID: MW-5D	
Client / Job Number: B0013697.0005		Date: 7/29/14	
Weather: Cloudy Mid 60's		Time in: 1030	Time out: 1155

Well Information

Depth to water: 20.45' (TIC)	(feet)	Well Type:	(Flushmount)		Stick-up
Total depth: 43.25'	(feet)	Well Material:	Stainless Steel		(PVC)
Length of water column: 22.8	(feet)	Well locked:	(Yes)		No
Volume of water in well: 3.7	(gal)	Measuring point marke	(Yes)		No
Three well volumes: 11.1	(gal)	Well Diameter:	1"	(2")	Other

Purging Information

					Unit Stability	
Purging Method:	Bailer	(Peristaltic)	Grundfos	Other:	pH	± 0.1
Tubing/Bailer Material:	St. Steel	(Polyethylene)	Teflon	Other:	DO	± 10%
Sampling Method:	(Bailer)	(Peristaltic)	Grundfos	Other:	Cond.	± 3.0%
Pump Start: 1035	Pumpe End: 1145	Total Pump Duration: 70min			ORP	± 10 mV
Total Volume Removed: ~2.6 (gal)	Did well go dry?	Y (N)				
Water-Quality Meter: Horiba						

Parameter	1040 [1]	1045 [2]	1050 [3]	1055 [4]	1100 [5]	1105 [6]	1110 [7]	1115 [8]	1120
Total Volume Purged (mL)									
Rate (mL/min)	140	140	140	125	125	150	150	150	SAMPLE
Depth to Water (ft)	20.72	20.74	20.75	20.75	20.75	20.72	20.72	20.72	
pH	9.75	9.80	9.81	9.84	9.83	9.85	9.86	9.87	
Temp (°C)	17.49	17.52	17.50	17.41	17.41	17.36	17.43	17.42	
Conductivity (mS/cm)	0.830	0.827	0.825	0.822	0.820	0.819	0.818	0.819	
Dissolved Oxygen	1.73	1.18	0.85	0.35	0.10	0.08	0.00	0.00	
ORP (mV)	89	87	86	84	83	79	78	78	
Turbidity (NTU)	41.8	39.0	38.3	51.3	53.0	49.3	48.7	47.6	
Notes:									

Sampling Information

Analyses	#	Laboratory
VOC's	3	Test America
SVOC's	2	
PCB's	2	
Metals	1	
Cyanide	1	
Sample ID: MW-5D		Sample Time: 1120
MS/MSD:	Yes	(No)
Duplicate:	Yes	(No)
Duplicate ID:		Duplicate Time:
Chain of Custody Signed By:		

Conversion Factors

gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft

Problems/Observations

Slightly turbid, colorless, faint odor

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ WDS	Well ID: MW-6
Client / Job Number: B001309 7.0005	Date: 7/28/14
Weather: Cloudy Upper 60's	Time in: 1015 Time out: 1245

Well Information

Depth to water:	19.71 (feet)		Well Type:	(Flushmount)	Stick-up
Total depth:	38.45 (feet)		Well Material:	Stainless Steel	(PVC)
Length of water column:	18.74 (feet)		Well locked:	(Yes)	No
Volume of water in well:	~~3.07~~ ~1.9 (gal)		Measuring point marke	(Yes)	No
Three well volumes:	~~9.23~~ ~5.7 (gal)		Well Diameter:	1" (2")	Other

Purging Information

Purging Method:	Bailer	(Peristaltic)	Grundfos	Other:	
Tubing/Bailer Material:	St. Steel	(Polyethylene)	Teflon	Other:	
Sampling Method:	(Bailer)	(Peristaltic)	Grundfos	Other:	
Pump Start: ~~1030~~ 1100	Pumpe End: 1240	Total Pump Duration: ~~2:40~~ 100 min			
Total Volume Removed: ~4 (gal)	Did well go dry?	Y (N)			
Water-Quality Meter: Horiba					

Unit Stability	
pH	± 0.1
DO	± 10%
Cond.	± 3.0%
ORP	± 10 mV

Parameter	1 1105	2 1110	3 1115	4 1120	5 1125	6 1130	7 1135	8 1140
Total Volume Purged (mL)								
Rate (mL/min)	150	150	150	150	150	150	150	S
Depth to Water (ft)	20.51	20.55	20.55	20.57	20.57	20.57	20.58	A
pH	6.91	7.02	7.05	7.06	7.09	7.11	7.12	M
Temp (°C)	17.73	17.62	17.59	17.57	17.51	17.53	17.48	P
Conductivity (mS/cm)	2.71	2.72	2.72	2.73	2.73	2.73	2.73	L
Dissolved Oxygen	1.15	0.72	0.63	0.45	0.28	0.27	0.26	E
ORP (mV)	-64	-73	-77	-85	-89	-90	-93	
Turbidity (NTU)	4.2	5.3	4.7	3.9	3.6	3.4	2.9	
Notes:								

Sampling Information

Analyses	#	Laboratory
VOC's	3	Test America
SVOC's	2	
PCB's	2	
Metals	1	
Cyanide	1	
Sample ID: MW-6		Sample Time: 1140
MS/MSD: (Yes)	No	
Duplicate: Yes	(No)	
Duplicate ID:		Duplicate Time:
Chain of Custody Signed By:		

Conversion Factors

gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft

Problems/Observations

Flow thru cell leaking @ seal, repaired

- initial purge: clear, colorless, faint odor

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ W. Stephens		Well ID: MW-6S	
Client / Job Number: BOO 13097.0005		Date: 7/28/14	
Weather: Cloudy 70's		Time in: 1245	Time out: 1415

Well Information

Depth to water:	9.56	(feet)	Well Type:	(Flushmount)	Stick-up
Total depth:	14.50	(feet)	Well Material:	Stainless Steel	(PVC)
Length of water column:	4.94	(feet)	Well locked:	(Yes)	No
Volume of water in well:	0.8	(gal)	Measuring point marke	(Yes)	No
Three well volumes:	2.4	(gal)	Well Diameter:	1" (2")	Other

Purging Information

Purging Method:	Bailer	(Peristaltic)	Grundfos	Other:	
Tubing/Bailer Material:	St. Steel	(Polyethylene)	Teflon	Other:	
Sampling Method:	(Bailer)	(Peristaltic)	Grundfos	Other:	
Pump Start: 1255	Pumpe End: 1415	Total Pump Duration: 80 min			
Total Volume Removed: ~2.95 (gal)	Did well go dry?	Y/(N)			
Water-Quality Meter: Horiba					

Unit Stability	
pH	± 0.1
DO	± 10%
Cond.	± 3.0%
ORP	± 10 mV

Parameter	1305 [1]	1310 [2]	1315 [3]	1320 [4]	1325 [5]	1330 [6]	1335 [7]	1340 [8]	1345
Total Volume Purged (mL)									
Rate (mL/min)	140	140	140	140	140	140	140	140	S
Depth to Water (ft)	9.69	9.70	9.70	9.71	9.71	9.71	9.71	9.71	A
pH	6.76	6.80	6.79	6.81	6.80	6.80	6.82	6.89	M
Temp (°C)	23.01	21.49	21.33	20.53	19.92	19.93	19.81	19.88	P
Conductivity (mS/cm)	6.95	7.12	7.14	7.22	7.29	7.29	7.22	7.19	L
Dissolved Oxygen	9.76	8.22	8.01	5.75	1.15	0.40	0.43	0.42	E
ORP (mV)	-5	-8	-9	-16	-16	-18	-20	-22	
Turbidity (NTU)	21.4	19.4	18.8	7.2	5.6	7.8	3.4	2.6	
Notes:									

Sampling Information

Analyses	#	Laboratory
VOC's	3	TA
SVOC's	2	
PCB's	2	
Metals	1	
Cyanide	1	
Sample ID:	MW-6S	Sample Time: 1345
MS/MSD:	Yes (No)	
Duplicate:	Yes (No)	
Duplicate ID: —		Duplicate Time: —
Chain of Custody Signed By:		

Conversion Factors				
gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft				

Problems/Observations

slightly turbid

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ N. Griffith		Well ID:	MW-7R
Client / Job Number: B0013097.0005		Date:	28 July 2014
Weather: 65°F cloudy		Time in: 1000	Time out: 1140

Well Information

Depth to water:	18.75	(feet)	Well Type:	Flushmount	Stick-up
Total depth:	24.10	(feet)	Well Material:	Stainless Steel	PVC
Length of water column:	5.35	(feet)	Well locked:	Yes	No
Volume of water in well:	0.87	(gal)	Measuring point marke	Yes	No
Three well volumes:	~2.61	(gal)	Well Diameter:	1" 2"	Other

Purging Information

					Unit Stability	
Purging Method:	Bailer	Peristaltic	Grundfos	Other:		
Tubing/Bailer Material:	St. Steel	Polyethylene	Teflon	Other:	pH	± 0.1 ✓
Sampling Method:	Bailer	Peristaltic	Grundfos	Other:	DO	± 10% ✓
1005 Pump Start: 0959	Pumpe End: 1130	Total Pump Duration: ~~½ gallon~~ 1hr 25m			Cond.	± 3.0%
Total Volume Removed: 2½ (gal)	Did well go dry?	Y/N			ORP	± 10 mV
Water-Quality Meter: horiba					NTU < 50 ✓	

Parameter	1015 [1]	1020 [2]	1025 [3]	1030 [4]	1035 [5]	1040 [6]	[7]	[8]
Total Volume Purged (mL) (150) →								
Rate (mL/min)	160/m	190	150	150	150	150		
Depth to Water (ft)	18.75	18.80	18.80	18.80	18.80	18.80		
pH	7.07	6.92	6.89	6.87	6.86	6.85		
Temp (°C)	16.94	16.25	16.25	16.30	16.25	16.20		
Conductivity (mS/cm)	1.42	1.58	1.63	1.66	1.67	1.70		
Dissolved Oxygen mg/L	0.00	0.00	0.00	0.00	0.00	0.00		
ORP (mV)	145	140	138	136	135	133		
Turbidity (NTU)	0.6	1.4	1.4	2.1	2.1	3.2		
Notes:								

Sampling Information

Analyses	#	Laboratory
SVOCs, ~~VOCs~~	2	
VOCs	3	
PCB	2	
metals	1	
Cyanide	1	
Sample ID: MW-7	Sample Time: 1046	
MS/MSD: Yes (No)		
Duplicate: Yes (No)		
Duplicate ID:	Duplicate Time:	
Chain of Custody Signed By:		

Conversion Factors				
gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft				

Problems/Observations

- Clear, colorless, odorless.

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ N. Griffith		Well ID: MW-7D	
Client / Job Number: B0013097.0005		Date: 28 Jul 2014	
Weather: 105° Cloudy / rain		Time in: 1140	Time out: 1540

Well Information

Depth to water:	18.47	(feet)	Well Type:	**(Flushmount)**		Stick-up
Total depth:	41.52	(feet)	Well Material:	Stainless Steel		**(PVC)**
Length of water column:	23.05	(feet)	Well locked:	**(Yes)**		No
Volume of water in well:	3.75	(gal)	Measuring point marke	**(Yes)**		No
Three well volumes:	11.25	(gal)	Well Diameter:	1"	**(2")**	Other

Purging Information

Purging Method:	Bailer	**(Peristaltic)**	Grundfos	Other:
Tubing/Bailer Material:	St. Steel	**(Polyethylene)**	Teflon	Other:
Sampling Method:	**(Bailer)**	**(Peristaltic)**	Grundfos	Other:

Pump Start: 1155 Pumpe End: Total Pump Duration:

Total Volume Removed: ~5.25 (gal) Did well go dry? Y/**(N)**

Water-Quality Meter: Horiba

Unit Stability	
pH	± 0.1
DO	± 10%
Cond.	± 3.0%
ORP	± 10 mV

~~72.7~~ ntu<50

Parameter	1200 [1]	1210 [2]	1215 [3]	1220 [4]	1225 [5]	1235 [6]	1240 [7]	1245 [8]	1250
Total Volume Purged (mL)									
Rate (mL/min)	140	50	190	150	150	160	150	140	140
Depth to Water (ft)	18.50	18.50	18.53	18.50	18.50	18.52	18.52	18.52	18.52
pH	10.49	10.64	10.60	10.61	10.67	10.69	10.70	10.70	10.71
Temp (°C)	18.54	16.89	18.03	18.24	18.14	18.27	18.28	18.28	18.25
Conductivity (mS/cm)	.642	.667	.658	.647	.633	.641	.640	.641	0.640
Dissolved Oxygen mg/L	3.93	4.97	4.68	4.33	4.74	3.52	3.53	3.48	3.55
ORP (mV)	73	71	74	73	71	70	70	71	71
Turbidity (NTU)	72.9	99.7	96.6	97.2	87.9	80.6	76.3	72.3	68.0
Notes:									

Sampling Information

Analyses	#	Laboratory
SVOC	2	
VOC	3	
PCB	2	
metals	1	
Cyanide	1	

Sample ID: MW-7D Sample Time: 1430

MS/MSD: Yes **(No)**

Duplicate: **(Yes)** No

Duplicate ID: DUP-01-072814 Duplicate Time: —

Chain of Custody Signed By:

Conversion Factors				
gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft

Problems/Observations

Clear, ~~colorless~~, odorless

light brown tint

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ N. Griffith		Well ID: MW-7D	
Client / Job Number: B00130971.0005		Date: 7/28/14	
Weather:		Time in:	Time out:

Well Information

Depth to water:	(feet)	Well Type:	Flushmount	Stick-up
Total depth:	(feet)	Well Material:	Stainless Steel	PVC
Length of water column:	(feet)	Well locked:	Yes	No
Volume of water in well:	(gal)	Measuring point marke	Yes	No
Three well volumes:	(gal)	Well Diameter:	1" 2"	Other

Purging Information

					Unit Stability	
Purging Method:	Bailer	Peristaltic	Grundfos	Other:	pH	± 0.1
Tubing/Bailer Material:	St. Steel	Polyethylene	Teflon	Other:	DO	± 10%
Sampling Method:	Bailer	Peristaltic	Grundfos	Other:	Cond.	± 3.0%
Pump Start:	Pumpe End:	Total Pump Duration:			ORP	± 10 mV
Total Volume Removed:	(gal)	Did well go dry?	Y/N			
Water-Quality Meter: Horiba						

Parameter	1250 [1]	1300 [2]	1305 [3]	1310 [4]	1315 [5]	1320 [6]	1325 [7]	1330 [8]	1335
Total Volume Purged (mL)									
Rate (mL/min)	140	140	150	150	150	150	150	150	150
Depth to Water (ft)	18.57	18.52	18.57	18.55	18.55	18.55	18.55	18.55	18.55
pH	10.70	10.72	10.72	10.71	10.73	10.72	10.54	10.39	8.81
Temp (°C)	18.05	17.95	17.81	17.50	17.52	17.51	17.40	17.21	17.07
Conductivity (mS/cm)	.641	.643	.641	.644	.646	.647	.821	1.10	1.97
Dissolved Oxygen	3.73	3.55	3.41	3.43	3.42	3.43	3.04	2.64	0.00
ORP (mV)	70	71	72	74	73	75	80	91	129
Turbidity (NTU)	166.7	165.0	163.0	162.5	161.1	161.4	58.2	56.3	49.4
Notes:									

Sampling Information

Analyses	#	Laboratory
SVOC	2	
VOC	3	
PCB	2	
Metals	1	
Cyanide	1	
Sample ID: MW-7D		Sample Time:
MS/MSD: Yes	No	
Duplicate: Yes	No	
Duplicate ID: DUP-01-072814		Duplicate Time:
Chain of Custody Signed By:		

Conversion Factors				
gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft				

Problems/Observations

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~ N. Griffith		Well ID:	MW-7D
Client / Job Number:	B0013097.0005	Date:	7/28/14
Weather:	65° rainy overcast	Time in:	Time out:

Well Information

Depth to water:	(feet)	Well Type:	(Flushmount)		Stick-up
Total depth:	(feet)	Well Material:	Stainless Steel		(PVC)
Length of water column:	(feet)	Well locked:	(Yes)		No
Volume of water in well:	(gal)	Measuring point marke	(Yes)		No
Three well volumes:	(gal)	Well Diameter:	1"	(2")	Other

refer to pg. 1

Purging Information

Purging Method:	Bailer	(Peristaltic)	Grundfos	Other:	
Tubing/Bailer Material:	St. Steel	(Polyethylene)	Teflon	Other:	
Sampling Method:	(Bailer)	(Peristaltic)	Grundfos	Other:	
Pump Start: 1155	Pumpe End:	Total Pump Duration:			
Total Volume Removed:	(gal)	Did well go dry?	Y/(N)		

Unit Stability	
pH	± 0.1
DO	± 10%
Cond.	± 3.0%
ORP	± 10 mV ✓

NTU <50 ✓

Water-Quality Meter: Horiba

Parameter	1340 [1]	~~1345~~ [2]	~~1400~~ 1350 [3]	1355 [4]	1400 [5]	1405 [6]	1410 [7]	1415 [8]
Total Volume Purged (mL)								
Rate (mL/min)	150	150	130	140	130	140	150	150
Depth to Water (ft)	18.55	18.55	18.55	18.55	18.55	18.55	18.55	18.55
pH	8.58	8.45	8.21	8.04	7.86	7.80	7.64	7.50
Temp (°C)	17.00	17.03	17.06	17.06	17.09	16.99	17.04	17.17
Conductivity (mS/cm)	2.07	2.16	2.31	2.38	2.44	2.46	2.48	2.50
Dissolved Oxygen	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ORP (mV)	131	132	~~0.00~~ 131	129	125	123	114	108
Turbidity (NTU)	49.0	47.9	47.8	46.7	45.3	45.2	27.6	28.9
Notes:								

Sampling Information

Analyses	#	Laboratory
SVOC		
VOC		
Metals		
PCBs		
Cyanide		

Sample ID: MW-7D   Sample Time:

MS/MSD: Yes (No)

Duplicate: (Yes) No

Duplicate ID: DUP-01-072814   Duplicate Time: —

Chain of Custody Signed By:

Conversion Factors				
gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469
1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft				

Problems/Observations

GROUNDWATER SAMPLING LOG

Sampling Personnel: ~~ASA~~		Well ID:	MW-7D
Client / Job Number:		Date:	7/28/14
Weather:	80°F Cloudy/partly sunny/rain	Time in:	Time out:

Well Information

~~Depth to water~~:	41.57	(feet)	Well Type:	Flushmount	Stick-up
Total depth:		(feet)	Well Material:	Stainless Steel	PVC
Length of water column:		(feet)	Well locked:	Yes	No
Volume of water in well:		(gal)	Measuring point marke	Yes	No
Three well volumes:		(gal)	Well Diameter:	1" 2"	Other

Purging Information

Purging Method:	Bailer	Peristaltic	Grundfos	Other:	
Tubing/Bailer Material:	St. Steel	Polyethylene	Teflon	Other:	
Sampling Method:	Bailer	Peristaltic	Grundfos	Other:	
Pump Start: 1155	Pumpe End: 1530	Total Pump Duration: 3hrs 35 min.			
Total Volume Removed: 5.25 (gal)		Did well go dry?	Y/N		
Water-Quality Meter: Horiba					

Unit Stability	
pH	± 0.1
DO	± 10%
Cond.	± 3.0%
ORP	± 10 mV

Parameter	1	2	3	4	5	6	7	8
	1420	1425	1430					
Total Volume Purged (mL)								
Rate (mL/min)	150	150	150					
Depth to Water (ft)	18.55	18.55	18.55					
pH	7.44	7.39	7.37					
Temp (°C)	17.37	17.58	17.72					
Conductivity (mS/cm)	2.51	2.52	2.52					
Dissolved Oxygen	0.00	0.00	0.00					
ORP (mV)	103	97	94					
Turbidity (NTU)	29.1	28.9	27.9					
Notes:								

Sampling Information

Analyses	#	Laboratory
SVOC		
VOC		
Meth IS		
PCB		

Sample ID: MW-7D	Sample Time:	
MS/MSD: Yes	(No)	
Duplicate: (Yes)	No	
Duplicate ID: DUP-01-072814	Duplicate Time:	
Chain of Custody Signed By:		

Conversion Factors

gal/ft of water	1" ID	2" ID	4" ID	6" ID
	0.041	0.163	0.653	1.469

1 gal = 3.785 L = 3875 mL = 0.1337 cubic ft

Problems/Observations

Clear/colorless/odorless