



July 28, 2016

Michael D. MacCabe, P.E.
Senior Environmental Engineer
Division of Environmental Remediation
NYS Department of Environmental Conservation
625 Broadway, 12th Floor
Albany, NY 12233-7016

**Re: Site Status Update Report
Former Mobil Station #17-EMW
304 Columbia Street
Brooklyn, New York
NYSDEC Spill #89-04339**

Dear Mr. MacCabe:

Please find the enclosed *Site Status Update Report* for work performed between April and June of 2016 for Former Mobil Station #17-EMW ("the Site") located at 304 Columbia Street in Brooklyn, New York. During this monitoring period, the following work was performed:

Quarterly Groundwater Monitoring

The 2nd quarter groundwater monitoring event was conducted on June 15, 2016. Sixteen (16) monitoring wells were gauged (MW-1, MW-2, MW-5, MW-7A, MW-8A, MW-10 through MW-20) and fourteen (14) were sampled (MW-5, MW-7A, MW-8A, and MW-10 through MW-20). Samples collected were analyzed for BTEX and MTBE via EPA Method 8260. Monitoring well MW-9 could not be located and was therefore not gauged or sampled. Monitoring well MW-3 was located under a disabled vehicle and therefore not gauged or sampled. LPH was detected in monitoring wells MW-1, MW-2, and MW-13 during the 2nd quarter 2016 groundwater monitoring event.

Dissolved BTEX concentrations ranged from non-detect at two (2) wells (MW-5 and MW-7A) to 10,958 µg/L (MW-10). Dissolved MTBE concentrations ranged from non-detect at nine (9) wells (MW-5, MW-7A, MW-11, MW-13, MW-14, and MW-16 through MW-19) to 146 µg/L (MW-10).

The next groundwater monitoring event will be conducted in September 2016 and the 3rd Quarter 2016 Site Status Update Report will be submitted in October 2016.



Should you have any questions or comments regarding the information provided herein, please contact Dennis G. Shin at (800) 360-9405, extension 4333.

Respectfully Submitted,
Groundwater & Environmental Services, Inc.

A handwritten signature in black ink, appearing to read "Chris Kelly", written over a horizontal line.

Christopher J. Kelly
Junior Geologist

A handwritten signature in black ink, appearing to read "Dennis Shin", written over a horizontal line.

Dennis G. Shin, P.E.
Senior Project Manager

Enclosure

cc: Laurie McCarthy-Exxon Mobil Environmental Services Company



**EXXONMOBIL ENVIRONMENTAL SERVICES COMPANY
SITE STATUS UPDATE REPORT**

Site ID:	Former Mobil Station #17-EMW	Regulatory Agency:	NYSDEC - Region 2
Site Address:	304 Columbia Street Brooklyn, New York	Regulatory Contact:	Michael MacCabe, P.E.
ExxonMobil Contact:	Laurie McCarthy	NYSDEC Spill #(s):	89-04339
Consultant:	Groundwater & Environmental Services, Inc. (GES)	GES Project Manager:	Dennis G. Shin, P.E.

Report Date: July 28, 2016

Monitoring Period: April through June, 2016

Current Site Status: The Site is currently an automobile repair facility.

Work Performed:

- June 15, 2016 – Conducted quarterly groundwater monitoring activities which included the gauging of sixteen (16) monitoring wells (MW-1, MW-2, MW-5, MW-7A, MW-8A, MW-10 through MW-20) and sampling of fourteen (14) monitoring wells (MW-5, MW-7A, MW-8A, and MW-10 through MW-20). Samples collected were analyzed for BTEX and MTBE via EPA method 8260. Monitoring well MW-9 could not be located. MW-3 was located beneath a disabled vehicle and therefore not sampled. LPH was detected in monitoring wells MW-1, MW-2, and MW-13.

Groundwater Monitoring:

Number of Wells:	Total = 18 <u>On-Site Wells:</u> MWs (14): MW-1 through MW-3, MW-5, MW-7A, MW-11 through MW-14 and MW-16 through MW-20 <u>Off-Site Wells:</u> MWs (4): MW-8A, MW-9, MW-10 and MW-15
Gauging Frequency:	Quarterly
LPH:	0.18 feet (MW-1), 0.35 feet (MW-2), 0.05 feet (MW-13).
Groundwater Depth:	8.31 feet (MW-17) to 10.26 (MW-15) feet below TOC
Groundwater Flow:	Southwesterly
Sampling Frequency:	Quarterly
Groundwater Analytical Results:	<u>BTEX</u> : ND at two (2) wells (MW-5 and MW-7A) to 10,958 µg/L (MW-10). <u>MTBE</u> : ND at nine (9) wells (MW-5, MW-7A, MW-11, MW-13, MW-14, and MW-16 through MW-19) to 146 µg/L (MW-10).

Proposed Plans:

- Submit a closure and exposure assessment report to the NYSDEC.
- Conduct quarterly groundwater sampling in September 2016.
- Prepare a Site Status Update Report in October 2016 documenting quarterly Site activities.

Attachments:

Table 1 – Historical Groundwater Monitoring Summary

Figure 1 – Groundwater Monitoring Map – June 15, 2016

Attachment A – List of Acronyms

Attachment B – Site History

Attachment C – Laboratory Analytical Results – Groundwater

TABLES

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
NYSDEC TOGS 1.1.1 WQS							1	5	5	5	NS	10	
MW-1	6/13/2007	100.00	-	-	-	-	-	-	-	-	-	-	NM
	3/13/2008	100.00	8.46	-	-	91.54	220	79.8	830	414	1,543.8	14.9	
	6/6/2008	100.00	8.61	-	-	91.39	271	89.1	817	481	1,658.1	17.3	
	12/30/2008	100.00	8.24	-	-	91.76	216	67.8	539	336	1,158.8	13.2	
	3/16/2009	100.00	9.41	-	-	90.59	215	78.8	761	474	1,528.8	9	
	6/8/2009	100.00	8.23	-	-	91.77	24	88.4	551	692	1,355.4	ND < 5	
	3/3/2010	100.00	7.98	-	-	92.02	109	75.2	948	293	1,425.2	3.6	
	9/1/2010	100.00	9.36	-	-	90.64	89.3	86.5	1,010	405	1,590.8	ND < 20	
	6/8/2012	100.00	8.44	-	-	91.56	33.0	29.2	199	147	408.2	ND < 1.00	
	9/7/2012	100.00	8.81	-	-	91.19	33.5	20.5	270	119	443	ND < 1.00	
	12/18/2012	100.00	8.93	-	-	91.07	33.5	25.4	363	203	624.9	ND < 1.00	
	3/14/2013	100.00	8.71	-	-	91.29	42.8	38.0	378	227	685.8	ND < 1.00	
	6/24/2013	100.00	7.59	-	-	92.41	37.5	36.0	464	224	761.5	ND < 1.00	
	12/10/2013	100.00	9.88	-	-	90.12	16.7	28.7	315	211	571.4	ND < 1.00	
	3/10/2014	100.00	-	-	-	-	25.1	25.1	286	208	544.2	1.43	COULD NOT GAUGE
	6/3/2014	100.00	8.10	-	-	91.90	20.0	ND < 20.0	371	200	591	ND < 20.0	
	10/2/2014	100.00	9.59	9.47	0.12	90.50	33.6	42.7	484	321	881.3	ND < 1.00	
MW-2	12/3/2014	100.00	8.73	-	-	91.27	42.9	39.6	472	336	890.5	ND < 5.00	SHEEN
	3/11/2015	100.00	8.41	-	-	91.59	17.1	11.7	93.1	135	256.9	ND < 1.00	
	9/9/2015	100.00	7.98	7.90	0.08	92.08	38.5	21.8	277	167	504.3	ND < 1.00	
	3/13/2008	100.16	8.77	-	-	91.39	204	18	130	109	461	ND < 2	
	6/6/2008	100.16	9.10	-	-	91.06	378	25	137	93.3	633.3	71	
	12/30/2008	100.16	8.56	-	-	91.60	305	27	50	84.4	466.4	37	
	3/16/2009	100.16	9.71	-	-	90.45	246	18	23	53.4	340.4	67	
	9/1/2010	100.16	9.94	-	-	90.22	530	22	202	105	859	155	
	12/3/2010	100.16	9.37	-	-	90.79	500	52.4	336	232	1,120.4	120	
	12/10/2013	100.16	10.08	-	-	90.08	258	18.5	204	109	589.5	39.1	
MW-3	3/10/2014	100.16	-	-	-	-	-	-	-	-	-	-	COULD NOT GAUGE
	10/2/2014	100.16	9.76	9.64	0.12	90.49	487	23.7	201	162	873.7	2.63	
	12/3/2014	100.16	8.96	-	-	91.20	754	34.5	353	177	1,318.5	ND < 5.00	
	3/11/2015	100.16	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	9/9/2015	100.16	9.67	9.12	0.55	90.90	373	15.3	249	394	1,031.3	1.51	
	2/28/2005	100.43	9.32	-	-	91.11	120	38.5	167	151	476.5	13.1	
	6/6/2005	100.43	9.21	-	-	91.22	37.6	22.5	135	113	308.1	3.5	
	9/8/2005	100.43	9.67	-	-	90.76	86	23.5	47.9	139	296.4	7.8	
	12/29/2005	100.43	8.50	-	-	91.93	11.3	0.88	28.9	15.3	56.38	0.88	
	3/20/2006	100.43	9.98	-	-	90.45	218	12.1	94.6	61.9	386.6	24.7	
MW-4	6/7/2006	100.43	7.51	-	-	92.92	9.9	2.6	27.2	12.1	51.8	ND < 1	
	9/14/2006	100.43	7.57	-	-	92.86	17.8	ND < 1	20.8	3.9	42.5	ND < 1	
	12/7/2006	100.43	7.90	-	-	92.53	10.4	ND < 1	15.7	2	28.1	0.51	
	3/29/2007	100.43	8.69	-	-	91.74	0.94	ND < 1	5.1	1	7.04	ND < 1	
	6/13/2007	100.43	7.95	-	-	92.48	3.6	ND < 1	6.8	0.52	10.92	ND < 1	
	9/19/2007	100.43	9.45	-	-	90.98	61.8	1.70	63.2	7.8	134.5	9.5	
	12/11/2007	100.43	9.75	-	-	90.68	71.3	12.8	101	24.8	209.9	7.4	
	3/13/2008	100.43	8.56	-	-	91.87	10.8	ND < 1	3	0.72	14.52	ND < 1	
	6/6/2008	100.43	9.46	-	-	90.97	76.1	9.5	46.5	17.9	150	15	
	12/30/2008	100.43	8.49	-	-	91.94	5.8	0.44	0.28	ND < 1	6.52	0.53	
	3/16/2009	100.43	10.02	-	-	90.41	113	13.5	6	20.8	153.3	20.2	
	6/8/2009	100.43	8.33	-	-	92.10	1.7	ND < 1	1.4	ND < 1	3.1	ND < 1	
	7/20/2009	100.43	9.39	-	-	91.04	92	4	10.6	13.4	120	13.2	
	9/24/2009	100.43	9.57	-	-	90.86	153	12.1	79.5	97.3	341.9	ND < 1	
	12/3/2009	100.43	9.60	-	-	90.83	92.7	8.4	90.4	79.1	270.6	3.1	
	3/3/2010	100.43	8.18	-	-	92.25	0.27	ND < 1	1.7	1.6	3.57	ND < 1	
	6/7/2010	100.43	9.18	-	-	91.25	3	0.50	6.8	3.2	13.5	1.2	
	9/1/2010	100.43	10.66	-	-	89.77	49.3	28.8	164	170	412.1	25.8	
	12/3/2010	100.43	9.58	-	-	90.85	3.9	2.7	30.9	26.5	64	ND < 1	
	3/29/2011	100.43	8.25	-	-	92.18	ND < 1	ND < 1	0.36	0.33	0.69	ND < 1	
	6/16/2011	100.43	8.90	-	-	91.53	2.8	2.1	49.5	31.2	85.6	ND < 5	
	8/8/2011	100.43	9.51	-	-	90.92	23.1	17.4	157	114	311.5	ND < 1	
	3/16/2012	100.43	9.97	-	-	90.46	25	43	867	386	1,321	ND < 1	
	6/8/2012	100.43	9.27	-	-	91.16	14.9	27.0	389	208	638.9	ND < 1.00	
	9/7/2012	100.43	9.41	-	-	91.02	3.67	7.33	110	83.2	204.2	ND < 1.00	
	12/18/2012	100.43	9.51	-	-	90.92	19.2	31.6	378	278	706.8	ND < 1.00	
	3/14/2013	100.43	9.47	-	-	90.96	15.7	36.7	319	277	648.4	1.42	
	6/24/2013	100.43	8.07	-	-	92.36	ND < 1.00	3.05	63.9	68.2	135.15	ND < 1.00	
	9/4/2013	100.43	9.72	-	-	90.71	7.74	14.1	127	113	261.84	6.86	
	9/6/2013	100.43	9.76	-	-	90.67	7.74	14.1	127	113	261.84	6.86	
	12/10/2013	100.43	10.55	-	-	89.88	4.18	18.5	222	211	455.68	ND < 1.00	
	3/10/2014	100.43	-	-	-	-	1.60	5.32	75.7	118	200.62	1.26	COULD NOT GAUGE
	6/3/2014	100.43	8.56	-	-	91.87	ND < 1.00	1.26	28.3	43.2	72.76	ND < 1.00	
	10/2/2014	100.43	10.29	-	-	90.14	3.21	4.44	12.2	118	137.85	ND < 1.00	
	12/3/2014	100.43	9.50	-	-	90.93	1.08	2.15	20.8	61.7	85.73	ND < 1.00	
	3/11/2015	100.43	8.19	-	-	92.24	ND < 1.00	ND < 1.00	1.63	2.95	4.58	ND < 1.00	
	6/18/2015	100.43	9.52	-	-	90.91	ND < 1.00	1.12	5.18	26.4	32.7	ND < 1.00	
	9/9/2015	100.43	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	12/10/2015	100.43	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	3/16/2016	100.43	9.19	-	-	91.24	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
MW-5	2/28/2005	100.05	9.02	-	-	91.03	50	2.6	11	25	88.6	ND < 1	
	6/6/2005	100.05	9.18	-	-	90.87	4.6	ND < 1	0.49	ND < 1	5.09	ND < 1	
	12/29/2005	100.05	8.54	-	-	91.51	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	3/20/2006	100.05	9.16	-	-	90.89	9.1	ND < 1	0.62	0.59	10.31	ND < 1	
	6/7/2006	100.05	8.00	-	-	92.05	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	9/14/2006	NSD	-	-	-	-	-	-	-	-	-	-	WELL DESTROYED
MW-5	2/28/2005	101.15	8.47	-	-	92.68	0.86	ND < 1	1.6	8.1	10.56	3.1	
	6/6/2005	101.15	8.73	-	-	92.42	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	9/8/2005	101.15	-	-	-	-	ND < 1	ND < 1	4.7	7.3	12	ND < 1	NM
	12/29/2005	101.15	7.95	-	-	93.20	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
NYSDEC TOGS 1.1.1 WQS							1	5	5	5	NS	10	
MW-5 (cont)	3/20/2006	101.15	8.63	-	-	92.52	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	6/7/2006	101.15	8.12	-	-	93.03	ND < 1	ND < 1	ND < 1	0.65	0.65	ND < 1	
	12/7/2006	101.15	7.97	-	-	93.18	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	3/29/2007	101.15	8.10	-	-	93.05	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	6/13/2007	101.15	7.68	-	-	93.47	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	9/19/2007	101.15	8.96	-	-	92.19	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/11/2007	101.15	9.20	-	-	91.95	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	3/13/2008	101.15	8.56	-	-	92.59	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	6/6/2008	101.15	8.85	-	-	92.30	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/30/2008	101.15	8.09	-	-	93.06	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	3/16/2009	101.15	9.41	-	-	91.74	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	6/8/2009	101.15	8.40	-	-	92.75	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	9/24/2009	101.15	9.29	-	-	91.86	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/3/2009	101.15	9.00	-	-	92.15	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	3/3/2010	101.15	7.74	-	-	93.41	ND < 1	ND < 1	ND < 1	0.35	0.35	ND < 1	
	6/7/2010	101.15	8.73	-	-	92.42	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	9/1/2010	101.15	9.61	-	-	91.54	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/3/2010	101.15	9.40	-	-	91.75	ND < 1	ND < 1	ND < 1	ND < 1	ND	0.35	
	3/29/2011	101.15	7.91	-	-	93.24	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	6/16/2011	101.15	8.60	-	-	92.55	ND < 1	ND < 1	ND < 1	0.25	0.25	ND < 1	
	8/8/2011	101.15	9.17	-	-	91.98	ND < 1	ND < 1	ND < 1	ND < 1	ND	1.3	
	9/19/2011	101.15	7.64	-	-	93.51	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/5/2011	101.15	8.40	-	-	92.75	ND < 0.22	ND < 0.15	ND < 0.21	ND < 0.17	ND	ND < 0.18	
	3/16/2012	101.15	9.37	-	-	91.78	ND < 1	ND < 1	ND < 1	ND < 3	ND	ND < 1	
	6/8/2012	101.15	8.60	-	-	92.55	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	9/7/2012	101.15	9.19	-	-	91.96	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	12/18/2012	101.15	9.01	-	-	92.14	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	3/14/2013	101.15	8.42	-	-	92.73	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	6/24/2013	101.15	8.16	-	-	92.99	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	9/4/2013	101.15	9.21	-	-	91.94	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	9/6/2013	101.15	9.22	-	-	91.93	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	12/10/2013	101.15	9.68	-	-	91.47	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	1/21/2014	101.15	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	101.15	-	-	-	-	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	COULD NOT GAUGE
	6/3/2014	101.15	8.52	-	-	92.63	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	10/2/2014	101.15	10.11	-	-	91.04	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	12/3/2014	101.15	9.20	-	-	91.95	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	3/11/2015	101.15	8.65	-	-	92.50	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	6/18/2015	101.15	8.60	-	-	92.55	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	9/9/2015	101.15	8.98	-	-	92.17	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	12/10/2015	101.15	9.74	-	-	91.41	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	3/16/2016	101.15	8.44	-	-	92.71	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	6/15/2016	101.15	8.93	-	-	92.22	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
MW-6A	2/28/2005	101.17	8.29	-	-	92.88	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	6/6/2005	NSD	-	-	-	-	-	-	-	-	-	-	WELL DESTROYED
	2/28/2005	101.24	9.67	-	-	91.57	151	3.8	3	8.8	166.6	2.5	
MW-7A	6/6/2005	101.24	9.59	-	-	91.65	13	ND < 1	ND < 1	ND < 1	13	ND < 1	
	12/29/2005	101.24	9.27	-	-	91.97	105	1	5.2	4	115.2	3.2	
	3/20/2006	101.24	9.57	-	-	91.67	9.4	ND < 1	ND < 1	0.46	9.86	0.51	
	6/7/2006	101.24	8.72	-	-	92.52	328	9.2	20	49	406.2	1.8	
	9/14/2006	101.24	8.52	-	-	92.72	4.7	ND < 1	0.35	ND < 1	5.05	ND < 1	
	12/7/2006	101.24	8.75	-	-	92.49	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	3/29/2007	101.24	9.48	-	-	91.76	291	6	8.2	17	322.2	ND < 1	
	6/13/2007	101.24	8.56	-	-	92.68	448	18	28	53	547	2.4	
	9/19/2007	101.24	9.55	-	-	91.69	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/11/2007	101.24	10.27	-	-	90.97	ND < 1	ND < 1	ND < 1	ND < 1	ND	2.3	
	3/13/2008	101.24	9.56	-	-	91.68	202	3.7	8.4	10	224.1	ND < 2.0	
	6/6/2008	101.24	9.74	-	-	91.50	4.5	ND < 1	ND < 1	ND < 1	4.5	0.31	
	12/30/2008	101.24	9.53	-	-	91.71	335	4.6	3.4	21	364	1.9	
	3/16/2009	101.24	10.58	-	-	90.66	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	6/8/2009	101.24	9.52	-	-	91.72	30	ND < 1	ND < 1	ND < 1	30	ND < 1	
	7/20/2009	101.24	8.98	-	-	92.26	1	ND < 1	ND < 1	ND < 1	1	0.48	
	9/24/2009	101.24	10.07	-	-	91.17	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/3/2009	101.24	10.11	-	-	91.13	ND < 1	ND < 1	ND < 1	ND < 1	ND	0.52	
	3/3/2010	101.24	9.41	-	-	91.83	145	2.9	5.5	5.6	159	1.2	
	6/7/2010	101.24	9.36	-	-	91.88	0.36	ND < 1	ND < 1	ND < 1	0.36	ND < 1	
	9/1/2010	101.24	10.50	-	-	90.74	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	12/3/2010	101.24	10.31	-	-	90.93	ND < 1	ND < 1	ND < 1	ND < 1	ND	ND < 1	
	3/29/2011	101.24	8.87	-	-	92.37	1.7	ND < 1	ND < 1	ND < 1	1.7	ND < 1	
	9/19/2011	101.24	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	3/16/2012	101.24	10.48	-	-	90.76	107	1.31	3.55	ND < 3	111.86	1.09	
	6/8/2012	101.24	9.76	-	-	91.48	143	4.03	25.3	7.23	179.56	1.12	
	9/7/2012	101.24	10.02	-	-	91.22	14.4	ND < 1.00	ND < 1.00	ND < 3.00	14.4	ND < 1.00	
	12/18/2012	101.24	10.13	-	-	91.11	12.9	ND < 1.00	ND < 1.00	ND < 3.00	12.9	ND < 1.00	
	3/14/2013	101.24	9.85	-	-	91.39	88.8	1.84	12.4	8.73	111.77	ND < 1.00	
	6/24/2013	101.24	8.76	-	-	92.48	45.8	ND < 1.00	3.81	ND < 3.00	49.61	ND < 1.00	
	9/4/2013	101.24	9.96	9.91	0.05	91.32	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	9/6/2013	101.24	10.05	9.99	0.06	91.24	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	ND < 1.00	
	12/10/2013	101.24	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	1/21/2014	101.24	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	101.24	-	-	-	-	9.00	ND < 1.00	ND < 1.00	ND < 3.00	9	ND < 1.00	COULD NOT GAUGE
	6/3/2014	101.24	9.21	-	-	92.03	2.07	ND < 1.00	ND < 1.00	ND < 2.00	2.07	ND < 1.00	
	10/2/2014	101.24	10.60	-	-	90.64	3.16	ND < 1.00	ND < 1.00	ND < 2.00	3.16	ND < 1.00	
	12/3/2014	101.24	9.77	-	-	91.47	6.83	ND < 1.00	ND < 1.00	ND < 2.00	6.83	ND < 1.00	
	3/11/2015	101.24	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	6/18/2015	101.24	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	9/9/2015	101.24	10.14	-	-	91.10	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
NYSDEC TOGS 1.1.1 WQS							1	5	5	5	NS	10	
MW-7A (cont)	12/10/2015	101.24	10.48	-	-	90.76	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	3/16/2016	101.24	9.48	-	-	91.76	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
	6/15/2016	101.24	9.98	-	-	91.26	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	ND < 1.00	
MW-8A	2/28/2005	100.59	10.02	-	-	90.57	1,430	369	1,020	3,180	5,999	4,720	
	6/6/2005	100.59	9.48	-	-	91.11	1,660	391	1,150	3,960	7,161	3,980	
	9/8/2005	100.59	10.02	-	-	90.57	2,030	447	1,200	3,880	7,557	3,640	
	12/29/2005	100.59	9.18	-	-	91.41	434	49.3	216	675	1,374.3	250	
	3/20/2006	100.59	9.87	-	-	90.72	2,060	467	1,220	4,040	7,787	4,730	
	9/14/2006	100.59	8.74	-	-	91.85	2,170	510	1,380	4,320	8,380	2,370	
	12/7/2006	100.59	8.62	-	-	91.97	1,660	430	1,350	4,570	8,010	1,980	
	3/29/2007	100.59	9.52	-	-	91.07	1,420	341	908	2,370	5,039	2,960	
	6/13/2007	100.59	8.55	-	-	92.04	444	155	694	1,770	3,063	380	
	9/19/2007	100.59	9.36	-	-	91.23	1,090	267	915	2,570	4,842	1,160	
	12/11/2007	100.59	10.13	-	-	90.46	1,530	305	1,090	3,420	6,345	1,570	
	3/13/2008	100.59	9.69	-	-	90.90	1,580	315	1,140	3,430	6,465	1,850	
	6/6/2008	100.59	9.35	-	-	91.24	1,230	280	1,070	2,610	5,190	806	
	12/30/2008	100.59	9.17	-	-	91.42	82.5	21.3	131	237	471.8	22.6	
	6/8/2009	100.59	9.18	-	-	91.41	292	64.9	348	616	1,320.9	129	
	7/20/2009	100.59	9.10	-	-	91.49	292	72.8	324	525	1,213.8	149	
	9/24/2009	100.59	10.79	-	-	89.80	984	223	909	2,320	4,436	542	
	12/3/2009	100.59	9.75	-	-	90.84	1,030	235	1,060	2,240	4,565	452	
	3/3/2010	100.59	9.25	-	-	91.34	691	177	762	2,070	3,700	185	
	6/7/2010	100.59	9.17	-	-	91.42	1,020	213	869	2,060	4,162	766	
	9/1/2010	100.59	10.18	-	-	90.41	1,520	291	1,070	3,030	5,911	939	
	12/3/2010	100.59	10.00	-	-	90.59	942	253	745	1,900	3,840	555	
	3/29/2011	100.59	9.46	-	-	91.13	1,070	227	831	1,860	3,988	418	
	9/19/2011	100.59	8.26	-	-	92.33	779	157	533	1,060	2,529	298	
	12/5/2011	100.59	9.20	-	-	91.39	1,540	222	682	1,530	3,974	637	
	3/16/2012	100.59	10.07	-	-	90.52	2,220	386	1,410	5,250	9,266	1,100	
	6/8/2012	100.59	9.84	-	-	90.75	808	111	434	1,200	2,553	983	
	9/7/2012	100.59	10.00	-	-	90.59	985	154	341	953	2,433	376	
	12/18/2012	100.59	10.78	-	-	89.81	1,300	231	496	2,200	4,227	336	
	3/14/2013	100.59	11.08	-	-	89.51	1,160	188	551	2,360	4,259	330	
	6/24/2013	100.59	9.31	-	-	91.28	991	155	482	1,930	3,558	157	
	9/6/2013	100.59	10.82	-	-	89.77	1,670	306	1,250	3,790	7,016	337	
	12/10/2013	100.59	11.44	-	-	89.15	1,370	226	742	3,210	5,548	333	
	1/21/2014	100.59	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	100.59	-	-	-	-	1,860	299	989	3,320	6,468	390	COULD NOT GAUGE
	6/3/2014	100.59	10.68	-	-	89.91	1,400	251	361	909	2,921	278	
	10/2/2014	100.59	11.05	-	-	89.54	1,500	286	1,120	3,720	6,626	367	
	12/3/2014	100.59	10.01	-	-	90.58	2,200	303	1,700	4,730	8,933	347	
	3/11/2015	100.59	10.30	-	-	90.29	1,480	326	1,670	6,450	9,926	429	
	6/18/2015	100.59	9.81	-	-	90.78	1,900	303	1,690	5,850	9,743	323	
	9/9/2015	100.59	10.00	-	-	90.59	1,640	282	1,150	3,530	6,602	194	
	12/10/2015	100.59	10.33	-	-	90.26	1,400	225	1,300	3,890	6,815	104	
	3/16/2016	100.59	10.02	-	-	90.57	341	198	1,400	3,890	5,829	140	
	6/15/2016	100.59	9.86	-	-	90.73	1,620	325	1,560	4,950	8,455	130	
MW-9	2/28/2005	100.10	9.45	-	-	90.65	ND < 1	ND < 1	ND < 1	ND < 1	ND	1.8	
	6/6/2005	100.10	9.38	-	-	90.72	ND < 1	ND < 1	ND < 1	ND < 1	ND	1.1	
	9/8/2005	100.10	10.01	-	-	90.09	ND < 1	ND < 1	0.73	2	2.73	7.3	
	12/29/2005	100.10	8.88	-	-	91.22	ND < 1	ND < 1	ND < 1	ND < 1	ND	16.7	
	3/20/2006	100.10	9.65	-	-	90.45	ND < 1	ND < 1	ND < 1	ND < 1	ND	9.8	
	9/14/2006	100.10	8.93	-	-	91.17	0.93	ND < 1	0.43	1.1	2.46	20.8	
	12/7/2006	100.10	8.72	-	-	91.38	0.88	0.72	ND < 1	3.6	5.2	45	
	3/29/2007	100.10	9.09	-	-	91.01	ND < 1	ND < 1	ND < 1	ND < 1	ND	46.8	
	6/13/2007	100.10	8.64	-	-	91.46	4.9	1.7	ND < 1	6.4	13	60	
	9/19/2007	100.10	9.39	-	-	90.71	0.35	ND < 1	ND < 1	0.97	1.32	19.2	
	12/11/2007	100.10	9.80	-	-	90.30	ND < 1	ND < 1	ND < 1	ND < 1	ND	15.7	
	3/13/2008	100.10	8.98	-	-	91.12	ND < 1	ND < 1	ND < 1	ND < 1	ND	6.5	
	6/6/2008	100.10	9.19	-	-	90.91	ND < 1	ND < 1	ND < 1	ND < 1	ND	6.2	
	12/30/2008	100.10	8.75	-	-	91.35	ND < 1	ND < 1	ND < 1	ND < 1	ND	2.6	
	9/24/2009	100.10	9.71	-	-	90.39	ND < 1	ND < 1	ND < 1	ND < 1	ND	2.6	
	12/3/2009	100.10	9.62	-	-	90.48	ND < 1	ND < 1	ND < 1	ND < 1	ND	4.6	
	3/3/2010	100.10	8.47	-	-	91.63	ND < 1	ND < 1	ND < 1	ND < 1	ND	0.32	
	6/7/2010	100.10	9.24	-	-	90.86	ND < 1	ND < 1	ND < 1	ND < 1	ND	2.9	
	9/1/2010	100.10	10.11	-	-	89.99	ND < 1	ND < 1	ND < 1	ND < 1	ND	6.7	
	12/3/2010	100.10	9.90	-	-	90.20	ND < 1	ND < 1	ND < 1	ND < 1	ND	6.7	
	3/29/2011	100.10	9.04	-	-	91.06	ND < 1	ND < 1	ND < 1	ND < 1	ND	1.5	
	12/5/2011	100.10	9.20	-	-	90.90	ND < 0.22	ND < 0.15	ND < 0.21	ND < 0.17	ND	10.1	
	3/16/2012	100.10	10.33	-	-	89.77	ND < 1	ND < 1	ND < 1	ND < 3	ND	9.21	
	6/8/2012	100.10	9.44	-	-	90.66	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	12.6	
	9/7/2012	100.10	9.79	-	-	90.31	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	11.0	
	12/18/2012	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	3/14/2013	100.10	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	6/24/2013	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	9/6/2013	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	12/10/2013	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	1/21/2014	100.10	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	100.10	-	-	-	-	-	-	-	-	-	-	COULD NOT GAUGE
	6/3/2014	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	10/2/2014	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	12/3/2014	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	3/11/2015	100.10	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	6/18/2015	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	9/9/2015	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	12/10/2015	100.10	-	-	-	-	-	-	-	-	-	-	CNL
	3/16/2016	100.10	-	-	-	-	-	-	-	-	-	-	CNL

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
NYSDEC TOGS 1.1.1 WQS							1	5	5	5	NS	10	
MW-10	2/28/2005	100.50	9.94	-	-	90.56	5,040	763	1,520	7,160	14,483	10,300	
	6/6/2005	100.50	9.03	-	-	91.47	823	97.6	298	1,390	2,608.6	1,560	
	9/8/2005	100.50	9.90	-	-	90.60	2,780	331	1,000	3,840	7,951	5,030	
	12/29/2005	100.50	8.90	-	-	91.60	754	192	942	1,900	3,788	833	
	3/20/2006	100.50	9.54	-	-	90.96	6,220	803	1,640	6,970	15,633	10,500	
	6/7/2006	100.50	9.01	-	-	91.49	4,580	459	1,150	4,290	10,479	6,210	
	9/14/2006	100.50	8.58	-	-	91.92	4,900	625	1,520	5,930	12,975	6,740	
	12/7/2006	100.50	8.52	-	-	91.98	3,070	504	2,030	7,360	12,964	1,410	
	3/29/2007	100.50	9.40	-	-	91.10	7,050	1,180	3,550	11,900	23,680	6,820	
	6/13/2007	100.50	8.42	-	-	92.08	1,450	231	909	2,980	5,570	466	
	9/19/2007	100.50	9.22	-	-	91.28	3,380	445	1,400	4,500	9,725	1,310	
	12/11/2007	100.50	11.03	-	-	89.47	3,030	411	1,360	4,010	8,811	1,750	
	3/13/2008	100.50	9.56	-	-	90.94	4,270	530	1,520	5,160	11,480	2,470	
	6/6/2008	100.50	9.25	-	-	91.25	3,080	414	1,510	4,450	9,454	1,260	
	12/30/2008	100.50	9.05	-	-	91.45	903	115	649	1,500	3,167	213	
	6/8/2009	100.50	8.97	-	-	91.53	1,110	143	658	1,440	3,351	166	
	7/20/2009	100.50	8.98	-	-	91.52	1,050	157	593	1,250	3,050	97.1	
	9/24/2009	100.50	9.59	-	-	90.91	2,390	374	1,490	3,210	7,464	315	
	12/3/2009	100.50	9.55	-	-	90.95	3,380	673	3,900	3,990	11,943	698	
	3/3/2010	100.50	9.25	-	-	91.25	3,450	440	1,400	3,440	8,730	1,810	
	6/7/2010	100.50	9.02	-	-	91.48	3,210	403	1,260	2,760	7,633	1,380	
	9/1/2010	100.50	10.00	-	-	90.50	4,870	485	1,830	4,040	11,225	1,580	
	12/3/2010	100.50	9.80	-	-	90.70	3,950	496	1,510	3,180	9,136	ND < 10	
	3/29/2011	100.50	9.35	-	-	91.15	5,450	594	1,550	3,700	11,294	1,640	
	6/16/2011	100.50	8.80	-	-	91.70	5,410	555	1,450	3,580	10,995	1,160	
	8/8/2011	100.50	9.72	-	-	90.78	6,180	645	1,450	3,460	11,735	1,030	
	9/19/2011	100.50	8.19	-	-	92.31	1,810	162	497	957	3,426	191	
	12/5/2011	100.50	9.00	-	-	91.50	3,790	443	1,910	3,860	10,003	610	
	3/16/2012	100.50	10.51	-	-	89.99	5,350	744	2,220	5,690	14,004	1,210	
	6/8/2012	100.50	9.47	-	-	91.03	3,780	343	859	1,720	6,702	860	
	9/7/2012	100.50	10.04	-	-	90.46	3,930	334	738	2,290	7,292	777	
	12/18/2012	100.50	10.83	-	-	89.67	5,460	623	1,170	3,340	10,593	708	
	3/14/2013	100.50	10.99	-	-	89.51	5,030	469	1,280	3,010	9,789	712	
	6/24/2013	100.50	8.51	-	-	91.99	2,680	330	927	2,900	6,837	137	
	9/6/2013	100.50	10.66	-	-	89.84	5,290	524	1,360	3,150	10,324	383	
	12/10/2013	100.50	11.36	-	-	89.14	6,080	560	1,410	4,520	12,570	464	
	1/21/2014	100.50	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	100.50	-	-	-	-	6,990	680	1,770	5,550	14,990	657	COULD NOT GAUGE
	6/3/2014	100.50	9.71	-	-	90.79	3,400	455	1,250	3,700	8,805	476	
	10/2/2014	100.50	10.50	-	-	89.60	5,540	636	2,200	5,670	14,046	601	SHEEN
	12/3/2014	100.50	9.91	-	-	90.59	5,250	664	2,050	5,380	13,344	612	
	3/11/2015	100.50	10.24	-	-	90.26	5,880	766	2,300	7,140	16,086	309	
	6/18/2015	100.50	9.69	-	-	90.81	5,580	631	1,780	5,480	13,471	202	
	9/9/2015	100.50	9.89	-	-	90.61	4,350	522	1,550	5,030	11,452	136	
	12/10/2015	100.50	10.23	-	-	90.27	3,850	371	1,610	1,370	7,201	75.0	
	3/16/2016	100.50	9.96	-	-	90.54	4,120	650	1,740	4,930	11,440	143	
	6/15/2016	100.50	9.74	-	-	90.76	4,110	518	1,550	4,780	10,958	146	
MW-11	2/28/2005	99.62	8.14	-	-	91.48	619	576	1,050	4,270	6,515	77	
	6/6/2005	99.62	8.07	-	-	91.55	616	410	1,070	5,050	7,146	71	
	12/29/2005	99.62	11.63	-	-	87.99	697	249	1,170	3,630	5,746	57	
	3/20/2006	99.62	8.13	-	-	91.49	625	294	1,070	4,130	6,119	39	
	3/29/2007	99.62	7.94	-	-	91.68	531	199	1,030	1,580	3,340	ND < 10	
	6/13/2007	99.62	7.18	-	-	92.44	438	125	738	935	2,236	32	
	9/19/2007	99.62	8.11	-	-	91.51	718	231	1,050	1,800	3,799	36	
	3/13/2008	99.62	8.20	-	-	91.42	336	153	860	1,530	2,879	ND < 5	
	6/6/2008	99.62	8.17	-	-	91.45	617	194	954	1,410	3,175	37	
	12/30/2008	99.62	7.91	-	-	91.71	473	185	990	1,730	3,378	23.9	
	3/16/2009	99.62	9.06	-	-	90.56	423	192	770	1,610	2,995	20.9	
	6/8/2009	99.62	7.87	-	-	91.75	575	209	1,110	2,330	4,224	27.4	
	12/3/2009	99.62	8.51	-	-	91.11	797	142	1,280	1,020	3,239	46.9	
	3/3/2010	99.62	7.66	-	-	91.96	518	110	1,060	1,010	2,698	23.4	
	6/7/2010	99.62	7.94	-	-	91.68	382	33.1	901	498	1,814.1	23.1	
	9/1/2010	99.62	8.98	-	-	90.64	510	131	1,300	1,620	3,561	ND < 100	
	12/3/2010	99.62	8.71	-	-	90.91	513	206	911	1,560	3,190	11.3	
	3/29/2011	99.62	7.45	-	-	92.17	68.3	7.60	199	234	508.9	3.20	
	6/16/2011	99.62	7.71	-	-	91.91	148	23.3	293	315	779.3	2.80	
	8/8/2011	99.62	8.54	-	-	91.08	308	48.5	380	385	1,121.5	7.90	
	9/19/2011	99.62	6.98	-	-	92.64	57	12.3	162	171	402.3	1.40	
	12/5/2011	99.62	7.81	-	-	91.81	144	52	304	455	955	4	
	3/16/2012	99.62	8.98	-	-	90.64	637	149	794	1,580	3,160	12	
	6/8/2012	99.62	8.14	-	-	91.48	492	161	611	1,090	2,354	9.70	
	9/7/2012	99.62	8.18	-	-	91.44	604	164	699	1,240	2,707	7.61	
	12/18/2012	99.62	8.61	-	-	91.01	587	184	702	1,320	2,793	7.11	
	3/14/2013	99.62	8.40	-	-	91.22	487	150	608	934	2,179	7.78	
	6/24/2013	99.62	7.27	-	-	92.35	403	113	495	447	1,458	3.98	
	9/4/2013	99.62	8.50	-	-	91.12	513	147	947	1,230	2,837	3.54	
	9/6/2013	99.62	8.56	-	-	91.06	513	147	947	1,230	2,837	3.54	
	12/10/2013	99.62	9.92	-	-	89.70	490	107	561	869	2,027	2.93	
	3/10/2014	99.62	-	-	-	-	435	86.0	521	801	1,843	3.54	COULD NOT GAUGE
	6/3/2014	99.62	7.71	-	-	91.91	218	70.6	287	468	1,043.6	3.16	
	10/2/2014	99.62	9.00	-	-	90.62	309	74.9	407	475	1,265.9	ND < 10.0	
	12/3/2014	99.62	8.28	-	-	91.34	241	61.8	325	354	981.8	4.82	
	3/11/2015	99.62	8.32	-	-	91.30	193	62.5	497	567	1,319.5	ND < 1.00	
	6/18/2015	99.62	8.47	-	-	91.15	246	63.3	540	551	1,400.3	4.43	
	9/9/2015	99.62	7.82	-	-	91.80	307	76.2	509	687	1,579.2	ND < 1.00	
	12/10/2015	99.62	9.21	-	-	90.41	224	31.8	546	438	1,239.8	ND < 1.00	
	3/16/2016	99.62	8.31	-	-	91.31	178	56.9	507	561	1,302.9	ND < 1.00	

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
NYSDEC TOGS 1.1.1 WQS							1	5	5	5	NS	10	
MW-11 (cont)	6/15/2016	99.62	8.66	-	-	90.96	314	70.4	559	668	1,611.4	ND < 5.00	
MW-12	2/28/2005	100.85	9.38	-	-	91.47	127	6.6	50	57	240.6	24.8	
	6/6/2005	100.85	9.17	-	-	91.68	250	8.2	29.2	51.4	338.8	129	
	3/20/2006	100.85	9.17	-	-	91.68	229	9	35.5	50.2	323.7	26.6	
	6/7/2006	100.85	8.68	-	-	92.17	470	17.4	81.1	86.8	655.3	96.7	
	9/14/2006	100.85	8.13	-	-	92.72	476	14	42.9	63.2	596.1	55	
	12/7/2006	100.85	8.37	-	-	92.48	225	7.3	5.1	22.5	259.9	29.4	
	3/29/2007	100.85	9.16	-	-	91.69	193	3.7	4	12.5	213.2	44.3	
	6/13/2007	100.85	8.28	-	-	92.57	274	8.3	5.8	24.7	312.8	86.5	
	9/19/2007	100.85	9.16	-	-	91.69	285	6.2	4.2	20.5	315.9	33	
	12/11/2007	100.85	9.90	-	-	90.95	249	5	4.2	17.6	275.8	31.6	
	3/13/2008	100.85	9.21	-	-	91.64	172	3.6	11	14.4	201	ND < 1	
	6/6/2008	100.85	9.33	-	-	91.52	134	4.4	8.5	15.8	162.7	20.6	
	12/30/2008	100.85	9.22	-	-	91.63	603	12.3	115	53.9	784.2	41	
	3/16/2009	100.85	10.21	-	-	90.64	144	3.2	32.2	17.7	197.1	12.9	
	6/8/2009	100.85	9.16	-	-	91.69	474	8.6	69.2	33.5	585.3	147	
	7/20/2009	100.85	9.38	-	-	91.47	14.5	0.56	15.2	2.4	32.66	41.9	
	9/24/2009	100.85	9.71	-	-	91.14	54.8	3.1	37.8	21.4	117.1	113	
	12/3/2009	100.85	9.75	-	-	91.10	120	3.9	52.7	28.5	205.1	88.4	
	3/3/2010	100.85	9.15	-	-	91.70	148	3.6	23.1	16.1	190.8	41.4	
	6/7/2010	100.85	8.97	-	-	91.88	22.9	1.1	8.4	7.2	39.6	8.6	
	9/1/2010	100.85	10.22	-	-	90.63	111	2.4	10.7	11.6	135.7	23	
	12/3/2010	100.85	10.00	-	-	90.85	87	1.6	7.5	7	103.1	20.3	
	3/29/2011	100.85	8.53	-	-	92.32	2.1	ND < 1	0.34	0.32	2.76	6.7	
	6/16/2011	100.85	8.90	-	-	91.95	3.5	0.36	0.72	1.3	5.88	8.9	
	8/8/2011	100.85	9.70	-	-	91.15	24	1.4	3.5	6.6	35.5	32.5	
	9/19/2011	100.85	8.39	-	-	92.46	2.8	0.35	2.4	3.2	8.75	ND < 1	
	3/16/2012	100.85	10.17	-	-	90.68	27	1.05	8.41	4.22	40.68	24	
	6/8/2012	100.85	9.42	-	-	91.43	30.2	ND < 1.00	4.87	ND < 3.00	35.07	24.3	
	9/7/2012	100.85	9.66	-	-	91.19	38.2	ND < 1.00	4.92	ND < 3.00	43.12	ND < 1.00	
	12/18/2012	100.85	9.98	-	-	90.87	50.5	1.02	5.07	ND < 3.00	56.59	13.4	
	3/14/2013	100.85	9.58	-	-	91.27	35.3	ND < 1.00	5.36	ND < 3.00	40.66	13.5	
	6/24/2013	100.85	8.36	-	-	92.49	2.76	ND < 1.00	ND < 1.00	ND < 3.00	2.76	2.48	
	9/4/2013	100.85	9.58	-	-	91.27	15.5	ND < 1.00	3.19	ND < 2.00	18.69	7.88	
	9/6/2013	100.85	9.65	-	-	91.20	15.5	ND < 1.00	3.19	ND < 2.00	18.69	7.88	
	12/10/2013	100.85	10.67	-	-	90.18	34.4	ND < 1.00	1.45	ND < 3.00	35.85	12.1	
	1/21/2014	100.85	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE
	3/10/2014	100.85	-	-	-	-	5.71	ND < 1.00	ND < 1.00	ND < 3.00	5.71	ND < 1.00	COULD NOT GAUGE
	6/3/2014	100.85	8.81	-	-	92.04	2.19	ND < 1.00	ND < 1.00	ND < 2.00	2.19	1.59	
	10/2/2014	100.85	10.25	-	-	90.60	10.2	ND < 1.00	ND < 1.00	ND < 2.00	10.2	5.21	
	12/3/2014	100.85	9.55	-	-	91.30	19.9	ND < 1.00	ND < 1.00	ND < 2.00	19.9	8.41	
	3/11/2015	100.85	9.34	-	-	91.51	10.7	ND < 1.00	ND < 1.00	ND < 2.00	10.7	ND < 1.00	
	6/18/2015	100.85	9.44	-	-	91.41	1.56	ND < 1.00	ND < 1.00	ND < 3.00	1.56	3.48	
	9/9/2015	100.85	9.76	-	-	91.09	8.05	ND < 1.00	ND < 1.00	ND < 3.00	8.05	ND < 1.00	
	12/10/2015	100.85	10.16	-	-	90.69	6.74	ND < 1.00	ND < 1.00	ND < 3.00	6.74	2.28	
	3/16/2016	100.85	9.10	-	-	91.75	3.76	ND < 1.00	ND < 1.00	ND < 3.00	3.76	ND < 1.00	
	6/15/2016	100.85	9.49	-	-	91.36	9.33	ND < 1.00	ND < 1.00	ND < 3.00	9.33	5.40	
MW-13	3/29/2007	100.04	8.53	-	-	91.51	76.5	ND < 5	ND < 5	ND < 5	76.5	9.3	
	6/13/2007	100.04	7.55	-	-	92.49	56.1	2.6	172	56.9	287.6	11	
	3/13/2008	100.04	8.58	-	-	91.46	179	6.1	303	74.7	562.8	13.3	
	6/6/2008	100.04	8.70	-	-	91.34	245	10.2	354	95.8	705	20.8	
	12/30/2008	100.04	8.37	-	-	91.67	226	20.3	394	136	776.3	12.3	
	3/16/2009	100.04	9.76	-	-	90.28	270	22.8	423	135	850.8	11.9	
	6/8/2009	100.04	8.24	-	-	91.80	68.6	6.2	129	36.8	240.6	11.7	
	7/20/2009	100.04	8.31	-	-	91.73	39	7.9	300	88.6	435.5	15.9	
	9/24/2009	100.04	9.01	-	-	91.03	115	4.1	295	44.1	458.2	10.8	
	12/3/2009	100.04	8.96	-	-	91.08	219	7	295	53	574	13.6	
	3/3/2010	100.04	7.90	-	-	92.14	31.8	2.3	109	18.5	161.6	4.8	
	6/7/2010	100.04	8.33	-	-	91.71	21.2	1.7	149	19.9	191.8	18.6	
	9/1/2010	100.04	9.44	-	-	90.60	541	120	884	1,490	3,035	16.9	
	12/3/2010	100.04	9.13	-	-	90.91	321	114	685	1,240	2,360	ND < 5	
	3/29/2011	100.04	7.90	-	-	92.14	6	ND < 1	8.7	5.2	19.9	3	
	6/16/2011	100.04	5.30	-	-	94.74	31.5	2	62	34.4	129.9	10.5	
	8/8/2011	100.04	9.04	-	-	91.00	212	40.6	260	284	796.6	3.1	
	9/19/2011	100.04	7.36	-	-	92.68	12.3	2	174	57.5	245.8	1.3	
	12/5/2011	100.04	8.25	-	-	91.79	20	1.8	110	44	175.8	3.4	
	3/16/2012	100.04	9.44	-	-	90.60	194	56	505	294	1,049	1.71	
	6/8/2012	100.04	8.62	-	-	91.42	135	38.6	331	235	739.6	2.74	
	9/7/2012	100.04	8.92	-	-	91.12	178	39.2	421	237	875.2	ND < 1.00	
	12/18/2012	100.04	9.09	-	-	90.95	308	84.5	663	452	1,507.5	2.82	
	3/14/2013	100.04	8.92	-	-	91.12	586	114	590	948	2,238	6.10	
	6/24/2013	100.04	7.74	-	-	92.30	117	38.6	544	399	1,098.6	2.43	
	9/26/2013	100.04	9.16	9.15	0.01	90.89	395	77.9	515	458	1,445.9	3.87	
	12/10/2013	100.04	10.02	-	-	90.02	767	126	744	1,240	2,877	13.7	
	3/10/2014	100.04	-	-	-	-	250	53.8	294	461	1,058.8	2.51	COULD NOT GAUGE
	6/3/2014	100.04	8.26	-	-	91.78	92.1	29.0	235	383	739.1	1.52	
	10/2/2014	100.04	9.48	-	-	90.56	434	119	744	1,290	2,587	1.21	
	12/3/2014	100.04	8.84	-	-	91.20	395	118	755	1,000	2,268	ND < 1.00	
	3/11/2015	100.04	8.30	-	-	91.74	129	69.7	804	1,040	2,042.7	2.82	
	9/9/2015	100.04	9.05	-	-	90.99	619	117	762	715	2,213	ND < 1.00	
	3/16/2016	100.04	8.54	8.46	0.08	91.56	252	92.6	820	620	1,784.6	ND < 1.00	
	6/15/2016	100.04	8.85	8.80	0.05	91.23	810	114	870	939	2,733	ND < 5.00	
MW-14	2/28/2005	100.04	12.87	-	-	87.17	4.2	0.61	1.7	6.7	13.21	2.5	
	6/6/2005	100.04	13.02	-	-	87.02	12.6	1	2.4	9.3	25.3	ND < 1	
	3/29/2007	100.04	10.52	-	-	89.52	118	4.8	1.4	11.3	135.5	ND < 1	

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
NYSDEC TOGS 1.1.1 WQS							1	5	5	5	NS	10	
MW-14 (cont)	6/13/2007	100.04	8.38	-	-	91.66	125	5.6	5.4	41.1	177.1	ND < 1	
	9/19/2007	100.04	10.08	-	-	89.96	121	5	4.1	31.3	161.4	ND < 1	
	3/13/2008	100.04	9.73	-	-	90.31	66.7	2.7	0.76	4.6	74.76	ND < 1	
	6/6/2008	100.04	10.05	-	-	89.99	95.5	3.6	1.3	5.8	106.2	ND < 1	
	12/30/2008	100.04	9.59	-	-	90.45	85.3	2.5	0.51	2.1	90.41	ND < 1	
	3/16/2009	100.04	10.44	-	-	89.60	101	4.1	0.77	4.3	110.17	ND < 1	
	6/8/2009	100.04	9.46	-	-	90.58	54.8	2.3	1.2	4.2	62.5	ND < 1	
	7/20/2009	100.04	9.30	-	-	90.74	51.6	1.3	0.58	2.3	55.78	ND < 1	
	9/24/2009	100.04	10.00	-	-	90.04	102	3.8	0.90	5.9	112.6	ND < 1	
	12/3/2009	100.04	9.81	-	-	90.23	147	4.3	1.1	4.6	157	ND < 1	
	3/3/2010	100.04	8.90	-	-	91.14	13.5	ND < 1	ND < 1	ND < 1	13.5	ND < 1	
	6/7/2010	100.04	9.31	-	-	90.73	50.3	0.95	0.32	1.2	52.77	ND < 1	
	9/1/2010	100.04	10.36	-	-	89.68	139	3.4	1.2	3.7	147.3	ND < 1	
	12/3/2010	100.04	10.11	-	-	89.93	114	4	0.86	3.2	122.06	ND < 1	
	3/29/2011	100.04	8.60	-	-	91.44	12.7	ND < 1	ND < 1	ND < 1	12.7	ND < 1	
	6/16/2011	100.04	9.20	-	-	90.84	41.4	0.55	0.27	0.53	42.75	ND < 1	
	8/8/2011	100.04	9.87	-	-	90.17	84.1	0.77	ND < 1	ND < 1	84.87	ND < 1	
	9/19/2011	100.04	8.22	-	-	91.82	3.8	ND < 1	ND < 1	ND < 1	3.8	ND < 1	
	12/5/2011	100.04	9.19	-	-	90.85	64	0.39	0.22	0.60	65.21	ND < 0.18	
	3/16/2012	100.04	10.36	-	-	89.68	91	1.28	ND < 1	ND < 3	92.28	ND < 1	
	6/8/2012	100.04	9.62	-	-	90.42	74.8	ND < 1.00	ND < 1.00	ND < 3.00	74.8	ND < 1.00	
	9/7/2012	100.04	9.82	-	-	90.22	117	1.96	ND < 1.00	ND < 3.00	118.96	ND < 1.00	
	12/18/2012	100.04	9.84	-	-	90.20	70.8	1.60	ND < 1.00	ND < 3.00	72.4	ND < 1.00	
	3/14/2013	100.04	10.43	-	-	89.61	20.2	ND < 1.00	ND < 1.00	ND < 3.00	20.2	ND < 1.00	
	6/24/2013	100.04	8.50	-	-	91.54	7.68	ND < 1.00	ND < 1.00	ND < 3.00	7.68	ND < 1.00	
	9/4/2013	100.04	9.77	-	-	90.27	44.2	ND < 1.00	ND < 1.00	ND < 2.00	44.2	ND < 1.00	
	9/6/2013	100.04	9.85	-	-	90.19	44.2	ND < 1.00	ND < 1.00	ND < 2.00	44.2	ND < 1.00	
	12/10/2013	100.04	10.56	-	-	89.48	51.9	ND < 1.00	ND < 1.00	ND < 3.00	51.9	ND < 1.00	
	1/21/2014	100.04	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	100.04	-	-	-	-	8.32	ND < 1.00	ND < 1.00	ND < 3.00	8.32	ND < 1.00	COULD NOT GAUGE
	6/3/2014	100.04	8.92	-	-	91.12	4.91	ND < 1.00	ND < 1.00	ND < 2.00	4.91	ND < 1.00	
	10/2/2014	100.04	10.49	-	-	89.55	42.8	ND < 1.00	ND < 1.00	ND < 2.00	42.8	ND < 1.00	
	12/3/2014	100.04	9.59	-	-	90.45	20.2	ND < 1.00	ND < 1.00	ND < 2.00	20.2	ND < 1.00	
	3/11/2015	100.04	9.34	-	-	90.70	8.69	ND < 1.00	ND < 1.00	ND < 2.00	8.69	ND < 1.00	
	6/18/2015	100.04	9.44	-	-	90.60	34.2	ND < 1.00	ND < 1.00	ND < 3.00	34.2	ND < 1.00	
	9/9/2015	100.04	9.97	-	-	90.07	46.4	ND < 1.00	ND < 1.00	ND < 3.00	46.4	ND < 1.00	
	12/10/2015	100.04	10.24	-	-	89.80	38.3	ND < 1.00	ND < 1.00	ND < 3.00	38.3	ND < 1.00	
	3/16/2016	100.04	9.28	-	-	90.76	6.99	ND < 1.00	ND < 1.00	ND < 3.00	6.99	ND < 1.00	
	6/15/2016	100.04	9.86	-	-	90.18	37.1	ND < 1.00	ND < 1.00	ND < 3.00	37.1	ND < 1.00	
MW-15	9/27/2006	100.47	10.72	-	-	89.75	616	21.1	21.7	64.4	723.2	425	
	12/7/2006	100.47	9.29	-	-	91.18	522	16.6	8.2	54.5	601.3	114	
	3/29/2007	100.47	9.81	-	-	90.66	389	14	5.9	30.7	439.6	59.5	
	6/13/2007	100.47	8.99	-	-	91.48	924	26.7	6	56.8	1,013.5	191	
	9/19/2007	100.47	9.72	-	-	90.75	747	16.6	3.5	34.1	801.2	104	
	12/11/2007	100.47	10.29	-	-	90.18	800	15.1	2.8	40	857.9	119	
	3/13/2008	100.47	9.85	-	-	90.62	662	6.4	2.9	15.2	686.5	83.4	
	6/6/2008	100.47	9.63	-	-	90.84	509	5.6	1.2	12.7	528.5	81.1	
	12/30/2008	100.47	9.50	-	-	90.97	164	1.9	0.58	4.6	171.08	16.8	
	3/16/2009	100.47	10.69	-	-	89.78	540	5.8	1.2	9.5	556.5	57.2	
	6/8/2009	100.47	9.45	-	-	91.02	141	ND < 1	ND < 1	1	142	14.8	
	7/20/2009	100.47	9.33	-	-	91.14	80.7	1.2	0.93	3.7	86.53	19.1	
	9/24/2009	100.47	9.91	-	-	90.56	162	3.9	7.3	8.6	181.8	74.5	
	12/3/2009	100.47	9.98	-	-	90.49	432	8.6	7.3	17.4	465.3	52.2	
	3/3/2010	100.47	9.41	-	-	91.06	606	6.4	8.1	18.5	639	99.2	
	6/7/2010	100.47	9.42	-	-	91.05	200	3.6	6.2	6.3	216.1	24.7	
	9/1/2010	100.47	10.06	-	-	90.41	194	3.6	2.8	5.3	205.7	101	
	12/3/2010	100.47	12.20	-	-	88.27	405	7.6	6.9	13.7	433.2	93.3	
	3/29/2011	100.47	9.52	-	-	90.95	119	0.86	ND < 1	0.89	120.75	26.8	
	6/16/2011	100.47	9.34	-	-	91.13	8	ND < 1	ND < 1	ND < 1	8	3.4	
	8/8/2011	100.47	9.93	-	-	90.54	81.1	2.3	0.85	4.2	88.45	45.1	
	9/19/2011	100.47	8.49	-	-	91.98	43.2	1.5	0.94	4.6	50.24	25.8	
	12/5/2011	100.47	9.40	-	-	91.07	5	ND < 0.15	ND < 0.21	0.51	5.51	5.4	
	3/16/2012	100.47	10.57	-	-	89.90	31	ND < 1	ND < 1	ND < 3	31	5.8	
	6/8/2012	100.47	9.67	-	-	90.80	3.89	ND < 1.00	ND < 1.00	ND < 3.00	3.89	8.11	
	9/7/2012	100.47	9.83	-	-	90.64	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	10.2	
	12/18/2012	100.47	9.99	-	-	90.48	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	11.3	
	3/14/2013	100.47	10.23	-	-	90.24	6.60	ND < 1.00	ND < 1.00	ND < 3.00	6.6	30.5	
	6/24/2013	100.47	8.98	-	-	91.49	2.91	ND < 1.00	ND < 1.00	ND < 3.00	2.91	2.21	
	9/6/2013	100.47	10.09	-	-	90.38	1.77	ND < 1.00	ND < 1.00	ND < 2.00	1.77	13.0	
	12/10/2013	100.47	10.31	-	-	90.16	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	18.0	
	1/21/2014	100.47	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	100.47	-	-	-	-	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	13.0	COULD NOT GAUGE
	6/3/2014	100.47	9.70	-	-	90.77	1.06	ND < 1.00	ND < 1.00	ND < 2.00	1.06	3.54	
	10/2/2014	100.47	10.62	-	-	89.85	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	8.18	
	12/3/2014	100.47	10.21	-	-	90.26	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	4.11	
	3/11/2015	100.47	10.33	-	-	90.14	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	ND	9.97	
	6/18/2015	100.47	10.02	-	-	90.45	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	6.61	
	9/9/2015	100.47	10.25	-	-	90.22	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	6.55	
	12/10/2015	100.47	10.50	-	-	89.97	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	6.69	
	3/16/2016	100.47	10.12	-	-	90.35	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	ND	3.18	
	6/15/2016	100.47	10.26	-	-	90.21	2.49	ND < 1.00	ND < 1.00	ND < 3.00	2.49	4.76	
MW-16	9/27/2006	100.42	11.90	-	-	88.52	1,600	159	1,220	2,520	5,499	2.3	
	3/29/2007	100.42	11.36	-	-	89.06	2,320	87.1	430	1,110	3,947.1	ND < 20	
	3/13/2008	100.42	10.89	-	-	89.53	1,200	34.1	146	303	1,683.1	ND < 10	
	6/6/2008	100.42	10.06	-	-	90.36	1,350	49.6	225	394	2,018.6	16.1	
	12/30/2008	100.42	9.66	-	-	90.76	958	59.8	393	662	2,072.8	7.7	
	3/16/2009	100.42	10.70	-	-	89.72	1,320	44	141	222	1,727	3.7	

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
NYSDEC TOGS 1.1.1 WQS							1	5	5	5	NS	10	
MW-16 (cont)	6/8/2009	100.42	9.64	-	-	90.78	2,830	158	667	1,010	4,665	ND < 20	
	3/3/2010	100.42	8.90	-	-	91.52	940	104	1,070	2,020	4,134	3.5	
	9/1/2010	100.42	10.21	-	-	90.21	2,590	131	492	828	4,041	ND < 20	
	3/29/2011	100.42	8.45	-	-	91.97	312	26.3	284	319	941.3	ND < 2.5	
	6/16/2011	100.42	8.75	-	-	91.67	1,490	76.6	433	634	2,633.6	ND < 10	
	9/19/2011	100.42	7.89	-	-	92.53	68.3	4.1	59.9	77.1	209.4	ND < 1	
	12/5/2011	100.42	8.77	-	-	91.65	655	26	237	246	1,164	ND < 0.37	
	3/16/2012	100.42	9.96	-	-	90.46	1,400	59	157	342	1,958	ND < 1	
	6/8/2012	100.42	9.22	-	-	91.20	1,310	49.2	157	229	1,745.2	ND < 1.00	
	9/7/2012	100.42	9.36	-	-	91.06	2,060	81.1	303	380	2,824.1	ND < 1.00	
	12/18/2012	100.42	9.56	-	-	90.86	1,130	63.4	423	329	1,945.4	ND < 1.00	
	3/14/2013	100.42	9.39	-	-	91.03	1,140	59.3	159	261	1,619.3	ND < 1.00	
	6/24/2013	100.42	8.23	-	-	92.19	509	46.1	177	303	1,035.1	ND < 1.00	
	12/10/2013	100.42	10.75	-	-	89.67	1,060	57.8	99.1	200	1,416.9	1.30	
	3/10/2014	100.42	-	-	-	-	-	-	-	-	-	-	COULD NOT GAUGE
	10/2/2014	100.42	9.85	-	-	90.57	1,060	68.5	495	1,020	2,643.5	ND < 10.0	SHEEN
	12/3/2014	100.42	9.25	-	-	91.17	1,380	86.9	337	1,390	3,193.9	ND < 1.00	
	3/11/2015	100.42	8.99	-	-	91.43	524	80.5	590	1,190	2,384.5	ND < 1.00	
	6/18/2015	100.42	9.08	-	-	91.34	1,330	128	586	1,180	3,224	ND < 1.00	
	9/9/2015	100.42	9.52	-	-	90.90	1,040	106	522	1,130	2,798	ND < 1.00	
	12/10/2015	100.42	9.84	-	-	90.58	1,090	85.6	347	678	2,200.6	ND < 1.00	
	3/16/2016	100.42	9.05	-	-	91.37	333	108	621	1,150	2,212	ND < 1.00	
	6/15/2016	100.42	9.62	-	-	90.80	923	101	481	918	2,423	ND < 5.00	
MW-17	9/28/2006	100.05	10.59	-	-	89.46	4.8	64.2	378	1,420	1,867	202	
	12/7/2006	100.05	10.90	-	-	89.15	19.9	97.6	335	1,090	1,542.5	29.8	
	3/29/2007	100.05	10.18	-	-	89.87	15.4	145	432	1,300	1,892.4	19.4	
	6/13/2007	100.05	9.55	-	-	90.50	11.1	76.9	228	695	1,011	21.3	
	9/19/2007	100.05	9.71	-	-	90.34	11.4	69.3	252	665	997.7	13.6	
	12/11/2007	100.05	10.17	-	-	89.88	4.8	32.9	148	386	571.7	4.3	
	3/13/2008	100.05	9.17	-	-	90.88	20.4	143	695	2,160	3,018.4	8.2	
	6/6/2008	100.05	9.03	-	-	91.02	2.6	14.2	63.7	178	258.5	3.4	
	12/30/2008	100.05	8.51	-	-	91.54	18.1	60.3	421	418	917.4	2.3	
	3/16/2009	100.05	9.42	-	-	90.63	3.8	20.4	134	184	342.2	2.1	
	6/8/2009	100.05	8.19	-	-	91.86	244	80.1	773	439	1,536.1	7.7	
	7/20/2009	100.05	8.23	-	-	91.82	27.4	145	726	1,100	1,998.4	1.7	
	9/24/2009	100.05	8.93	-	-	91.12	10.6	47.7	324	369	751.3	ND < 1	
	12/3/2009	100.05	8.91	-	-	91.14	32.7	161	854	1,170	2,217.7	1.7	
	3/3/2010	100.05	8.02	-	-	92.03	7.5	37.7	225	289	559.2	1.4	
	6/7/2010	100.05	8.33	-	-	91.72	7.6	35	259	274	575.6	0.83	
	9/1/2010	100.05	9.01	-	-	91.04	16.3	91.3	716	675	1,498.6	ND < 2	
	12/3/2010	100.05	8.80	-	-	91.25	19.8	103	757	881	1,760.8	ND < 1	
	3/29/2011	100.05	7.83	-	-	92.22	6.3	14.7	166	90.9	277.9	1.2	
	12/5/2011	100.05	7.86	-	-	92.19	9.3	43	230	209	491.3	1	
	6/8/2012	100.05	8.49	-	-	91.56	23.7	78.4	402	239	743.1	ND < 1.00	
	9/7/2012	100.05	8.49	-	-	91.56	24.6	89.0	279	304	696.6	ND < 1.00	
	12/18/2012	100.05	8.62	-	-	91.43	18.8	72.5	275	332	698.3	ND < 1.00	
	3/14/2013	100.05	8.37	-	-	91.68	3.85	21.2	80.2	69.1	174.35	1.40	
	6/24/2013	100.05	7.41	-	-	92.64	6.01	31.1	112	101	250.11	1.02	
	9/26/2013	100.05	7.94	7.90	0.04	92.14	4.58	21.3	84.9	63.5	174.28	ND < 1.00	
	12/10/2013	100.05	9.45	-	-	90.60	10.2	80.4	562	719	1,371.6	ND < 1.00	
	3/10/2014	100.05	-	-	-	-	-	-	-	-	-	-	COULD NOT GAUGE
	6/3/2014	100.05	7.86	7.85	0.01	92.20	16.1	98.6	288	412	814.7	ND < 1.00	
	10/2/2014	100.05	8.92	-	-	91.13	32.5	232	1,230	1,500	2,994.5	ND < 1.00	
	12/3/2014	100.05	8.21	-	-	91.84	27.6	151	1,030	1,220	2,428.6	ND < 1.00	
	3/11/2015	100.05	7.81	-	-	92.24	10.2	77.4	757	796	1,640.6	ND < 1.00	
	6/18/2015	100.05	8.09	-	-	91.96	25.2	167	1,080	1,240	2,512.2	ND < 1.00	
	9/9/2015	100.05	8.39	-	-	91.66	18.8	120	832	1,050	2,020.8	ND < 1.00	
	12/10/2015	100.05	8.88	-	-	91.17	18.8	133	1,220	797	2,168.8	ND < 1.00	
	3/16/2016	100.05	7.95	-	-	92.10	15.6	95.5	708	757	1,576.1	ND < 1.00	
	6/15/2016	100.05	8.31	-	-	91.74	19.1	129	828	1,030	2,006.1	ND < 5.00	
MW-18	9/28/2006	101.41	12.54	-	-	88.87	1,470	137	499	1,160	3,266	5.8	
	12/7/2006	101.41	12.76	-	-	88.65	2,490	210	518	1,820	5,038	ND < 10	
	3/29/2007	101.41	12.33	-	-	89.08	2,190	170	510	1,100	3,970	ND < 20	
	6/13/2007	101.41	11.10	-	-	90.31	2,400	296	1,040	3,360	7,096	ND < 10	
	9/19/2007	101.41	12.02	-	-	89.39	1,820	114	397	951	3,282	ND < 2.5	
	12/11/2007	101.41	13.40	-	-	88.01	1,670	63.6	241	439	2,413.6	ND < 5	
	3/13/2008	101.41	13.12	-	-	88.29	1,770	94.2	399	649	2,912.2	ND < 10	
	6/6/2008	101.41	13.24	-	-	88.17	2,410	156	746	1,220	4,532	ND < 10	
	12/30/2008	101.41	12.58	-	-	88.83	1,970	80.4	319	620	2,989.4	ND < 5	
	3/16/2009	101.41	12.85	-	-	88.56	1,850	79.7	254	417	2,600.7	ND < 5	
	6/8/2009	101.41	12.51	-	-	88.90	1,680	79.8	302	480	2,541.8	ND < 10	
	7/20/2009	101.41	12.65	-	-	88.76	1,570	83.7	301	537	2,491.7	ND < 10	
	9/24/2009	101.41	12.96	-	-	88.45	1,010	48.8	131	363	1,552.8	ND < 1	
	12/3/2009	101.41	12.76	-	-	88.65	1,380	57.2	355	720	2,512.2	ND < 5	
	3/3/2010	101.41	11.90	-	-	89.51	1,790	80.6	400	548	2,818.6	ND < 10	
	6/7/2010	101.41	12.47	-	-	88.94	1,630	103	502	548	2,783	ND < 5	
	9/1/2010	101.41	12.83	-	-	88.58	2,580	102	347	637	3,666	ND < 20	
	12/3/2010	101.41	12.87	-	-	88.54	1,020	39.4	119	175	1,353.4	ND < 10	
	3/29/2011	101.41	10.46	-	-	90.95	746	34.7	137	163	1,080.7	ND < 5	
	6/16/2011	101.41	11.00	-	-	90.41	2,180	123	548	738	3,589	ND < 10	
	8/8/2011	101.41	10.71	-	-	90.70	2,440	104	261	374	3,179	ND < 10	
	9/19/2011	101.41	10.34	-	-	91.07	1,200	64.8	318	425	2,007.8	ND < 5	
	12/5/2011	101.41	9.90	-	-	91.51	1,620	65	287	345	2,317	ND < 0.92	
	3/16/2012	101.41	10.66	-	-	90.75	1,740	101	1,310	1,510	4,661	ND < 1	
	6/8/2012	101.41	9.83	-	-	91.58	153	11.9	109	137	410.9	ND < 1.00	
	9/7/2012	101.41	10.05	-	-	91.36	1,070	53.8	451	337	1,911.8	ND < 1.00	
	12/18/2012	101.41	10.18	-	-	91.23	944	52.9	160	315	1,471.9	ND < 1.00	

Table 1

HISTORICAL GROUNDWATER MONITORING SUMMARY

Former Mobil Station #17-EMW

304 Columbia Street

Brooklyn, NY

Well	Date	Casing Elevation (ft)	Depth to Water (ft)	Depth to Product (ft)	Product Thickness (ft)	Adjusted Groundwater Elevation (ft)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes, Total (ug/L)	Total BTEX (ug/L)	MTBE (ug/L)	Comments
						NYSDEC TOGS 1.1.1 WQS	1	5	5	5	NS	10	
MW-18 (cont)	3/14/2013	101.41	9.95	-	-	91.46	780	31.3	89.2	137	1,037.5	ND < 1.00	
	6/24/2013	101.41	8.85	-	-	92.56	382	26.5	97.3	188	693.8	ND < 1.00	
	9/4/2013	101.41	10.13	-	-	91.28	1,150	87.8	371	522	2,130.8	ND < 1.00	
	9/6/2013	101.41	10.66	-	-	90.75	1,150	87.8	371	522	2,130.8	ND < 1.00	
	12/10/2013	101.41	11.01	-	-	90.40	820	55.1	122	176	1,173.1	ND < 1.00	
	1/21/2014	101.41	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	101.41	-	-	-	-	897	70.6	230	216	1,413.6	ND < 1.00	COULD NOT GAUGE
	6/3/2014	101.41	9.45	-	-	91.96	282	48.4	209	248	787.4	ND < 1.00	
	10/2/2014	101.41	10.62	-	-	90.79	858	65.1	175	175	1,273.1	ND < 10.0	SHEEN
	12/3/2014	101.41	10.06	-	-	91.35	1,300	102	330	404	2,136	ND < 1.00	SHEEN
	3/11/2015	101.41	9.63	-	-	91.78	1,220	104	520	376	2,220	ND < 1.00	
	6/18/2015	101.41	9.76	-	-	91.65	774	74.8	268	427	1,543.8	ND < 1.00	
	9/9/2015	101.41	10.17	-	-	91.24	1,340	89.4	237	370	2,036.4	ND < 1.00	
	12/10/2015	101.41	10.86	-	-	90.55	1,090	85.3	250	432	1,857.3	ND < 1.00	
	3/16/2016	101.41	9.71	-	-	91.70	302	77.2	170	596	1,145.2	ND < 1.00	
	6/15/2016	101.41	10.22	-	-	91.19	933	99.6	211	521	1,764.6	ND < 5.00	
MW-19	9/6/2013	NSD	9.41	-	-	-	39.3	15.8	171	58.3	284.4	ND < 1.00	NSD
	10/7/2013	NSD	9.58	-	-	-	-	-	-	-	-	-	NSD
	10/23/2013	NSD	9.89	-	-	-	-	-	-	-	-	-	NSD
	11/11/2013	NSD	10.42	-	-	-	-	-	-	-	-	-	NSD
	12/10/2013	NSD	10.29	-	-	-	57.5	18.1	148	56.2	279.8	4.75	NSD
	1/21/2014	NSD	9.49	-	-	-	-	-	-	-	-	-	
	3/10/2014	NSD	-	-	-	-	67.1	8.28	245	58.0	378.38	2.75	COULD NOT GAUGE
	6/3/2014	NSD	8.58	-	-	-	35.7	4.06	126	36.2	201.96	ND < 1.00	
	10/2/2014	NSD	9.92	-	-	-	68.9	12.9	183	40.5	305.3	ND < 10.0	
	12/3/2014	NSD	9.15	-	-	-	57.7	11.3	168	46.4	283.4	ND < 1.00	
	3/11/2015	NSD	8.95	-	-	-	28.8	6.76	102	32.0	169.56	ND < 1.00	
	6/18/2015	NSD	9.08	-	-	-	63.6	9.92	72.6	34.5	180.62	2.40	
	9/9/2015	NSD	9.46	-	-	-	52.3	13.7	89.3	47.9	203.2	ND < 1.00	
	12/10/2015	NSD	9.82	-	-	-	38.3	13.9	105	58.5	215.7	ND < 1.00	
	3/16/2016	NSD	8.93	-	-	-	40.5	12.8	123	52.8	229.1	ND < 1.00	NSD
	6/15/2016	NSD	9.31	-	-	-	43.0	10.3	87.6	57.2	198.1	ND < 1.00	NSD
MW-20	9/6/2013	NSD	9.34	-	-	-	44.5	3.65	44.6	15.4	108.15	29.2	NSD
	10/7/2013	NSD	9.58	-	-	-	-	-	-	-	-	-	NSD
	10/23/2013	NSD	9.82	-	-	-	-	-	-	-	-	-	NSD
	11/11/2013	NSD	10.20	-	-	-	-	-	-	-	-	-	NSD
	12/10/2013	NSD	10.24	-	-	-	145	2.62	89.1	21.1	257.82	47.4	NSD
	1/21/2014	NSD	9.35	-	-	-	-	-	-	-	-	-	
	3/10/2014	NSD	-	-	-	-	19.8	ND < 1.00	2.63	ND < 3.00	22.43	10.5	COULD NOT GAUGE
	6/3/2014	NSD	8.38	-	-	-	3.99	ND < 1.00	ND < 1.00	ND < 2.00	3.99	2.97	
	10/2/2014	NSD	9.83	-	-	-	5.98	ND < 1.00	2.57	ND < 2.00	8.55	8.10	
	12/3/2014	NSD	9.11	-	-	-	10.9	ND < 1.00	7.94	4.12	22.96	6.57	
	3/11/2015	NSD	8.89	-	-	-	50.1	1.34	5.24	3.19	59.87	14.5	
	6/18/2015	NSD	9.04	-	-	-	4.01	ND < 1.00	ND < 1.00	ND < 3.00	4.01	3.64	
	9/9/2015	NSD	9.44	-	-	-	4.15	ND < 1.00	ND < 1.00	ND < 3.00	4.15	7.68	
	12/10/2015	NSD	9.74	-	-	-	5.91	ND < 1.00	ND < 1.00	ND < 3.00	5.91	5.26	
	3/16/2016	NSD	8.72	-	-	-	1.65	ND < 1.00	ND < 1.00	ND < 3.00	1.65	1.64	NSD
	6/15/2016	NSD	9.22	-	-	-	3.71	ND < 1.00	ND < 1.00	ND < 3.00	3.71	4.22	NSD

NOTES:

TOGS 1.1.1 WQS = Ambient Water Quality Standards Guidance Values and Groundwater Effluent Limitations, amended April 2000

- = Not analyzed or measured

BOLD = Value exceeds regulatory limits

BTEX = Benzene, Toluene, Ethylbenzene, and Total Xylenes

CNL = Could Not Locate

DRY = Insufficient water for sampling

ft = Feet

J = Estimated value

mg/L = Milligrams/Liter

MTBE = Methyl tertiary butyl ether

ND < # = Not detected. Where an analyte is not detected, a reporting limit is given.

NS = No Standard

NSD = No Survey Data

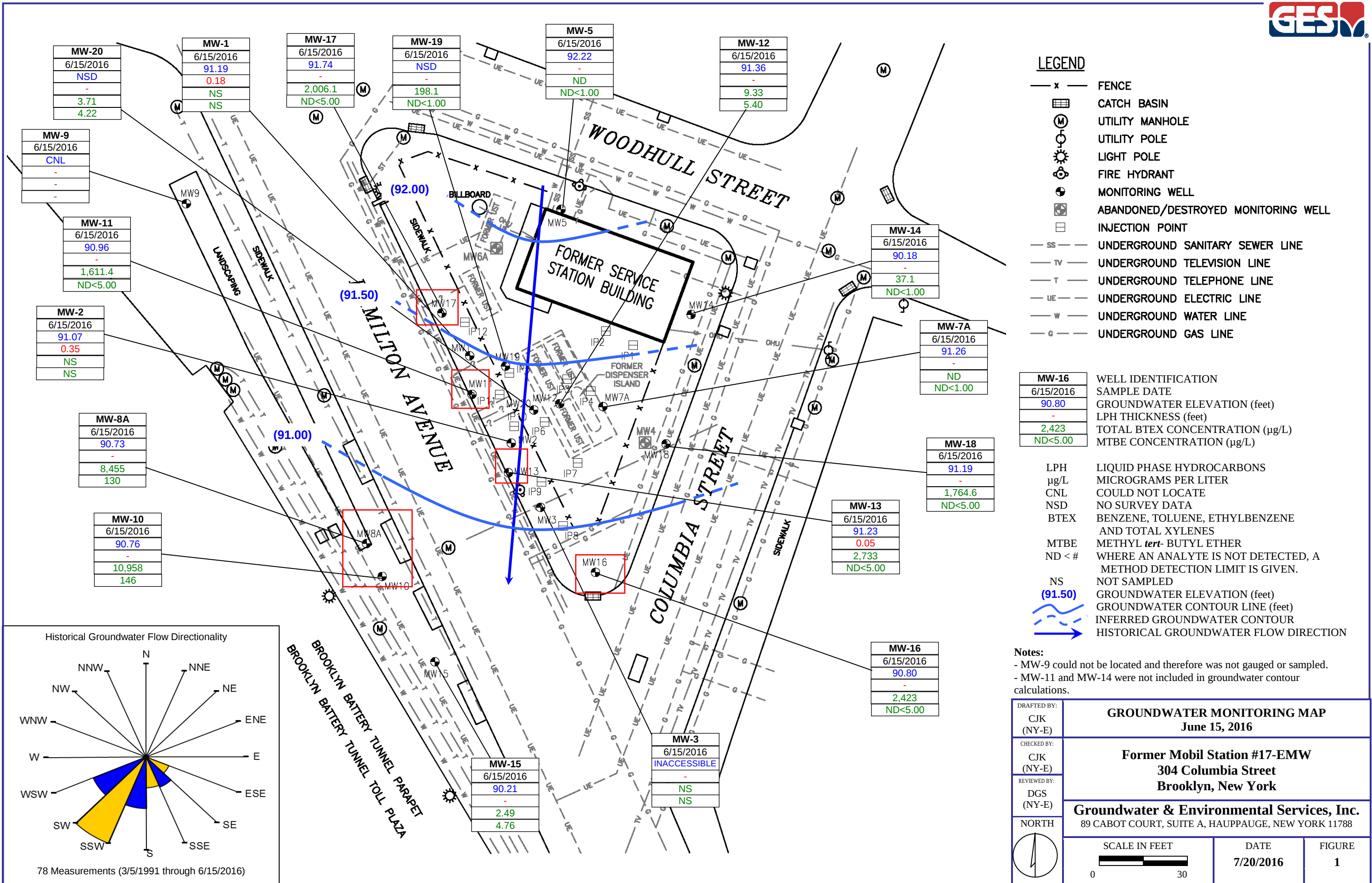
NYSDEC = New York State Department of Environmental Conservation

µg/L = Micrograms per liter

NA = Not Analyzed

NM = Field Data Not Measured

FIGURE



ATTACHMENT A

LIST OF ACRONYMS

AS :	Air Sparge
BTEX :	Benzene, Toluene, Ethylbenzene and Total Xylenes
Cat-Ox :	Catalytic Oxidizer
COC :	Chemical of Concern
CP-51 SCG :	Soil quality standards as defined by the NYSDEC <i>Commissioner Policy 51/ Soil Cleanup Guidance</i> , amended October 21, 2010 (updated soil cleanup levels to TAGM 4046)
DO :	Dissolved Oxygen
DTW :	Depth to Water
EPA :	Environmental Protection Agency
ESA :	Environmental Site Assessment
eV :	Electron Volt
F&T :	Fate and Transport
ft bgs :	Feet Below Ground Surface
GES :	Groundwater & Environmental Services, Inc.
GPR :	Ground Penetrating Radar
HIT :	High Intensity Targeted
HVE :	High Vacuum Extraction
IP :	Injection Point
IRM :	Interim Remedial Measure
ISCO :	In-situ Chemical Oxidation
lbs/hr	Pounds Per Hour
LNAPL :	Light Non-Aqueous Phase Liquids
LPH :	Liquid Phase Hydrocarbons
mg/L :	Milligrams per liter
MNA :	Monitored Natural Attenuation
MPE :	Multi-Phase Extraction
MTBE :	Methyl Tertiary Butyl Ether
mV :	Millivolts
MW :	Monitoring Well
ND :	Not Detected
NYCDEP :	New York City Department of Environmental Protection
NYSDEC :	New York State Department of Environmental Conservation
O&M :	Operations and Maintenance
ORP :	Oxidation-Reduction Potential
PID :	Photo-Ionization Detector
ppm _v :	Parts Per Million by Volume
P&T :	Pump and Treat
RAP	Remedial Action Plan
RSCOs :	Recommended Soil Cleanup Objectives as defined by TAGM 4046
SRS :	Sensitive Receptor Survey
STARS :	<i>Spills Technology and Remediation Series #1</i> , amended August 1992
STIP :	Stipulation Agreement.
SVE :	Soil Vapor Extraction
SVOCs :	Semi Volatile Organic Compounds
TAGM :	<i>Technical and Administrative Guidance Memorandum (#4046): Determination of Soil Cleanup Objectives</i> , amended January 24, 1994
TOC :	Top of Casing



µg/kg :	Micrograms per kilogram
µg/L :	Micrograms per liter
UST :	Underground Storage Tank
VGAC :	Vapor-Phase Granulated Activated Carbon
VEGE :	Vacuum Enhanced Groundwater Extraction
VOCs :	Volatile Organic Compounds
WQS :	Groundwater quality standards as defined by the June 1998 <i>Technical and Operation Guidance Series 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations</i> and the April 2000 <i>Addendum</i> .

ATTACHMENT B



SITE HISTORY

Former Mobil Station #17-EMW
304 Columbia Street
Brooklyn, New York

The site is currently an automobile repair facility. There are currently three (3) closed New York State Department of Environmental Conservation (NYSDEC) Spills associated with the site:

- NYSDEC Spill #93-12498 was opened on January 24, 1994 in response to a tank test failure. The spill was closed on May 14, 2003.
- NYSDEC Spill #05-02047 was opened on May 19, 2005 in response to a used oil spill. The spill was closed on April 26, 2010.
- NYSDEC Spill #06-10200 was opened on December 7, 2006 in response to an unknown spill event. The spill was closed on April 26, 2010.

There is one (1) active NYSDEC Spill associated with the site:

- NYSDEC Spill #89-04339 was opened on August 1, 1989 during UST removal activities. The spill remains open.

Information pertaining to the active spill, along with historical investigation and remedial activities conducted at the site, has been summarized below.

- July 1989 – A tank removal and replacement event was conducted on behalf of Mobil Oil Corporation. Fifteen (15) underground storage tanks (USTs) were removed from the site and four new USTs were installed. Petroleum-impacted soil and liquid phase hydrocarbons (LPH) were discovered during tank removal activities. Approximately 650 tons of petroleum-impacted soil was excavated and disposed at a state-certified landfill.
- August 1, 1989 – Spill #89-04339 was assigned to the site by the NYSDEC.
- July 25, 1990 – A site assessment was conducted at the site. Five (5) monitoring wells were installed (W-1 through W-5). LPH was present in wells W-2 and W-3.
- December 1996 – A subsurface investigation was conducted prior to site divestment, and included the installation of three (3) direct-push soil borings.
- April 22 through 25, 1997 – Site divestment activities were conducted and included the removal of one (1) 1,000-gallon waste oil UST, one (1) 4,000-gallon abandoned single-walled steel gasoline tank, two (2) 4,000-gallon double-walled gasoline fiberglass tanks, one (1) 4,000-gallon abandoned double-walled fiberglass gasoline tank, one (1) pump island, all associated piping, and three (3) hydraulic lifts. Approximately 235.06 tons of petroleum-contaminated soil was excavated and disposed at a state-certified landfill. Seven (7) on-site monitoring wells were destroyed during tank closure activities and site renovations.



- March 25 and April 6, 1998 – A subsurface investigation was conducted which included the installation of four (4) groundwater monitoring wells (MW-1 through MW-3 and MW-5).
- October 11, 1999 – An Environmental Site Assessment was conducted and included the installation of five (5) soil borings (B-1 through B-5) to varying depths between 8 and 34 feet below ground surface (bgs).
- May 10 and 15, 2002 – A *Site Investigation Work Plan* was submitted for proposed delineation and included the installation of ten (10) on-site soil borings and four (4) off-site soil borings (along the north side of Hamilton Avenue) using a direct-push drill rig to 16 feet bgs with groundwater sampling.
- June 24, 2002 – The NYSDEC approved the *Site Investigation Work Plan* and proposed schedules submitted on May 10 and 15, 2002. The NYSDEC requested four (4) additional soil borings along Columbia Street and two additional soil borings along Woodhull Street. The NYSDEC also requested a Sensitive Receptor Survey (SRS) and UST investigation of the former tank field to evaluate the existence and/or proper abandonment of 1,000-gallon USTs from 1997.
- July 22 through 26, 2002 – A subsurface investigation was conducted and included the installation of six (6) on-site soil borings (SB-1, SB-2, SB-4, SB-7, SB-8, and SB-9) and ten (10) off-site soil borings (SB-11 through SB-20).
- December 2, 2002 – A *Subsurface Investigation Report (SIR)* was submitted to the NYSDEC for fieldwork completed in July 2002. Recommendations were made for additional off-site borings/monitoring wells along Hamilton Avenue.
- February 10, 2003 – NYSDEC and ExxonMobil visited the site to discuss proposed monitoring well locations.
- February 21, 2003 – A revised proposed monitoring well/soil boring location map was submitted to the NYSDEC via email in accordance with site discussions on February 10, 2003.
- March 20, 2003 – A letter was received from the NYSDEC to ExxonMobil approving the on- and off-site boring and monitoring well locations submitted on the February 21, 2003 revised map.
- May 12, 2003 – A subsurface investigation was conducted which included the installation of five (5) monitoring wells (MW-6A, MW-7A, MW-8A, MW-9 and MW-10).
- September 16, 2003 – A *Corrective Action Plan (CAP)* was submitted which included a proposed pilot test and future remedial plan.
- September 25, 2003 – The NYSDEC requested the CAP be expanded to include details of the pilot test and the possible installation of additional wells.



- November 18, 2003 – Letter from the NYSDEC approving the amended CAP.
- February 9, 2004 – A subsurface investigation was conducted which included the installation of three (3) soil borings which were completed as monitoring wells (MW-11 through MW-13).
- February 27, 2004 – A high vacuum dual-phase extraction (HVDPE)/enhanced fluid recovery (EFR) event was conducted. During the event, preliminary data was collected to conduct an HVDPE/EFR pilot test.
- November 4, 2004 – A supplemental subsurface investigation was conducted in which one (1) soil boring was installed and completed as a monitoring well (MW-14).
- January 2005 through March 2006 – Enhanced fluid recovery events (EFR) were conducted on a monthly basis. A passive bailer was installed in monitoring well (MW-14) on September 23, 2005. Monitoring wells MW-6, MW-7, and MW-8 were destroyed during construction activities and MW-6A was destroyed in March 2005 during construction for a billboard sign.
- June 2008 – Subsurface investigation was conducted to further evaluate current soil and groundwater hydrocarbon concentrations for additional on- and off-site delineation.
- June 15 through 16, 2009 – Chemical oxidation injections were performed where approximately 1,800 gallons of sodium persulfate and 2,700 gallons of ISOTEC's patented catalyst were injected into twelve injection points located on site (IP-1 through IP-12).
- June 22 and 23, 2010 - Approximately 1,680 gallons of a diluted EnviroClean surfactant solution was injected at MW-1, MW-2, MW-3, MW-13, and MW-16 in order to address LPH observed at the site prior to continuation of chemical injections. On June 24, 25, and 28, 2010, approximately 710 gallons of fluids were recovered during EFR events from the five injection wells.
- July 26 through 28 and August 2 through 4, 2010 – Surfactant injection and recovery events were performed. A diluted EnviroClean surfactant solution was injected at MW-1 through MW-3, MW-13, and MW-16. Approximately 836 gallons of fluids were recovered during EFR events from the five injection wells.
- December 6 through 9, 2010 –An In-Situ Chemical Oxidation (ISCO) pilot test was conducted targeting off-site areas within the eastern sidewalk along Hamilton Avenue and onsite areas within the former gasoline UST area. Twelve injection points were installed. A total of 7,200 gallons of sodium persulfate (at approximately 10.0% concentration) activated with chelated iron catalyst (ASP), including 2,400 gallons of catalyst and 4,800 gallons of oxidizer, were injected.
- August 15 and August 18, 2011 – An ISCO event was conducted targeting off-site areas within the eastern sidewalk along Hamilton Avenue and on-site areas within the former gasoline underground storage tank (UST) area. A total of 7,200 gallons of Activated



Sodium Persulfate (ASP), including 2,400 gallons of catalyst and 4,800 gallons of oxidizer, were injected.

- July 9 through 11, 2012 – A Limited Off-Site Investigation was conducted within the eastern sidewalk along Hamilton Avenue to delineate soil impacts. Vertical Delineation: Soil analytical data results reported concentrations of STARS list compounds above CP-51 soil cleanup levels ranging from 8 to 20 feet below ground surface. Groundwater was encountered between 7 and 10 feet below ground surface within the recently advanced boring locations. This is evidence of a saturated smear zone that exists below the eastern sidewalk of Hamilton Avenue. Horizontal Delineation: Soil analytical data results reported concentrations of STARS list compounds above CP-51 soil cleanup levels within soil borings SB103 through SB107. Soil borings could not be completed south of SB107 due to underground utility obstructions. MW-17, located north of SB103, has contained measurable LPH within the last year. Horizontal delineation of soil impacts extend from SB101 south to MW-16 where increases of BTEX and MTBE have been reported in groundwater within the last year.
- December 18, 2012 – A Site Conceptual Model (SCM) and Remedial Alternatives Analysis (RAA) Report was submitted to NYSDEC.
- July 25, 2013 – A *Surfactant Injection and Well Installation Work Plan* was submitted to the NYSDEC detailing a proposed plan to conduct on-site surfactant injection/extraction activities to reduce the presence of liquid-phase hydrocarbons (LPH) in the vicinity of the western property boundary.
- July 29, 2013 – GES received approval of the July 2013 *Surfactant Injection and Well Installation Work Plan*.
- August 2, 2013 – An Underground Injection Control (UIC) Notification letter was submitted to the U.S. Environmental Protection Agency (EPA) requesting permission to conduct remedial activities at the Site involving the injection of surfactant solution into the subsurface. A copy of the letter was forwarded to the NYSDEC.
- August 29 and September 4, 2013 – Well installation activities were conducted which included the installation of two (2) monitoring wells (MW-19 and MW-20) on the west-central portion of the Site. The wells were installed in accordance with the July 2013 *Surfactant Injection and Well Installation Work Plan*.
- October 7 through 11, 2013 – A surfactant injection and extraction event was conducted at the Site to reduce the presence of LPH along the western property boundary. On October 7, 2013, 750 gallons of surfactant solution were injected into monitoring wells MW-1, MW-2, MW-11, MW-17, MW-19 and MW-20. Between October 8 and 11 of 2013, a total of 1,022 gallons of fluids were extracted from the same monitoring wells.
- October 15, 2013 – A *Monitoring Well Installation Report* was submitted to the NYSDEC detailing the August and September 2013 well installation activities.



- November 11 through 14, 2013 – A surfactant injection and extraction event was conducted at the Site. On November 11, 2013, a total of 500 gallons of surfactant solution was injected into monitoring wells MW-1, MW-2, MW-13 and MW-16. Between November 12 and 14 of 2013, a total of 1,008 gallons of fluids were extracted from the same monitoring wells.
- January 21, 2014 – Conducted post-surfactant injection groundwater monitoring activities which included the gauging of nine (9) monitoring wells (MW-1 through MW-3, MW-11, MW-13, MW-16, MW-17, MW-19 and MW-20). Monitoring well MW-12 was not gauged as it was inaccessible. LPH was detected in two (2) monitoring wells (MW-1 and MW-16).
- September 8 through 12, 2014 - Conducted a Surfactant Enhanced Groundwater Extraction Event which included the injection of approximately 500 gallons of surfactant into monitoring wells MW-1, MW-2, MW-11, MW-13, MW-16 and MW-17 on September 8, 2014 and the extraction of approximately 1,059 gallons of surfactant/groundwater mixture from these wells between September 9 through 12, 2014.
- December 8 through 12, 2014 – Conducted a Surfactant Enhanced Groundwater Extraction Event which included the injection of approximately 500 gallons of surfactant into monitoring wells MW-1, MW-2, MW-11, MW-13, MW-16 and MW-17 on December 8, 2014 and the extraction of approximately 1,450 gallons of surfactant/groundwater mixture from these wells between December 9 through 12, 2014.

ATTACHMENT C

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

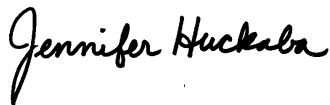
TestAmerica Job ID: 490-105804-1

TestAmerica SDG: 304 Columbia St, Brooklyn, NY
Client Project/Site: EM 17-EMW

For:

Groundwater & Environmental Services Inc
89A Cabot Court
Hauppauge, New York 11788

Attn: GES, Inc.



Authorized for release by:
6/26/2016 7:03:43 PM

Jennifer Huckaba, Project Manager II
(615)301-5042

jennifer.huckaba@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Sample Summary

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-105804-1	MW-5	Ground Water	06/15/16 09:00	06/16/16 09:35
490-105804-2	MW-7A	Ground Water	06/15/16 11:05	06/16/16 09:35
490-105804-3	MW-8A	Ground Water	06/15/16 09:35	06/16/16 09:35
490-105804-4	MW-10	Ground Water	06/15/16 09:10	06/16/16 09:35
490-105804-5	MW-11	Ground Water	06/15/16 10:25	06/16/16 09:35
490-105804-6	MW-12	Ground Water	06/15/16 11:30	06/16/16 09:35
490-105804-7	MW-13	Ground Water	06/15/16 10:40	06/16/16 09:35
490-105804-8	MW-14	Ground Water	06/15/16 09:25	06/16/16 09:35
490-105804-9	MW-15	Ground Water	06/15/16 08:45	06/16/16 09:35
490-105804-10	MW-16	Ground Water	06/15/16 10:15	06/16/16 09:35
490-105804-11	MW-17	Ground Water	06/15/16 10:00	06/16/16 09:35
490-105804-12	MW-18	Ground Water	06/15/16 09:50	06/16/16 09:35
490-105804-13	MW-19	Ground Water	06/15/16 10:50	06/16/16 09:35
490-105804-14	MW-20	Ground Water	06/15/16 11:55	06/16/16 09:35
490-105804-15	Trip Blank	Water	06/15/16 00:01	06/16/16 09:35

Case Narrative

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Job ID: 490-105804-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative 490-105804-1

Comments

No additional comments.

Receipt

The samples were received on 6/16/2016 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

GC/MS VOA

Method(s) 8260C: The following samples were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW-8A (490-105804-3), MW-10 (490-105804-4) and MW-19 (490-105804-13).

Method(s) 8260C: The following samples were diluted due to the nature of the sample matrix: MW-11 (490-105804-5), MW-13 (490-105804-7), MW-16 (490-105804-10), MW-17 (490-105804-11) and MW-18 (490-105804-12). Elevated reporting limits (RLs) are provided.

Method(s) 8260C: Surrogate recovery for the following sample was outside control limits: MW-19 (490-105804-13). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

The laboratory is only responsible for the certified testing and is not responsible for the sample integrity prior to laboratory receipt.

Definitions/Glossary

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-5

Date Collected: 06/15/16 09:00

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-1

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			06/17/16 06:03	1
Toluene	ND		1.00		ug/L			06/17/16 06:03	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 06:03	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 06:03	1
Methyl tert-butyl ether	ND		1.00		ug/L			06/17/16 06:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 130		06/17/16 06:03	1
4-Bromofluorobenzene (Surr)	97		70 - 130		06/17/16 06:03	1
Dibromofluoromethane (Surr)	112		70 - 130		06/17/16 06:03	1
Toluene-d8 (Surr)	100		70 - 130		06/17/16 06:03	1

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-7A

Date Collected: 06/15/16 11:05

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-2

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			06/17/16 06:29	1
Toluene	ND		1.00		ug/L			06/17/16 06:29	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 06:29	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 06:29	1
Methyl tert-butyl ether	ND		1.00		ug/L			06/17/16 06:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130					06/17/16 06:29	1
4-Bromofluorobenzene (Surr)	96		70 - 130					06/17/16 06:29	1
Dibromofluoromethane (Surr)	111		70 - 130					06/17/16 06:29	1
Toluene-d8 (Surr)	100		70 - 130					06/17/16 06:29	1

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-8A

Date Collected: 06/15/16 09:35

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-3

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1620		20.0		ug/L			06/17/16 10:52	20
Toluene	325		20.0		ug/L			06/17/16 10:52	20
Ethylbenzene	1560		20.0		ug/L			06/17/16 10:52	20
Xylenes, Total	4950		150		ug/L			06/17/16 16:04	50
Methyl tert-butyl ether	130		20.0		ug/L			06/17/16 10:52	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		06/17/16 10:52	20
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		06/17/16 16:04	50
4-Bromofluorobenzene (Surr)	100		70 - 130		06/17/16 10:52	20
4-Bromofluorobenzene (Surr)	97		70 - 130		06/17/16 16:04	50
Dibromofluoromethane (Surr)	111		70 - 130		06/17/16 10:52	20
Dibromofluoromethane (Surr)	110		70 - 130		06/17/16 16:04	50
Toluene-d8 (Surr)	104		70 - 130		06/17/16 10:52	20
Toluene-d8 (Surr)	102		70 - 130		06/17/16 16:04	50

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-10

Date Collected: 06/15/16 09:10

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-4

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	4110		50.0		ug/L			06/17/16 11:18	50
Toluene	518		50.0		ug/L			06/17/16 11:18	50
Ethylbenzene	1550		50.0		ug/L			06/17/16 11:18	50
Xylenes, Total	4780		150		ug/L			06/17/16 11:18	50
Methyl tert-butyl ether	146		50.0		ug/L			06/17/16 11:18	50
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 130					06/17/16 11:18	50
4-Bromofluorobenzene (Surr)	97		70 - 130					06/17/16 11:18	50
Dibromofluoromethane (Surr)	112		70 - 130					06/17/16 11:18	50
Toluene-d8 (Surr)	102		70 - 130					06/17/16 11:18	50

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-11

Date Collected: 06/15/16 10:25

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-5

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	314		5.00		ug/L			06/17/16 09:33	5
Toluene	70.4		5.00		ug/L			06/17/16 09:33	5
Ethylbenzene	559		5.00		ug/L			06/17/16 09:33	5
Xylenes, Total	668		15.0		ug/L			06/17/16 09:33	5
Methyl tert-butyl ether	ND		5.00		ug/L			06/17/16 09:33	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 130					06/17/16 09:33	5
4-Bromofluorobenzene (Surr)	100		70 - 130					06/17/16 09:33	5
Dibromofluoromethane (Surr)	109		70 - 130					06/17/16 09:33	5
Toluene-d8 (Surr)	102		70 - 130					06/17/16 09:33	5

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-12

Lab Sample ID: 490-105804-6

Date Collected: 06/15/16 11:30

Matrix: Ground Water

Date Received: 06/16/16 09:35

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	9.33		1.00		ug/L			06/17/16 06:55	1
Toluene	ND		1.00		ug/L			06/17/16 06:55	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 06:55	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 06:55	1
Methyl tert-butyl ether	5.40		1.00		ug/L			06/17/16 06:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		70 - 130					06/17/16 06:55	1
4-Bromofluorobenzene (Surr)	96		70 - 130					06/17/16 06:55	1
Dibromofluoromethane (Surr)	112		70 - 130					06/17/16 06:55	1
Toluene-d8 (Surr)	102		70 - 130					06/17/16 06:55	1

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-13

Date Collected: 06/15/16 10:40

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-7

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	810		5.00		ug/L			06/17/16 09:59	5
Toluene	114		5.00		ug/L			06/17/16 09:59	5
Ethylbenzene	870		5.00		ug/L			06/17/16 09:59	5
Xylenes, Total	939		15.0		ug/L			06/17/16 09:59	5
Methyl tert-butyl ether	ND		5.00		ug/L			06/17/16 09:59	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 130					06/17/16 09:59	5
4-Bromofluorobenzene (Surr)	100		70 - 130					06/17/16 09:59	5
Dibromofluoromethane (Surr)	108		70 - 130					06/17/16 09:59	5
Toluene-d8 (Surr)	102		70 - 130					06/17/16 09:59	5

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-14

Lab Sample ID: 490-105804-8

Date Collected: 06/15/16 09:25

Matrix: Ground Water

Date Received: 06/16/16 09:35

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	37.1		1.00		ug/L			06/17/16 07:21	1
Toluene	ND		1.00		ug/L			06/17/16 07:21	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 07:21	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 07:21	1
Methyl tert-butyl ether	ND		1.00		ug/L			06/17/16 07:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		70 - 130					06/17/16 07:21	1
4-Bromofluorobenzene (Surr)	97		70 - 130					06/17/16 07:21	1
Dibromofluoromethane (Surr)	112		70 - 130					06/17/16 07:21	1
Toluene-d8 (Surr)	103		70 - 130					06/17/16 07:21	1

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-15

Lab Sample ID: 490-105804-9

Date Collected: 06/15/16 08:45

Matrix: Ground Water

Date Received: 06/16/16 09:35

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.49		1.00		ug/L			06/17/16 05:36	1
Toluene	ND		1.00		ug/L			06/17/16 05:36	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 05:36	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 05:36	1
Methyl tert-butyl ether	4.76		1.00		ug/L			06/17/16 05:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		70 - 130					06/17/16 05:36	1
4-Bromofluorobenzene (Surr)	97		70 - 130					06/17/16 05:36	1
Dibromofluoromethane (Surr)	112		70 - 130					06/17/16 05:36	1
Toluene-d8 (Surr)	100		70 - 130					06/17/16 05:36	1

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-16

Date Collected: 06/15/16 10:15

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-10

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	923		5.00		ug/L			06/17/16 10:25	5
Toluene	101		5.00		ug/L			06/17/16 10:25	5
Ethylbenzene	481		5.00		ug/L			06/17/16 10:25	5
Xylenes, Total	918		15.0		ug/L			06/17/16 10:25	5
Methyl tert-butyl ether	ND		5.00		ug/L			06/17/16 10:25	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 130		06/17/16 10:25	5
4-Bromofluorobenzene (Surr)	100		70 - 130		06/17/16 10:25	5
Dibromofluoromethane (Surr)	111		70 - 130		06/17/16 10:25	5
Toluene-d8 (Surr)	104		70 - 130		06/17/16 10:25	5

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-17

Date Collected: 06/15/16 10:00

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-11

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	19.1		5.00		ug/L			06/17/16 08:40	5
Toluene	129		5.00		ug/L			06/17/16 08:40	5
Ethylbenzene	828		5.00		ug/L			06/17/16 08:40	5
Xylenes, Total	1030		15.0		ug/L			06/17/16 08:40	5
Methyl tert-butyl ether	ND		5.00		ug/L			06/17/16 08:40	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 130					06/17/16 08:40	5
4-Bromofluorobenzene (Surr)	101		70 - 130					06/17/16 08:40	5
Dibromofluoromethane (Surr)	108		70 - 130					06/17/16 08:40	5
Toluene-d8 (Surr)	112		70 - 130					06/17/16 08:40	5

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-18

Date Collected: 06/15/16 09:50

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-12

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	933		5.00		ug/L			06/17/16 09:07	5
Toluene	99.6		5.00		ug/L			06/17/16 09:07	5
Ethylbenzene	211		5.00		ug/L			06/17/16 09:07	5
Xylenes, Total	521		15.0		ug/L			06/17/16 09:07	5
Methyl tert-butyl ether	ND		5.00		ug/L			06/17/16 09:07	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 130					06/17/16 09:07	5
4-Bromofluorobenzene (Surr)	101		70 - 130					06/17/16 09:07	5
Dibromofluoromethane (Surr)	109		70 - 130					06/17/16 09:07	5
Toluene-d8 (Surr)	107		70 - 130					06/17/16 09:07	5

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-19

Date Collected: 06/15/16 10:50

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-13

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	43.0		1.00		ug/L			06/17/16 08:14	1
Toluene	10.3		1.00		ug/L			06/17/16 08:14	1
Ethylbenzene	87.6		1.00		ug/L			06/17/16 08:14	1
Xylenes, Total	57.2		3.00		ug/L			06/17/16 08:14	1
Methyl tert-butyl ether	ND		1.00		ug/L			06/17/16 08:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 130		06/17/16 08:14	1
4-Bromofluorobenzene (Surr)	126		70 - 130		06/17/16 08:14	1
Dibromofluoromethane (Surr)	110		70 - 130		06/17/16 08:14	1
Toluene-d8 (Surr)	220	X	70 - 130		06/17/16 08:14	1

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-20

Date Collected: 06/15/16 11:55

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-14

Matrix: Ground Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	3.71		1.00		ug/L			06/17/16 07:48	1
Toluene	ND		1.00		ug/L			06/17/16 07:48	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 07:48	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 07:48	1
Methyl tert-butyl ether	4.22		1.00		ug/L			06/17/16 07:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		70 - 130					06/17/16 07:48	1
4-Bromofluorobenzene (Surr)	97		70 - 130					06/17/16 07:48	1
Dibromofluoromethane (Surr)	112		70 - 130					06/17/16 07:48	1
Toluene-d8 (Surr)	101		70 - 130					06/17/16 07:48	1

Client Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: Trip Blank

Date Collected: 06/15/16 00:01

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-15

Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			06/17/16 05:10	1
Toluene	ND		1.00		ug/L			06/17/16 05:10	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 05:10	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 05:10	1
Methyl tert-butyl ether	ND		1.00		ug/L			06/17/16 05:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 130		06/17/16 05:10	1
4-Bromofluorobenzene (Surr)	97		70 - 130		06/17/16 05:10	1
Dibromofluoromethane (Surr)	110		70 - 130		06/17/16 05:10	1
Toluene-d8 (Surr)	101		70 - 130		06/17/16 05:10	1

QC Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 490-348375/7

Matrix: Water

Analysis Batch: 348375

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			06/17/16 04:44	1
Toluene	ND		1.00		ug/L			06/17/16 04:44	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 04:44	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 04:44	1
Methyl tert-butyl ether	ND		1.00		ug/L			06/17/16 04:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 130		06/17/16 04:44	1
4-Bromofluorobenzene (Surr)	97		70 - 130		06/17/16 04:44	1
Dibromofluoromethane (Surr)	112		70 - 130		06/17/16 04:44	1
Toluene-d8 (Surr)	100		70 - 130		06/17/16 04:44	1

Lab Sample ID: LCS 490-348375/3

Matrix: Water

Analysis Batch: 348375

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	50.84		ug/L		102	80 - 121
Toluene	50.0	50.54		ug/L		101	80 - 126
Ethylbenzene	50.0	48.42		ug/L		97	80 - 130
Xylenes, Total	150	148.8		ug/L		99	80 - 132
Methyl tert-butyl ether	50.0	53.54		ug/L		107	72 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	96		70 - 130
Dibromofluoromethane (Surr)	111		70 - 130
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: LCSD 490-348375/4

Matrix: Water

Analysis Batch: 348375

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	51.81		ug/L		104	80 - 121	2	12
Toluene	50.0	51.78		ug/L		104	80 - 126	2	13
Ethylbenzene	50.0	49.64		ug/L		99	80 - 130	2	12
Xylenes, Total	150	151.6		ug/L		101	80 - 132	2	11
Methyl tert-butyl ether	50.0	52.64		ug/L		105	72 - 133	2	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	111		70 - 130
Toluene-d8 (Surr)	101		70 - 130

TestAmerica Nashville

QC Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 490-105804-1 MS

Matrix: Ground Water

Analysis Batch: 348375

Client Sample ID: MW-5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		50.0	54.05		ug/L		108	55 - 147
Toluene	ND		50.0	54.47		ug/L		109	64 - 136
Ethylbenzene	ND		50.0	51.70		ug/L		103	65 - 139
Xylenes, Total	ND		150	157.3		ug/L		105	69 - 132
Methyl tert-butyl ether	ND		50.0	56.74		ug/L		113	55 - 141

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130
Toluene-d8 (Surr)	100		70 - 130

Lab Sample ID: 490-105804-1 MSD

Matrix: Ground Water

Analysis Batch: 348375

Client Sample ID: MW-5

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		50.0	52.69		ug/L		105	55 - 147	3	17
Toluene	ND		50.0	53.67		ug/L		107	64 - 136	1	15
Ethylbenzene	ND		50.0	51.38		ug/L		103	65 - 139	1	15
Xylenes, Total	ND		150	155.7		ug/L		104	69 - 132	1	15
Methyl tert-butyl ether	ND		50.0	50.28		ug/L		101	55 - 141	12	16

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 130
4-Bromofluorobenzene (Surr)	98		70 - 130
Dibromofluoromethane (Surr)	105		70 - 130
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: MB 490-348587/7

Matrix: Water

Analysis Batch: 348587

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.00		ug/L			06/17/16 15:31	1
Toluene	ND		1.00		ug/L			06/17/16 15:31	1
Ethylbenzene	ND		1.00		ug/L			06/17/16 15:31	1
Xylenes, Total	ND		3.00		ug/L			06/17/16 15:31	1
Methyl tert-butyl ether	ND		1.00		ug/L			06/17/16 15:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 130		06/17/16 15:31	1
4-Bromofluorobenzene (Surr)	98		70 - 130		06/17/16 15:31	1
Dibromofluoromethane (Surr)	110		70 - 130		06/17/16 15:31	1
Toluene-d8 (Surr)	101		70 - 130		06/17/16 15:31	1

TestAmerica Nashville

QC Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 490-348587/3

Matrix: Water

Analysis Batch: 348587

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.25		ug/L		96	80 - 121
Toluene	50.0	49.95		ug/L		100	80 - 126
Ethylbenzene	50.0	47.31		ug/L		95	80 - 130
Xylenes, Total	150	144.9		ug/L		97	80 - 132
Methyl tert-butyl ether	50.0	49.06		ug/L		98	72 - 133

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: LCSD 490-348587/4

Matrix: Water

Analysis Batch: 348587

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	50.11		ug/L		100	80 - 121	4	12
Toluene	50.0	50.99		ug/L		102	80 - 126	2	13
Ethylbenzene	50.0	48.36		ug/L		97	80 - 130	2	12
Xylenes, Total	150	148.2		ug/L		99	80 - 132	2	11
Methyl tert-butyl ether	50.0	49.78		ug/L		100	72 - 133	1	16

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	109		70 - 130
Toluene-d8 (Surr)	102		70 - 130

Lab Sample ID: 490-105801-B-7 MS

Matrix: Water

Analysis Batch: 348587

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		50.0	53.26		ug/L		107	55 - 147
Toluene	ND		50.0	54.12		ug/L		108	64 - 136
Ethylbenzene	ND		50.0	51.72		ug/L		103	65 - 139
Xylenes, Total	ND		150	156.9		ug/L		105	69 - 132
Methyl tert-butyl ether	ND		50.0	46.17		ug/L		92	55 - 141

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 130
4-Bromofluorobenzene (Surr)	97		70 - 130
Dibromofluoromethane (Surr)	108		70 - 130
Toluene-d8 (Surr)	102		70 - 130

TestAmerica Nashville

QC Sample Results

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 490-105801-C-7 MSD

Matrix: Water

Analysis Batch: 348587

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		50.0	53.39		ug/L		107	55 - 147	0	17
Toluene	ND		50.0	54.69		ug/L		109	64 - 136	1	15
Ethylbenzene	ND		50.0	52.04		ug/L		104	65 - 139	1	15
Xylenes, Total	ND		150	158.2		ug/L		105	69 - 132	1	15
Methyl tert-butyl ether	ND		50.0	47.17		ug/L		94	55 - 141	2	16
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	97		70 - 130								
4-Bromofluorobenzene (Surr)	98		70 - 130								
Dibromofluoromethane (Surr)	108		70 - 130								
Toluene-d8 (Surr)	103		70 - 130								

QC Association Summary

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

GC/MS VOA

Analysis Batch: 348375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-105804-1	MW-5	Total/NA	Ground Water	8260C	
490-105804-1 MS	MW-5	Total/NA	Ground Water	8260C	
490-105804-1 MSD	MW-5	Total/NA	Ground Water	8260C	
490-105804-2	MW-7A	Total/NA	Ground Water	8260C	
490-105804-3	MW-8A	Total/NA	Ground Water	8260C	
490-105804-4	MW-10	Total/NA	Ground Water	8260C	
490-105804-5	MW-11	Total/NA	Ground Water	8260C	
490-105804-6	MW-12	Total/NA	Ground Water	8260C	
490-105804-7	MW-13	Total/NA	Ground Water	8260C	
490-105804-8	MW-14	Total/NA	Ground Water	8260C	
490-105804-9	MW-15	Total/NA	Ground Water	8260C	
490-105804-10	MW-16	Total/NA	Ground Water	8260C	
490-105804-11	MW-17	Total/NA	Ground Water	8260C	
490-105804-12	MW-18	Total/NA	Ground Water	8260C	
490-105804-13	MW-19	Total/NA	Ground Water	8260C	
490-105804-14	MW-20	Total/NA	Ground Water	8260C	
490-105804-15	Trip Blank	Total/NA	Water	8260C	
LCS 490-348375/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 490-348375/4	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 490-348375/7	Method Blank	Total/NA	Water	8260C	

Analysis Batch: 348587

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-105801-B-7 MS	Matrix Spike	Total/NA	Water	8260C	
490-105801-C-7 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	
490-105804-3	MW-8A	Total/NA	Ground Water	8260C	
LCS 490-348587/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 490-348587/4	Lab Control Sample Dup	Total/NA	Water	8260C	
MB 490-348587/7	Method Blank	Total/NA	Water	8260C	

Lab Chronicle

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-5

Date Collected: 06/15/16 09:00

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-1

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 06:03	RP	TAL NSH

Client Sample ID: MW-7A

Date Collected: 06/15/16 11:05

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-2

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 06:29	RP	TAL NSH

Client Sample ID: MW-8A

Date Collected: 06/15/16 09:35

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-3

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	10 mL	10 mL	348375	06/17/16 10:52	RP	TAL NSH
Total/NA	Analysis	8260C		50	10 mL	10 mL	348587	06/17/16 16:04	AK1	TAL NSH

Client Sample ID: MW-10

Date Collected: 06/15/16 09:10

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-4

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		50	10 mL	10 mL	348375	06/17/16 11:18	RP	TAL NSH

Client Sample ID: MW-11

Date Collected: 06/15/16 10:25

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-5

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	10 mL	10 mL	348375	06/17/16 09:33	RP	TAL NSH

Client Sample ID: MW-12

Date Collected: 06/15/16 11:30

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-6

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 06:55	RP	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-13

Date Collected: 06/15/16 10:40

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-7

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	10 mL	10 mL	348375	06/17/16 09:59	RP	TAL NSH

Client Sample ID: MW-14

Date Collected: 06/15/16 09:25

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-8

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 07:21	RP	TAL NSH

Client Sample ID: MW-15

Date Collected: 06/15/16 08:45

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-9

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 05:36	RP	TAL NSH

Client Sample ID: MW-16

Date Collected: 06/15/16 10:15

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-10

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	10 mL	10 mL	348375	06/17/16 10:25	RP	TAL NSH

Client Sample ID: MW-17

Date Collected: 06/15/16 10:00

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-11

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	10 mL	10 mL	348375	06/17/16 08:40	RP	TAL NSH

Client Sample ID: MW-18

Date Collected: 06/15/16 09:50

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-12

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	10 mL	10 mL	348375	06/17/16 09:07	RP	TAL NSH

TestAmerica Nashville

Lab Chronicle

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Client Sample ID: MW-19

Date Collected: 06/15/16 10:50

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-13

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 08:14	RP	TAL NSH

Client Sample ID: MW-20

Date Collected: 06/15/16 11:55

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-14

Matrix: Ground Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 07:48	RP	TAL NSH

Client Sample ID: Trip Blank

Date Collected: 06/15/16 00:01

Date Received: 06/16/16 09:35

Lab Sample ID: 490-105804-15

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	10 mL	10 mL	348375	06/17/16 05:10	RP	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL NSH

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Certification Summary

Client: Groundwater & Environmental Services Inc
Project/Site: EM 17-EMW

TestAmerica Job ID: 490-105804-1
SDG: 304 Columbia St, Brooklyn, NY

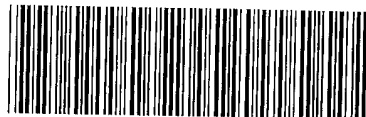
Laboratory: TestAmerica Nashville

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
New York	NELAP	2	11342	03-31-17

COOLER RECEIPT FORM

New York City



490-105804 Chain of Custody

Cooler Received/Opened On 6/16/2016 @ 0935

Time Samples Removed From Cooler 1347 Time Samples Placed In Storage 1409 (2 Hour Window)

1. Tracking # 1533 (last 4 digits, FedEx) Courier: FedEx

IR Gun ID: 17960357 pH Strip Lot HC564992 Chlorine Strip Lot 012516A

2. Temperature of rep. sample or temp blank when opened: 3.4 Degrees Celsius

3. If Item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES...NO...NA

If yes, how many and where: 1 on Front

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA

I certify that I opened the cooler and answered questions 1-6 (initial) MAJ

7. Were custody seals on containers: YES NO and Intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES...NO...NA

b. Was there any observable headspace present in any VOA vial? YES NO NA

14. Was there a Trip Blank in this cooler? YES...NO...NA If multiple coolers, sequence # 1

I certify that I unloaded the cooler and answered questions 7-14 (initial) MAJ

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) MAJ

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) MAJ

I certify that I attached a label with the unique LIMS number to each container (initial) MAJ

21. Were there Non-Conformance issues at login? YES...NO Was a NCM generated? YES...NO..#

Login Sample Receipt Checklist

Client: Groundwater & Environmental Services Inc

Job Number: 490-105804-1

SDG Number: 304 Columbia St, Brooklyn, NY

Login Number: 105804

List Number: 1

Creator: McBride, Mike

List Source: TestAmerica Nashville

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	