



Groundwater & Environmental Services, Inc.

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April 30, 2018

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 January through March 2018 for the 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:

Waste Disposal

On January 10th, 2018, Lorco Petroleum Services removed one (1) 55 gallon steel drum containing spent oxygen releasing compounds (ORC) and absorbent socks.

Quarterly Groundwater Monitoring

The 1st quarter groundwater monitoring event was conducted on March 26th, 2018. Fifteen (15) monitoring wells were gauged (MW-1, MW-3, MW-5, MW-8A, MW-10 through MW-20). Fourteen (14) monitoring wells were sampled (MW-3, MW-5, MW-8A, MW-10 through MW-20). Samples collected were analyzed for BTEX and MTBE via EPA Method 8260. Monitoring wells MW-2, MW-7A and MW-9 could not be located or were inaccessible and therefore were not gauged or sampled. LPH was detected in monitoring well MW-1 (0.27 feet) and a sheen was observed in MW-13 and MW-17.

Dissolved BTEX concentrations ranged from non-detect at five (5) well (MW-3, MW-5, MW-12, MW-14, and MW-15) to 13,210 µg/L (MW-10). Dissolved MTBE concentrations ranged from non-detect at eight (8) wells (MW-3, MW-5, MW-12, MW-14, MW-16 through MW-19) to 110 µg/L (MW-10).



The next groundwater monitoring event will be conducted in June 2018 and the 2nd Quarter 2018 Site Status Update Report will be submitted in July 2018.

Should you have any questions or comments regarding the information provided herein, please contact Michael DeGloria at (866) 839-5195, extension 3839.

Respectfully Submitted,
Groundwater & Environmental Services, Inc.

A handwritten signature in black ink that reads "Dustin Gagliano". The signature is written in a cursive style with a large initial 'D' and 'G'.

Dustin Gagliano
Associate Environmental Scientist

Michael DeGloria, P.G.
Principal Project Manager

Enclosure

cc: Elaine Lamm-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:	Elaine Lamm	NYSDEC Spill #(s):	89-04339
Consultant:	Groundwater & Environmental Services, Inc. (GES)	GES Project Manager:	Michael DeGloria, P.G.

Report Date: April 30, 2018

Monitoring Period: January through March 2018

Current Site Status: The Site is currently an automobile repair facility and is undergoing redevelopment under the supervision of the New York City Office of Environmental Remediation.

Work Performed:

- January 10, 2018 - Lorco Petroleum Services removed one (1) 55 gallon steel drum containing spent oxygen releasing compounds (ORC) and absorbent socks. A copy of the non-hazardous waste manifest is included in **Appendix D**.
- March 26, 2018 - Conducted quarterly groundwater monitoring activities which included the gauging of fifteen (15) monitoring wells (MW-1, MW-3, MW-5, MW-8A, MW-10 through MW-20) and sampling off fourteen (14) monitoring wells (MW-3, MW-5, MW-8A, MW-10 through MW-20). Monitoring wells MW-2, MW-7A and MW-9 could not be located or were inaccessible and therefore were not gauged or sampled. Monitoring wells MW-1 contained measurable product. A sheen was observed in monitoring wells MW-13 and MW-17. Groundwater analytical results are summarized on **Table 1** and **Figure 1**. The full laboratory report is included in **Appendix C**.



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:	0.27 feet (MW-1)
Groundwater Depth:	7.68 feet (MW-17) to 9.88 (MW-8A) feet below TOC
Groundwater Flow:	Southwest
Sampling Frequency:	Quarterly
Groundwater Analytical Results:	<u>BTEX:</u> ND at five (5) wells (MW-3, MW-5, MW-12, MW-14, and MW-15) to 13,210 µg/L (MW-10) <u>MTBE:</u> ND at eight (8) wells (MW-3, MW-5, MW-12, MW-14, MW-16 through MW-19) to 110 µg/L (MW-10)

Proposed Plans:

- Conduct quarterly groundwater sampling in June 2018
- Prepare a Site Status Update Report in July 2018 documenting quarterly Site activities

Attachments:

Table 1 – Historical Groundwater Monitoring Summary

Figure 1 – Groundwater Monitoring Map – March 26, 2018

Attachment A – List of Acronyms

Attachment B – Site History

Attachment C – Laboratory Analytical Results – Groundwater

Attachment D – Waste Manifest



Table 1

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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	2/28/2005	100.00	8.48	8.47	0.01	91.53	-	-	-	-	-	-	
	6/6/2005	100.00	8.41	8.40	0.01	91.60	-	-	-	-	-	-	
	9/8/2005	100.00	9.10	9.02	0.08	90.96	-	-	-	-	-	-	
	12/29/2005	100.00	7.95	7.94	0.01	92.06	-	-	-	-	-	-	
	3/20/2006	100.00	8.69	8.60	0.09	91.38	-	-	-	-	-	-	
	6/7/2006	100.00	7.65	-	-	92.35	-	-	-	-	-	-	
	9/14/2006	100.00	7.70	7.51	0.19	92.44	-	-	-	-	-	-	
	12/7/2006	100.00	7.88	7.62	0.26	92.32	-	-	-	-	-	-	
	3/29/2007	100.00	8.44	8.28	0.16	91.68	-	-	-	-	-	-	
	6/13/2007	100.00	-	-	-	-	-	-	-	-	-	-	
	9/19/2007	100.00	9.03	8.68	0.35	91.23	-	-	-	-	-	-	
	12/11/2007	100.00	9.10	9.08	0.02	90.92	-	-	-	-	-	-	
	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	
	7/20/2009	100.00	8.48	8.20	0.28	91.73	-	-	-	-	-	-	
	9/24/2009	100.00	9.12	8.98	0.14	90.99	-	-	-	-	-	-	
	12/3/2009	100.00	8.96	8.86	0.10	91.12	-	-	-	-	-	-	
	3/3/2010	100.00	7.98	-	-	92.02	109	75.2	948	293	1,425.2	3.6	
	6/7/2010	100.00	8.31	8.27	0.04	91.72	-	-	-	-	-	-	
	9/1/2010	100.00	9.36	-	-	90.64	89.3	86.5	1,010	405	1,590.8	ND < 20	
	12/3/2010	100.00	9.13	9.10	0.03	90.89	-	-	-	-	-	-	
	3/29/2011	100.00	8.01	7.84	0.17	92.12	-	-	-	-	-	-	
	6/16/2011	100.00	5.53	5.13	0.40	94.77	-	-	-	-	-	-	
	8/8/2011	100.00	9.06	8.88	0.18	91.08	-	-	-	-	-	-	
	9/19/2011	100.00	7.75	7.37	0.38	92.54	-	-	-	-	-	-	
	12/5/2011	100.00	8.24	8.12	0.12	91.85	-	-	-	-	-	-	
	3/16/2012	100.00	9.32	9.29	0.03	90.70	-	-	-	-	-	-	
	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	
	9/6/2013	100.00	8.93	8.85	0.08	91.13	-	-	-	-	-	-	
9/26/2013	100.00	9.14	8.98	0.16	90.98	-	-	-	-	-	-		
10/23/2013	100.00	9.41	9.37	0.04	90.62	-	-	-	-	-	-		
11/11/2013	100.00	9.74	-	-	90.26	-	-	-	-	-	-		
12/10/2013	100.00	9.88	-	-	90.12	16.7	28.7	315	211	571.4	ND < 1.00		
1/21/2014	100.00	9.09	9.05	0.04	90.94	-	-	-	-	-	-		
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		
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		
6/18/2015	100.00	8.65	8.58	0.07	91.40	-	-	-	-	-	-		
9/9/2015	100.00	7.98	7.90	0.08	92.08	38.5	21.8	277	167	504.3	ND < 1.00		
12/10/2015	100.00	9.57	9.33	0.24	90.61	-	-	-	-	-	-		
3/16/2016	100.00	8.63	8.37	0.26	91.57	-	-	-	-	-	-		
6/15/2016	100.00	8.95	8.77	0.18	91.19	-	-	-	-	-	-		
9/19/2016	100.00	9.50	9.35	0.15	90.61	-	-	-	-	-	-		
12/8/2016	100.00	8.90	8.70	0.20	91.25	-	-	-	-	-	-		
3/16/2017	100.00	-	-	-	-	-	-	-	-	-	-		
6/26/2017	100.00	8.15	7.82	0.33	92.10	-	-	-	-	-	-		
9/7/2017	100.00	8.36	-	-	91.64	42.4	19.2	287	193	541.6	ND < 1.0		
12/11/2017	100.00	9.47	9.33	0.14	90.64	-	-	-	-	-	-		
3/26/2018	100.00	8.78	8.51	0.27	91.42	-	-	-	-	-	-		
MW-2	2/28/2005	100.16	8.78	8.77	0.01	91.39	-	-	-	-	-	-	
	6/6/2005	100.16	8.66	8.65	0.01	91.51	-	-	-	-	-	-	
	9/8/2005	100.16	9.87	9.62	0.25	90.48	-	-	-	-	-	-	
	12/29/2005	100.16	8.26	8.25	0.01	91.91	-	-	-	-	-	-	
	3/20/2006	100.16	8.96	8.88	0.08	91.26	-	-	-	-	-	-	
	6/7/2006	100.16	7.73	-	-	92.43	-	-	-	-	-	-	
	9/14/2006	100.16	7.90	7.58	0.32	92.50	-	-	-	-	-	-	
	12/7/2006	100.16	8.20	7.80	0.40	92.26	-	-	-	-	-	-	
	3/29/2007	100.16	8.81	8.72	0.09	91.42	-	-	-	-	-	-	
	6/13/2007	100.16	8.15	7.72	0.43	92.33	-	-	-	-	-	-	
	9/19/2007	100.16	9.18	8.68	0.50	91.36	-	-	-	-	-	-	
	12/11/2007	100.16	9.35	9.28	0.07	90.86	-	-	-	-	-	-	
	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	
	6/8/2009	100.16	8.61	8.53	0.08	91.61	-	-	-	-	-	-	
	7/20/2009	100.16	9.47	8.35	1.12	91.53	-	-	-	-	-	-	
	9/24/2009	100.16	9.06	9.01	0.05	91.14	-	-	-	-	-	-	
	12/3/2009	100.16	9.75	9.05	0.70	90.94	-	-	-	-	-	-	
	3/3/2010	100.16	8.30	8.27	0.03	91.88	-	-	-	-	-	-	
	6/7/2010	100.16	9.07	8.36	0.71	91.62	-	-	-	-	-	-	
	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	
	3/29/2011	100.16	8.74	8.08	0.66	91.92	-	-	-	-	-	-	
	6/16/2011	100.16	9.80	8.30	1.50	91.49	-	-	-	-	-	-	
	8/8/2011	100.16	9.43	9.06	0.37	91.01	-	-	-	-	-	-	
	9/19/2011	100.16	7.81	7.50	0.31	92.58	-	-	-	-	-	-	
	12/5/2011	100.16	9.10	8.42	0.68	91.57	-	-	-	-	-	-	
	3/16/2012	100.16	10.10	9.58	0.52	90.45	-	-	-	-	-	-	
6/8/2012	100.16	8.75	8.72	0.03	91.43	-	-	-	-	-	-		
9/7/2012	100.16	8.95	8.91	0.04	91.24	-	-	-	-	-	-		
12/18/2012	100.16	10.02	8.99	0.13	90.24	-	-	-	-	-	-		
3/14/2013	100.16	9.65	9.60	0.05	90.55	-	-	-	-	-	-		
6/24/2013	100.16	8.30	7.95	0.35	92.12	-	-	-	-	-	-		

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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-2 (cont)	9/6/2013	100.16	9.07	9.02	0.05	91.13	-	-	-	-	-	-	
	10/7/2013	100.16	9.34	-	-	90.82	-	-	-	-	-	-	
	10/23/2013	100.16	9.70	9.67	0.03	90.48	-	-	-	-	-	-	
	11/11/2013	100.16	10.05	-	-	90.11	-	-	-	-	-	-	
	12/10/2013	100.16	10.08	-	-	90.08	258	18.5	204	109	589.5	39.1	
	1/21/2014	100.16	9.33	-	-	90.83	-	-	-	-	-	-	
	3/10/2014	100.16	-	-	-	-	-	-	-	-	-	-	COULD NOT GAUGE
	6/3/2014	100.16	8.34	8.28	0.06	91.87	-	-	-	-	-	-	
	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
	6/18/2015	100.16	9.12	8.86	0.26	91.24	-	-	-	-	-	-	
	9/9/2015	100.16	9.67	9.12	0.55	90.90	373	15.3	249	394	1,031.3	1.51	
	12/10/2015	100.16	9.95	9.55	0.40	90.51	-	-	-	-	-	-	
	3/16/2016	100.16	9.11	8.67	0.44	91.38	-	-	-	-	-	-	
	6/15/2016	100.16	9.35	9.00	0.35	91.07	-	-	-	-	-	-	
	9/19/2016	100.16	10.12	9.67	0.45	90.38	-	-	-	-	-	-	
	12/8/2016	100.16	9.12	9.00	0.12	91.13	-	-	-	-	-	-	
	3/16/2017	100.16	9.55	9.20	0.35	90.87	493	32.7	213	227	965.7	1.17	
	6/26/2017	100.16	8.67	8.05	0.62	91.96	-	-	-	-	-	-	
9/7/2017	100.16	9.07	8.51	0.56	91.51	-	-	-	-	-	-		
12/11/2017	100.16	10.23	9.35	0.88	90.59	-	-	-	-	-	-		
3/26/2018	100.16	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE	
MW-3	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	
	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	
	11/11/2013	100.43	10.85	-	-	89.58	-	-	-	-	-	-	
	12/10/2013	100.43	10.55	-	-	89.88	4.18	18.5	222	211	455.68	ND < 1.00	
	1/21/2014	100.43	9.78	-	-	90.65	-	-	-	-	-	-	
	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	BDL	ND < 1.00		
9/19/2016	100.43	8.45	-	-	91.98	ND < 1.00*	ND < 1.00*	8.66	11.6	20.26	ND < 1.00		
12/8/2016	100.43	9.26	-	-	91.17	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	ND < 1.00		
3/16/2017	100.43	-	-	-	-	-	-	-	-	-	-	CNL	
6/26/2017	100.43	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE	
9/7/2017	100.43	8.26	-	-	92.17	ND < 0.50	ND < 1.0	1.7	0.67	2.37	ND < 1.0		
12/11/2017	100.43	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE	
3/26/2018	100.43	8.30	-	-	92.13	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	BDL	ND < 0.5		
MW-4	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	BDL	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	BDL	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	BDL	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	BDL	ND < 1	
	3/20/2006	101.15	8.63	-	-	92.52	ND < 1	ND < 1	ND < 1	ND < 1	BDL	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	BDL	ND < 1	
	3/29/2007	101.15	8.10	-	-	93.05	ND < 1	ND < 1	ND < 1	ND < 1	BDL	ND < 1	
	6/13/2007	101.15	7.68	-	-	93.47	ND < 1	ND < 1	ND <				

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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-9 (cont)	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	
	6/26/2017	NSD	-	-	-	-	-	-	-	-	-	-	CNL	
	9/7/2017	NSD	-	-	-	-	-	-	-	-	-	-	CNL	
	12/11/2017	NSD	-	-	-	-	-	-	-	-	-	-	CNL	
3/26/2018	NSD	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE		
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	10.90	-	-	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			
9/19/2016	100.50	10.38	-	-	90.12	4,990	591	1,680	5,020	12,281	114			
12/8/2016	100.50	9.85	-	-	90.65	4,790	742	1,830	5,750	13,112	126			
3/16/2017	100.50	-	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE	
6/26/2017	100.50	8.93	-	-	91.57	4,210	641	2,700	4,900	12,451	86.1			
9/7/2017	100.50	9.36	-	-	91.14	4,120	629	2,190	6,560	13,499	ND < 20			
12/11/2017	100.50	10.51	-	-	89.99	4,600	570	1,800	5,300	12,270	100			
3/26/2018	100.50	9.84	-	-	90.66	4,600	610	1,900	6,100	13,210	110			
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		
	9/8/2005	99.62	8.81	8.78	0.03	90.83	-	-	-	-	-	-		
	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		
	6/7/2006	99.62	7.45	-	-	92.17	-	-	-	-	-	-		
	9/14/2006	99.62	7.13	7.11	0.02	92.51	-	-	-	-	-	-		
	12/7/2006	99.62	7.30	7.28	0.02	92.34	-	-	-	-	-	-		
	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		
	12/11/2007	99.62	8.70	8.68	0.02	90.94	-	-	-	-	-	-		
	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		
	7/20/2009	99.62	7.93	7.85	0.08	91.75	-	-	-	-	-	-		
	9/24/2009	99.62	8.59	8.54	0.05	91.07	-	-	-	-	-	-		
	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			

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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)	6/8/2012	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	
	10/7/2013	99.62	8.76	-	-	90.86	-	-	-	-	-	-	
	10/23/2013	99.62	9.03	-	-	90.59	-	-	-	-	-	-	
	11/11/2013	99.62	9.42	-	-	90.20	-	-	-	-	-	-	
	12/10/2013	99.62	9.92	-	-	89.70	490	107	561	869	2,027	2.93	
	1/21/2014	99.62	8.65	-	-	90.97	-	-	-	-	-	-	
	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		
6/15/2016	99.62	8.66	-	-	90.96	314	70.4	559	668	1,611.4	ND < 5.00		
9/19/2016	99.62	9.41	-	-	90.21	359	95.9	603	825	1,882.9	ND < 5.00		
12/8/2016	99.62	8.54	-	-	91.08	160	47.3	426	497	1,130.3	ND < 5.00		
3/16/2017	99.62	8.87	-	-	90.75	129	23.7	316	270	738.7	ND < 5.00		
6/26/2017	99.62	7.71	-	-	91.91	191	13.3	348	328	880.3	2.1		
9/7/2017	99.62	8.23	-	-	91.39	260	55.4	512	544	1,371.4	2.2		
12/11/2017	99.62	9.20	-	-	90.42	180	52	390	480	1,102	2		
3/26/2018	99.62	8.13	-	-	91.49	220	32	350	300	902	3		
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	
	10/7/2013	100.85	9.98	-	-	90.87	-	-	-	-	-	-	
	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		
9/19/2016	100.85	10.35	-	-	90.50	9.06	ND < 1.00*	ND < 1.00*	ND < 3.00*	9.06	1.84		
12/8/2016	100.85	9.80	-	-	91.05	14.8	ND < 1.00	ND < 1.00	ND < 3.00	14.8	9.59		
3/16/2017	100.85	9.65	-	-	91.20	1.75	ND < 1.00	ND < 1.00	ND < 3.00	1.75	ND < 1.00		
6/26/2017	100.85	9.65	-	-	91.20	0.39	ND < 1.0	ND < 1.0	ND < 1.0	0.39	0.58		
9/7/2017	100.85	9.66	-	-	91.19	3.3	ND < 1.0	0.35	ND < 1.0	3.65	ND < 1.0		
12/11/2017	100.85	10.18	-	-	90.67	7	ND < 3	ND < 3	ND < 3	7	4		
3/26/2018	100.85	8.75	-	-	92.10	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	BDL	ND < 0.5		
MW-13	2/28/2005	100.04	8.83	6.66	2.17	92.84	-	-	-	-	-	-	
	6/6/2005	100.04	8.54	8.53	0.01	91.51	-	-	-	-	-	-	
	9/8/2005	100.04	9.37	9.16	0.21	90.83	-	-	-	-	-	-	
	12/29/2005	100.04	8.65	8.64	0.01	91.40	-	-	-	-	-	-	
	3/20/2006	100.04	6.67	6.66	0.01	93.38	-	-	-	-	-	-	
	6/7/2006	100.04	7.61	-	-	92.43	-	-	-	-	-	-	
	9/14/2006	100.04	7.34	7.32	0.02	92.7							

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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-13 (cont)	12/11/2007	100.04	9.30	9.28	0.02	90.76	-	-	-	-	-	-	
	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	
	9/4/2013	100.04	8.94	8.91	0.03	91.12	-	-	-	-	-	-	
	9/6/2013	100.04	9.06	8.89	0.17	91.11	-	-	-	-	-	-	
	9/26/2013	100.04	9.16	9.15	0.01	90.89	395	77.9	515	458	1,445.9	3.87	
	10/7/2013	100.04	9.21	-	-	90.83	-	-	-	-	-	-	
	10/23/2013	100.04	9.45	-	-	90.59	-	-	-	-	-	-	
	11/11/2013	100.04	9.86	-	-	90.18	-	-	-	-	-	-	
	12/10/2013	100.04	10.02	-	-	90.02	767	126	744	1,240	2,877	13.7	
	1/21/2014	100.04	9.19	-	-	90.85	-	-	-	-	-	-	
	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		
6/18/2015	100.04	8.67	8.62	0.05	91.41	-	-	-	-	-	-		
9/9/2015	100.04	9.05	-	-	90.99	619	117	762	715	2,213	ND < 1.00		
12/10/2015	100.04	9.45	9.30	0.15	90.70	-	-	-	-	-	-		
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		
9/19/2016	100.04	9.51	9.49	0.02	90.55	971	165	985	1,500	3,621	ND < 5.00		
12/8/2016	100.04	8.86	8.79	0.07	91.23	731	69.4	677	705	2,182.4	ND < 5.00		
3/16/2017	100.04	8.99	8.98	0.01	91.06	491	84.7	659	576	1,810.7	ND < 10.0		
6/26/2017	100.04	7.96	7.95	0.01	92.09	23.1	4.8	183	99.7	310.6	1.4		
9/7/2017	100.04	8.65	8.56	0.09	91.46	-	-	-	-	-	-		
12/11/2017	100.04	9.34	9.31	0.03	90.72	470	85	710	820	2,085	0.8		
3/26/2018	100.04	8.54	-	-	91.50	94	29	290	450	863	2	SHEEN	
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	
	3/20/2006	100.04	13.03	12.53	0.50	87.39	-	-	-	-	-	-	
	6/7/2006	100.04	8.19	8.12	0.07	91.90	-	-	-	-	-	-	
	12/7/2006	100.04	13.30	8.55	4.75	90.30	-	-	-	-	-	-	
	3/29/2007	100.04	10.52	-	-	89.52	118	4.8	1.4	11.3	135.5	ND < 1	
	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	
	12/11/2007	100.04	10.95	10.90	0.05	89.13	-	-	-	-	-	-	
	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 <					

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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)	6/15/2016	100.04	9.86	-	-	90.18	37.1	ND < 1.00	ND < 1.00	ND < 3.00	37.1	ND < 1.00	
	9/19/2016	100.04	10.52	-	-	89.52	24.8	ND < 10.0*	ND < 10.0	ND < 30.0	24.8	ND < 10.0	
	12/8/2016	100.04	9.52	-	-	90.52	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	ND < 1.00	
	3/16/2017	100.04	9.91	-	-	90.13	4.96	ND < 1.00	ND < 1.00	ND < 3.00	4.96	ND < 1.00	
	6/26/2017	100.04	8.79	-	-	91.25	0.51	ND < 1.0	ND < 1.0	ND < 1.0	0.51	ND < 1.0	
	9/7/2017	100.04	9.45	-	-	90.59	3.9	ND < 1.0	ND < 1.0	ND < 1.0	3.9	ND < 1.0	
	12/11/2017	100.04	10.10	-	-	89.94	0.8	ND < 0.5	ND < 0.5	ND < 0.5	0.8	ND < 0.5	
	3/26/2018	100.04	8.85	-	-	91.19	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	BDL	ND < 0.5	
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	58	
	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	BDL	10.2	
	12/18/2012	100.47	9.99	-	-	90.48	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	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	BDL	18.0	
	1/21/2014	100.47	-	-	-	-	-	-	-	-	-	-	
	3/10/2014	100.47	-	-	-	-	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	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	BDL	8.18	
	12/3/2014	100.47	10.21	-	-	90.26	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	BDL	4.11	
	3/11/2015	100.47	10.33	-	-	90.14	ND < 1.00	ND < 1.00	ND < 1.00	ND < 2.00	BDL	9.97	
	6/18/2015	100.47	10.02	-	-	90.45	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	6.61	
	9/9/2015	100.47	10.25	-	-	90.22	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	6.55	
	12/10/2015	100.47	10.50	-	-	89.97	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	6.69	
3/16/2016	100.47	10.12	-	-	90.35	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	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		
9/19/2016	100.47	10.59	-	-	89.88	ND < 1.00*	ND < 1.00*	ND < 1.00*	ND < 3.00*	BDL	8.42		
12/8/2016	100.47	9.77	-	-	90.70	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	2.96		
3/16/2017	100.47	9.90	-	-	90.57	1.23	ND < 1.00	ND < 1.00	ND < 3.00	1.23	4.17		
6/26/2017	100.47	9.03	-	-	91.44	1.6	ND < 1.0	ND < 1.0	ND < 1.0	1.6	ND < 1.0		
9/7/2017	100.47	9.63	-	-	90.84	1.5	ND < 1.0	0.33	0.49	2.32	0.76		
12/11/2017	100.47	10.65	-	-	89.82	3	ND < 0.5	ND < 0.5	0.7	3.7	4		
3/26/2018	100.47	9.80	-	-	90.67	ND < 0.5	ND < 0.5	ND < 0.5	ND < 0.5	BDL	1		
MW-16	9/27/2006	100.42	11.90	-	-	88.52	1,600	159	1,220	2,520	5,499	2.3	
	12/7/2006	100.42	18.97	10.25	8.72	87.99	-	-	-	-	-	-	
	3/29/2007	100.42	11.36	-	-	89.06	2,320	87.1	430	1,110	3,947.1	ND < 20	
	6/13/2007	100.42	10.82	10.68	0.14	89.71	-	-	-	-	-	-	
	9/19/2007	100.42	10.98	10.76	0.22	89.61	-	-	-	-	-	-	
	12/11/2007	100.42	9.80	9.77	0.03	90.64	-	-	-	-	-	-	
	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	
	6/8/2009	100.42	9.64	-	-	90.78	2,830	158	667	1,010	4,665	ND < 20	
	7/20/2009	100.42	9.56	9.47	0.09	90.93	-	-	-	-	-	-	
	9/24/2009	100.42	9.96	9.80	0.16	90.58	-	-	-	-	-	-	
	12/3/2009	100.42	9.85	9.76	0.09	90.64	-	-	-	-	-	-	
	3/3/2010	100.42	8.90	-	-	91.52	940	104	1,070	2,020	4,134	3.5	
	6/7/2010	100.42	9.28	9.00	0.28	91.35	-	-	-	-	-	-	
	9/1/2010	100.42	10.21	-	-	90.21	2,590	131	492	828	4,041	ND < 20	
	12/3/2010	100.42	9.67	9.66	0.01	90.76	-	-	-	-	-	-	
	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	
	8/8/2011	100.42	9.44	9.41	0.03	91.00	-	-	-	-	-	-	
	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	
	9/4/2013	100.42	9.32	9.28	0.04	91.13							

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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)	6/3/2014	100.42	8.72	8.64	0.08	91.76	-	-	-	-	-	-	
	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	
	9/19/2016	100.42	10.03	-	-	90.39	978	108	534	1,010	2,630	ND < 5.00	
	12/8/2016	100.42	9.33	-	-	91.09	926	85.4	502	1,010	2,523.4	ND < 5.00	
	3/16/2017	100.42	9.50	-	-	90.92	906	89.0	433	786	2,214	ND < 10.0	
	6/26/2017	100.42	8.38	-	-	92.04	715	56.5	466	783	2,020.5	ND < 4.0	
	9/7/2017	100.42	8.86	8.85	0.01	91.57	929	75.1	462	570	2,036.1	ND < 5.0	
12/11/2017	100.42	9.93	9.90	0.03	90.51	810	70	390	590	1,860	ND < 3		
3/26/2018	100.42	8.79	-	-	91.63	670	61	360	700	1,791	ND < 0.5		
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	
	6/16/2011	100.05	7.96	7.90	0.06	92.14	-	-	-	-	-	-	
	8/8/2011	100.05	8.62	8.58	0.04	91.46	-	-	-	-	-	-	
	9/19/2011	100.05	7.12	7.11	0.01	92.94	-	-	-	-	-	-	
	12/5/2011	100.05	7.86	-	-	92.19	9.3	43	230	209	491.3	1	
	3/16/2012	100.05	9.40	9.33	0.07	90.70	-	-	-	-	-	-	
	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	
	9/4/2013	100.05	8.75	8.70	0.05	91.34	-	-	-	-	-	-	
	9/6/2013	100.05	9.74	9.70	0.04	90.34	-	-	-	-	-	-	
	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	
	10/7/2013	100.05	7.93	-	-	92.12	-	-	-	-	-	-	
	10/23/2013	100.05	9.06	-	-	90.99	-	-	-	-	-	-	
	11/11/2013	100.05	9.52	-	-	90.53	-	-	-	-	-	-	
	12/10/2013	100.05	9.45	-	-	90.60	10.2	80.4	562	719	1,371.6	ND < 1.00	
	1/21/2014	100.05	8.75	-	-	91.30	-	-	-	-	-	-	
	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		
9/19/2016	100.05	9.06	-	-	90.99	37.7	159	1,060	1,190	2,446.7	ND < 5.00		
12/8/2016	100.05	8.26	-	-	91.79	24.5	125	923	1,130	2,202.5	ND < 5.00		
3/16/2017	100.05	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE	
6/26/2017	100.05	7.40	-	-	92.65	5.8	16.6	12.3	111	145.7	ND < 1.0		
9/7/2017	100.05	7.86	-	-	92.19	15.2	84.4	755	601	1,455.6	ND < 2.0		
12/11/2017	100.05	-	-	-	-	14	100	790	900	1,804	ND < 3		
3/26/2018	100.05	7.68	-	-	92.37	2	7	130	54	193	ND < 0.5	SHEEN	
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												

Table 1



HISTORICAL GROUNDWATER MONITORING SUMMARY

ExxonMobil 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)	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	
	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	
	9/19/2016	101.41	11.13	-	-	90.28	1,110	130	255	716	2,211	ND < 5.00	
12/8/2016	101.41	10.08	-	-	91.33	971	82.8	145	467	1,665.8	ND < 5.00		
3/16/2017	101.41	-	-	-	-	-	-	-	-	-	-	INACCESSIBLE	
6/26/2017	101.41	9.05	-	-	92.36	96.4	5.3	10.5	11.2	123.4	ND < 1.0		
9/7/2017	101.41	9.57	-	-	91.84	1,510	111	127	427	2,175	ND < 10		
12/11/2017	101.41	-	-	-	-	810	54	59	190	1,113	ND < 3		
3/26/2018	101.41	9.42	-	-	91.99	300	38	90	280	708	ND < 0.5		
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
	9/19/2016	NSD	10.03	-	-	-	50.9	19.1	72.0	68.2	210.2	ND < 1.00	NSD
	12/8/2016	NSD	9.20	-	-	-	39.8	11.0	49.5	50.3	150.6	ND < 1.00	
	3/16/2017	NSD	9.47	-	-	-	45.7	12.4	46.5	46.9	151.5	ND < 1.00	
	6/26/2017	NSD	8.33	-	-	-	13.8	2.4	18.5	13.9	48.6	ND < 1.0	
9/7/2017	NSD	8.86	-	-	-	41.0	10.1	21.7	42.6	115.4	ND < 1.0		
12/11/2017	NSD	-	-	-	-	33	12	13	47	105	ND < 1		
3/26/2018	NSD	8.74	-	-	-	17	6	27	32	82	ND < 0.5		
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
	9/19/2016	NSD	9.94	-	-	-	8.53	ND < 1.00*	ND < 1.00*	ND < 3.00*	8.53	6.90	NSD
	12/8/2016	NSD	9.17	-	-	-	3.22	ND < 1.00	ND < 1.00	ND < 3.00	3.22	5.14	
	3/16/2017	NSD	9.30	-	-	-	ND < 1.00	ND < 1.00	ND < 1.00	ND < 3.00	BDL	1.82	
	6/26/2017	NSD	8.22	-	-	-	0.74	ND < 1.0	ND < 1.0	ND < 1.0	0.74	1.9	
9/7/2017	NSD	8.77	-	-	-	2.4	ND < 1.0	ND < 1.0	ND < 1.0	2.4	6.3		
12/11/2017	NSD	-	-	-	-	7	ND < 0.5	ND < 0.5	ND < 0.5	7	8		
3/26/2018	NSD	8.38	-	-	-	1	ND < 0.5	ND < 0.5	ND < 0.5	1	2		

NOTES:

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

- = Not analyzed or measured

BDL = Below Detection Limits

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

ug/L = Micrograms per liter

NA = Not Analyzed

NM = Field Data Not Measured





Figure 1

M:\Graphics\0500-Long Island\ExxonMobil\Mobil17-EMW Brooklyn17-EMW Brooklyn17-EMW Brooklyn SM.dwg, Template B, WShea

MW9	3-26-18
NM	
NS	
NS	
NS	

MW17	3-26-18
92.37	
SHEEN	
193	
ND<0.5	

MW1	3-26-18
91.24	
0.27	
NS	
NS	

MW19	3-26-18
NSD	
NP	
82	
ND<0.5	

MW11	3-26-18
91.49	
NP	
902	
3	

MW20	3-26-18
NSD	
NP	
1	
2	

MW2	3-26-18
NM	
NS	
NS	
NS	

MW8A	3-26-18
90.71	
NP	
7,880	
19	

MW10	3-26-18
90.66	
NP	
13,210	
110	

MW13	3-26-18
91.50	
SHEEN	
863	
2	

MW15	3-26-18
90.67	
NP	
BDL	
1	

MW3	3-26-18
92.13	
NP	
BDL	
ND<0.5	

MW5	3-26-18
92.30	
NP	
BDL	
ND<0.5	

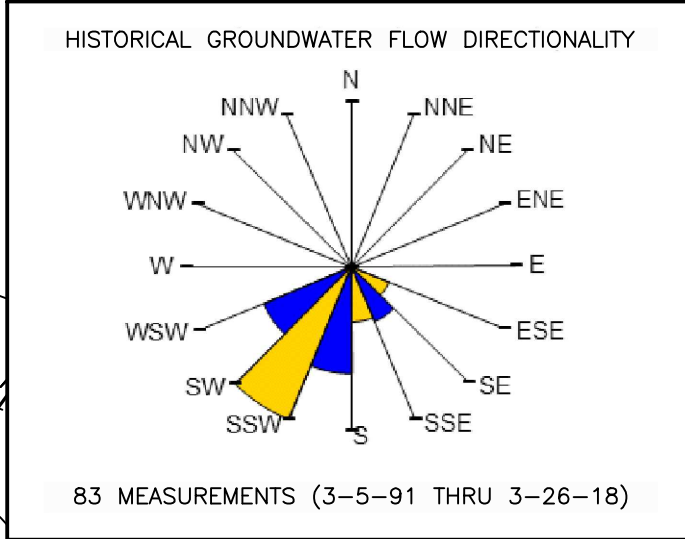
MW14	3-26-18
91.19	
NP	
BDL	
ND<0.5	

MW7A	3-26-18
NM	
NS	
NS	
NS	

MW18	3-26-18
91.99	
NP	
708	
ND<0.5	

MW12	3-26-18
92.10	
NP	
BDL	
ND<0.5	

MW16	3-26-18
91.63	
NP	
1,791	
ND<0.5	



LEGEND

- x — FENCE
- [] CATCH BASIN
- (M) UTILITY MANHOLE
- (P) UTILITY POLE
- (L) LIGHT POLE
- (H) FIRE HYDRANT
- (W) MONITORING WELL
- (X) ABANDONED/DESTROYED MONITORING WELL
- (I) INJECTION POINT

WELL IDENTIFICATION

MW1	3-26-18
91.42	
0.27	
NS	
NS	

ug/L MICROGRAMS PER LITER
LPH LIQUID PHASE HYDROCARBONS
BTEX BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
MTBE METHYL *tert*-BUTYL ETHER
NSD NO SURVEY DATA
NP NO PRODUCT
NS NOT SAMPLED
NM NOT MEASURED
ND NON DETECT
<# WHERE AN ANALYTE IS NOT DETECTED, A METHOD DETECTION LIMIT IS GIVEN

GROUNDWATER CONTOUR (feet)
DASHED WHERE INFERRED

NOTE:
VALUE SHADED PURPLE EXCEEDS REGULATORY LIMITS.
MW2, MW7A AND MW9 WERE INACCESSIBLE DURING THIS SAMPLING EVENT.

Groundwater Monitoring Map
March 26, 2018

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

Drawn
W.G.S.
Designed
Approved

Date
4/16/18
Figure
1

Scale In Feet
0 30



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 Commissioner Policy 51/ Soil Cleanup Guidance, 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
ppmv :	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 :	Spills Technology and Remediation Series #1, amended August 1992
STIP :	Stipulation Agreement.
SVE :	Soil Vapor Extraction
SVOCs :	Semi Volatile Organic Compounds
TAGM :	Technical and Administrative Guidance Memorandum (#4046): Determination of Soil Cleanup Objectives, 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 Technical and Operation Guidance Series 1.1.1, Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations and the April 2000 Addendum.



Attachment B



Groundwater & Environmental Services, Inc.

89 Cabot Court, Suite A
Hauppauge, NY 11788

T. 800.360.9405

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.
- October 31, 2016 – GES submitted an Exposure Assessment Report to the NYSDEC which concluded that impacted soils and groundwater at the Site have been actively targeted by aggressive remediation techniques, the remaining on-Site and off-Site impacts are stable or decreasing and it has been demonstrated that there is no risk of exposure to residual soil and groundwater impacts for the residential properties up-gradient from the Site.



Attachment C



ANALYSIS REPORT

Prepared by:

Eurofins Lancaster Laboratories Environmental
2425 New Holland Pike
Lancaster, PA 17601

Prepared for:

ExxonMobil c/o GES NY
440 Creamery Way
Suite 500
Exton PA 19341

Report Date: April 06, 2018 09:52

Project: 17-EMW Brooklyn

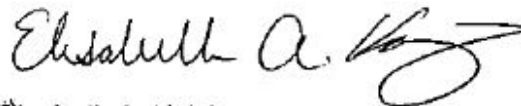
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PO Number: 632223
State of Sample Origin: NY

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/>. To request copies of prior scopes of accreditation, contact your project manager.

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Electronic Copy To ExxonMobil c/o GES NY

Attn: Dustin Gagliano
Attn: NE Region
Attn: Michael DeGloria

Respectfully Submitted,



Elisabeth A. Knisley
Project Manager

(717) 556-7262



SAMPLE INFORMATION

<u>Client Sample Description</u>	<u>Sample Collection Date/Time</u>	<u>ELLE#</u>
MW-3 Groundwater	03/26/2018 10:20	9525211
MW-5 Groundwater	03/26/2018 08:30	9525212
MW-20 Groundwater	03/26/2018 11:45	9525213
MW-12 Groundwater	03/26/2018 12:45	9525214
MW-14 Groundwater	03/26/2018 09:10	9525215
MW-15 Groundwater	03/26/2018 11:05	9525216
MW-19 Groundwater	03/26/2018 11:00	9525217
MW-17 Groundwater	03/26/2018 08:40	9525218
MW-11 Groundwater	03/26/2018 13:05	9525219
MW-18 Groundwater	03/26/2018 09:45	9525220
MW-8A Groundwater	03/26/2018 12:15	9525221
MW-10 Groundwater	03/26/2018 11:50	9525222
MW-16 Groundwater	03/26/2018 10:25	9525223
MW-13 Groundwater	03/26/2018 09:45	9525224
TRIP BLANK Water	03/26/2018	9525225

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Sample Description: MW-3 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525211
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 10:20

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1	1
11997	Ethylbenzene	100-41-4	N.D.	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	N.D.	0.5	1	1
11997	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180931AA	04/03/2018 13:02	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180931AA	04/03/2018 13:02	Linda C Pape	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-5 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525212
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 08:30

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1	1
11997	Ethylbenzene	100-41-4	N.D.	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	N.D.	0.5	1	1
11997	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

State of New York Certification No. 10670

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180931AA	04/03/2018 13:24	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180931AA	04/03/2018 13:24	Linda C Pape	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-20 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525213
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 11:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	1	0.5	1	1
11997	Ethylbenzene	100-41-4	N.D.	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	2	0.5	1	1
11997	Toluene	108-88-3	N.D.	0.5	1	1
11997	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

State of New York Certification No. 10670

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180931AA	04/03/2018 13:45	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180931AA	04/03/2018 13:45	Linda C Pape	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-12 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525214
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 12:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1	1
11997	Ethylbenzene	100-41-4	N.D.	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	N.D.	0.5	1	1
11997	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180931AA	04/03/2018 14:07	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180931AA	04/03/2018 14:07	Linda C Pape	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-14 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525215
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 09:10

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1	1
11997	Ethylbenzene	100-41-4	N.D.	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	N.D.	0.5	1	1
11997	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180931AA	04/03/2018 14:29	Linda C Pape	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180931AA	04/03/2018 14:29	Linda C Pape	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-15 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525216
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submission Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 11:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1	1
11997	Ethylbenzene	100-41-4	N.D.	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	1 J	0.5	1	1
11997	Toluene	108-88-3	N.D.	0.5	1	1
11997	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 03:07	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 03:07	Don V Viray	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-19 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525217
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 11:00

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	17	0.5	1	1
11997	Ethylbenzene	100-41-4	27	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	6	0.5	1	1
11997	Xylene (Total)	1330-20-7	32	0.5	1	1

Sample Comments

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 04:13	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 04:13	Don V Viray	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-17 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525218
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 08:40

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	2	0.5	1	1
11997	Ethylbenzene	100-41-4	130	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	7	0.5	1	1
11997	Xylene (Total)	1330-20-7	54	0.5	1	1

Sample Comments

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 03:29	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 03:29	Don V Viray	1

*=This limit was used in the evaluation of the final result

Sample Description: MW-11 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525219
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 13:05

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	220	0.5	1	1
11997	Ethylbenzene	100-41-4	350	5	10	10
11997	Methyl Tertiary Butyl Ether	1634-04-4	3	0.5	1	1
11997	Toluene	108-88-3	32	0.5	1	1
11997	Xylene (Total)	1330-20-7	300	0.5	1	1

Sample Comments

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 04:56	Don V Viray	1
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 05:17	Don V Viray	10
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 04:56	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	5180933AA	04/04/2018 05:17	Don V Viray	10

*=This limit was used in the evaluation of the final result

Sample Description: MW-18 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525220
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 09:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	300	5	10	10
11997	Ethylbenzene	100-41-4	90	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	38	0.5	1	1
11997	Xylene (Total)	1330-20-7	280	0.5	1	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 05:39	Don V Viray	1
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 06:01	Don V Viray	10
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 05:39	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	5180933AA	04/04/2018 06:01	Don V Viray	10

*=This limit was used in the evaluation of the final result

Sample Description: MW-8A Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525221
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submission Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 12:15

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles			SW-846 8260C	ug/l	ug/l	
11997	Benzene	71-43-2	1,200	10	20	20
11997	Ethylbenzene	100-41-4	1,600	10	20	20
11997	Methyl Tertiary Butyl Ether	1634-04-4	19	1	2	2
11997	Toluene	108-88-3	280	1	2	2
11997	Xylene (Total)	1330-20-7	4,800	10	20	20

A preserved vial was submitted for analysis. However, the pH at the time of analysis was 4.

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 06:22	Don V Viray	2
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 06:44	Don V Viray	20
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 06:22	Don V Viray	2
01163	GC/MS VOA Water Prep	SW-846 5030C	2	5180933AA	04/04/2018 06:44	Don V Viray	20

*=This limit was used in the evaluation of the final result

Sample Description: MW-10 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525222
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submission Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 11:50

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	4,600	50	100	100
11997	Ethylbenzene	100-41-4	1,900	5	10	10
11997	Methyl Tertiary Butyl Ether	1634-04-4	110	5	10	10
11997	Toluene	108-88-3	610	5	10	10
11997	Xylene (Total)	1330-20-7	6,100	5	10	10

A preserved vial was submitted for analysis. However, the pH at the time of analysis was 7.

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180941AA	04/05/2018 00:18	Kevin D Kelly	10
11997	BTEX/MTBE	SW-846 8260C	1	5180941AA	04/05/2018 00:39	Kevin D Kelly	100
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180941AA	04/05/2018 00:18	Kevin D Kelly	10
01163	GC/MS VOA Water Prep	SW-846 5030C	2	5180941AA	04/05/2018 00:39	Kevin D Kelly	100

*=This limit was used in the evaluation of the final result

Sample Description: MW-16 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525223
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 10:25

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	670	5	10	10
11997	Ethylbenzene	100-41-4	360	5	10	10
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	61	0.5	1	1
11997	Xylene (Total)	1330-20-7	700	5	10	10

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180941AA	04/04/2018 22:08	Kevin D Kelly	1
11997	BTEX/MTBE	SW-846 8260C	1	5180941AA	04/04/2018 22:29	Kevin D Kelly	10
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180941AA	04/04/2018 22:08	Kevin D Kelly	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	5180941AA	04/04/2018 22:29	Kevin D Kelly	10

*=This limit was used in the evaluation of the final result

Sample Description: MW-13 Groundwater
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525224
ELLE Group #: 1924019
Matrix: Groundwater

Project Name: 17-EMW Brooklyn

Submission Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018 09:45

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	94	0.5	1	1
11997	Ethylbenzene	100-41-4	290	5	10	10
11997	Methyl Tertiary Butyl Ether	1634-04-4	2	0.5	1	1
11997	Toluene	108-88-3	29	0.5	1	1
11997	Xylene (Total)	1330-20-7	450	0.5	1	1

Sample Comments

State of New York Certification No. 10670

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 03:51	Don V Viray	1
11997	BTEX/MTBE	SW-846 8260C	1	5180941AA	04/04/2018 21:45	Kevin D Kelly	10
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 03:51	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	2	5180941AA	04/04/2018 21:45	Kevin D Kelly	10

*=This limit was used in the evaluation of the final result

Sample Description: TRIP BLANK Water
17-EMW - Brooklyn, NY

ExxonMobil c/o GES NY
ELLE Sample #: WW 9525225
ELLE Group #: 1924019
Matrix: Water

Project Name: 17-EMW Brooklyn

Submittal Date/Time: 03/27/2018 10:10
Collection Date/Time: 03/26/2018

CAT No.	Analysis Name	CAS Number	Result	Method Detection Limit*	Limit of Quantitation	Dilution Factor
GC/MS Volatiles		SW-846 8260C	ug/l	ug/l	ug/l	
11997	Benzene	71-43-2	N.D.	0.5	1	1
11997	Ethylbenzene	100-41-4	N.D.	0.5	1	1
11997	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1	1
11997	Toluene	108-88-3	N.D.	0.5	1	1
11997	Xylene (Total)	1330-20-7	N.D.	0.5	1	1

Sample Comments

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Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
11997	BTEX/MTBE	SW-846 8260C	1	5180933AA	04/04/2018 02:46	Don V Viray	1
01163	GC/MS VOA Water Prep	SW-846 5030C	1	5180933AA	04/04/2018 02:46	Don V Viray	1

*=This limit was used in the evaluation of the final result

Quality Control Summary

Client Name: ExxonMobil c/o GES NY
Reported: 04/06/2018 09:52

Group Number: 1924019

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

Method Blank

Analysis Name	Result ug/l	MDL** ug/l	LOQ ug/l
Batch number: 5180931AA	Sample number(s): 9525211-9525215		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: 5180933AA	Sample number(s): 9525216-9525221,9525224-9525225		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1
Batch number: 5180941AA	Sample number(s): 9525222-9525224		
Benzene	N.D.	0.5	1
Ethylbenzene	N.D.	0.5	1
Methyl Tertiary Butyl Ether	N.D.	0.5	1
Toluene	N.D.	0.5	1
Xylene (Total)	N.D.	0.5	1

LCS/LCSD

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 5180931AA	Sample number(s): 9525211-9525215								
Benzene	20	21.15			106		80-120		
Ethylbenzene	20	20.5			103		80-120		
Methyl Tertiary Butyl Ether	20	22.27			111		75-120		
Toluene	20	20.74			104		80-120		
Xylene (Total)	60	61.31			102		80-120		
Batch number: 5180933AA	Sample number(s): 9525216-9525221,9525224-9525225								
Benzene	20	21.19			106		80-120		
Ethylbenzene	20	20.57			103		80-120		
Methyl Tertiary Butyl Ether	20	22.28			111		75-120		
Toluene	20	20.46			102		80-120		

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ExxonMobil c/o GES NY
Reported: 04/06/2018 09:52

Group Number: 1924019

LCS/LCSD (continued)

Analysis Name	LCS Spike Added ug/l	LCS Conc ug/l	LCSD Spike Added ug/l	LCSD Conc ug/l	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Xylene (Total)	60	60.88			101		80-120		
Batch number: 5180941AA	Sample number(s): 9525222-9525224								
Benzene	20	21.72			109		80-120		
Ethylbenzene	20	20.74			104		80-120		
Methyl Tertiary Butyl Ether	20	22.87			114		75-120		
Toluene	20	20.85			104		80-120		
Xylene (Total)	60	62.46			104		80-120		

MS/MSD

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike

Analysis Name	Unspiked Conc ug/l	MS Spike Added ug/l	MS Conc ug/l	MSD Spike Added ug/l	MSD Conc ug/l	MS %Rec	MSD %Rec	MS/MSD Limits	RPD	RPD Max
Batch number: 5180931AA	Sample number(s): 9525211-9525215 UNSPK: P522679									
Benzene	N.D.	20	23.21	20	23.36	116	117	80-120	1	30
Ethylbenzene	N.D.	20	21.92	20	22.3	110	112	80-120	2	30
Methyl Tertiary Butyl Ether	1.24	20	24.31	20	24.84	115	118	75-120	2	30
Toluene	N.D.	20	22.09	20	22.27	110	111	80-120	1	30
Xylene (Total)	N.D.	60	65.13	60	66.47	109	111	80-120	2	30
Batch number: 5180933AA	Sample number(s): 9525216-9525221,9525224-9525225 UNSPK: P521908									
Benzene	N.D.	20	22.83	20	23.34	114	117	80-120	2	30
Ethylbenzene	N.D.	20	21.92	20	22.59	110	113	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	20	22.9	20	23.45	114	117	75-120	2	30
Toluene	N.D.	20	21.68	20	22.37	108	112	80-120	3	30
Xylene (Total)	N.D.	60	64.47	60	66.25	107	110	80-120	3	30
Batch number: 5180941AA	Sample number(s): 9525222-9525224 UNSPK: P528409									
Benzene	0.738	20	23.68	20	24.31	115	118	80-120	3	30
Ethylbenzene	N.D.	20	22.1	20	22.77	111	114	80-120	3	30
Methyl Tertiary Butyl Ether	N.D.	20	23.77	20	24.46	119	122*	75-120	3	30
Toluene	1.05	20	22.56	20	22.8	108	109	80-120	1	30
Xylene (Total)	N.D.	60	65.96	60	67.77	110	113	80-120	3	30

*- Outside of specification

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Quality Control Summary

Client Name: ExxonMobil c/o GES NY
Reported: 04/06/2018 09:52

Group Number: 1924019

Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: BTEX/MTBE

Batch number: 5180931AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9525211	101	101	100	100
9525212	102	100	100	98
9525213	101	102	100	99
9525214	102	103	99	99
9525215	101	100	100	98
Blank	104	101	99	98
LCS	103	99	99	100
MS	104	101	98	99
MSD	103	103	99	99
Limits:	80-120	80-120	80-120	80-120

Analysis Name: BTEX/MTBE

Batch number: 5180933AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9525216	101	103	99	98
9525217	102	99	114	103
9525218	102	99	109	109
9525219	100	100	104	100
9525220	99	102	119	115
9525221	101	104	104	103
9525224	99	100	106	101
9525225	101	101	100	97
Blank	100	101	99	96
LCS	103	101	99	99
MS	103	100	99	99
MSD	102	100	99	98
Limits:	80-120	80-120	80-120	80-120

Analysis Name: BTEX/MTBE

Batch number: 5180941AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
9525222	99	102	98	102
9525223	101	103	109	114
Blank	98	100	99	97
LCS	102	100	98	99
MS	103	101	97	100
MSD	102	106	97	99
Limits:	80-120	80-120	80-120	80-120

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

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(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

Quality Control Summary

Client Name: ExxonMobil c/o GES NY
Reported: 04/06/2018 09:52

Group Number: 1924019

*- Outside of specification

** - This limit was used in the evaluation of the final result for the blank

(1) The result for one or both determinations was less than five times the LOQ.

(2) The unspiked result was more than four times the spike added.

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.



CHAIN OF CUSTODY

A.42339 G.1924019 J.9525211

FED-EX Tracking #	Bottle Order Control #
Lab Quote #	Lab Job #

CLIENT/REPORTING INFORMATION		PROJECT INFORMATION					BILLING INFORMATION										REQUESTED ANALYSIS (see Test Code sheet)										LAB USE ONLY
Groundwater & Environmental Services, Inc. 89 Cabot Ct, Hauppauge, NY 11788 Project Manager: Michael DeGloria Phone #: 800-360-9405 PM Email: NERegion@gesonline.com Fax: 866-902-2187		Project Name: EM 17-EMW, Brooklyn Project Address: 304 Columbia Street, Brooklyn, NY Project PSID #: 684257					Groundwater & Environmental Services, Inc. ap@gesonline.com ATTN: Accounts Payable Invoice Instructions (Project #/ Phase / Task / Altorg) 0501442/04/206/1105 EM Agreement #A2604415																				
Sampler(s) Name: <i>Brian J. Sun</i>		Sampler(s) Name: <i>Jessica Thomas</i>					number of preserved bottles										MTBE & BTEX Via EPA Method 8260										
Lab Sample #	Field ID / Point of Collection (Sys_loc_code)	Depth Interval (ft)	Date Sampled	Time Sampled	Sampler	Matrix	Total # Bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Amber											
	MW-18		3/26/18	945	JT/BD	WG	3	3										X									
	MW-8A			1215		WG		3										X									
	MW-10			1150		WG		3										X									
	MW-16			1025		WG		3										X									
	MW-13			945		WG		3										X									
	MW-2					WG		3										X									
	TRIP BLANK		3/26/18	-	-	WQ	2	2										X									

Turnaround Time (Business Days) Approved By (Lab PM) / Date

- Standard 14 Days _____ / _____
- 1 day RUSH _____ / _____
- Other _____ / _____

Laboratory Information

Lab: Eurofins Lancaster Laboratories Environmental, LLC
 Address: 2425 New Holland Pike, Lancaster PA 17601
 Phone: 717-656-2300
 Lab PM: Elisabeth Knisley
 Lab PM Email: ElisabethKnisley@eurofinsus.com

Data Deliverable Information

- Commercial 'A' (Level 1) = Results Only
- Commercial 'B' (Level 2) = Results + QC Summary
- FULLT1 (Level 3 & 4)
- NJ Reduced = Results + QC Summary + Partial Raw Data
- Commercial 'C'
- NJ Data of Known Quality Protocol Reporting
- NYASP Category A
- NYASP Category B
- State Forms
- EDD Format _____
- Other _____

Please Email the EQ EDD Package to ges@equisonline.com & neregion@gesonline.com

EQEDD Name: EM 17-EMW, Brooklyn_LabReport#.1810.EQEDD.zip

Email results to NERegion@gesonline.com, dgagliano@gesonline.com & mdegloria@gesonline.com

Sample Custody must be documented below each time samples change possession, including courier.			
Relinquished By Sampler: <i>Brian J. Sun</i>	Date / Time: 3/26/18 16:00	Received By: <i>FED EX</i>	
Relinquished By: _____	Date / Time: _____	Received By: _____	
Relinquished By: _____	Date / Time: 3/27/18 10:40	Received By: <i>Felix Gonzalez</i>	
Custody Seal Number:	<input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact	<input type="checkbox"/> Preserved where applicable <input type="checkbox"/> On Ice	Cooler Temp <u>1.1</u>



Client: Groundwater & Environmental Services

1924019

Delivery and Receipt Information

Delivery Method: Fed Ex Arrival Timestamp: 03/27/2018 10:10
 Number of Packages: 1 Number of Projects: 1
 State/Province of Origin: NY

Arrival Condition Summary

Shipping Container Sealed:	Yes	Sample IDs on COC match Containers:	Yes
Custody Seal Present:	Yes	Sample Date/Times match COC:	Yes
Custody Seal Intact:	Yes	VOA Vial Headspace ≥ 6mm:	No
Samples Chilled:	Yes	Total Trip Blank Qty:	2
Paperwork Enclosed:	Yes	Trip Blank Type:	HCl
Samples Intact:	No	Air Quality Samples Present:	No
Missing Samples:	No		
Extra Samples:	No		
Discrepancy in Container Qty on COC:	No		

Unpacked by Felix Gonzalez (13783) at 13:20 on 03/27/2018

Samples Chilled Details

Thermometer Types: *DT = Digital (Temp. Bottle) IR = Infrared (Surface Temp)* All Temperatures in °C.

Cooler #	Thermometer ID	Corrected Temp	Therm. Type	Ice Type	Ice Present?	Ice Container	Elevated Temp?
1	DT42-01	1.1	DT	Wet	Y	Bagged	N

Samples Not Intact Details

Sample ID on Label	Bottle Code	Bottle Quantity	Container Salvageable?	Comments
MW-15	40 ml glass vial (GC/MS) - HCl	1	N	Plastic top of vial broken, barely anything left in the vial sample wise.

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
C	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	non-detect
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
L	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	µg	microgram(s)
m3	cubic meter(s)	µL	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm	parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg) or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter per liter of gas.		
ppb	parts per billion		
Dry weight basis	Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.		

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

Data Qualifiers

Qualifier	Definition
C	Result confirmed by reanalysis
D1	Indicates for dual column analyses that the result is reported from column 1
D2	Indicates for dual column analyses that the result is reported from column 2
E	Concentration exceeds the calibration range
K1	Initial Calibration Blank is above the QC limit and the sample result is ND
K2	Continuing Calibration Blank is above the QC limit and the sample result is ND
K3	Initial Calibration Verification is above the QC limit and the sample result is ND
K4	Continuing Calibration Verification is above the QC limit and the sample result is ND
J (or G, I, X)	Estimated value \geq the Method Detection Limit (MDL or DL) and $<$ the Limit of Quantitation (LOQ or RL)
P	Concentration difference between the primary and confirmation column $>40\%$. The lower result is reported.
U	Analyte was not detected at the value indicated
V	Concentration difference between the primary and confirmation column $>100\%$. The reporting limit is raised due to this disparity and evident interference.
W	The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.
Z	Laboratory Defined - see analysis report

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.



Attachment D



450 SOUTH FRONT STREET, ELIZABETH, NJ 07202

NON-HAZARDOUS WASTE MANIFEST 1/18 30

1. Generator's US EPA ID No. Manifest Document No. 050135

2. Page 1 of 1 NHZ 1036935

3. Generator's Name and Mailing Address ExxonMobil Oil Corp. c/o oil corp. 89 CABOT COURT SUITE A HAUPPAUGE, NY 11788

IL# 11-Emw Former mobil 304 columbia st Brooklyn, NY 11231

4. Generator's Phone (800) 360-9405

5. Transporter 1 Company Name LORCO PETROLEUM SERVICES

6. US EPA ID Number NJR 000023036

A. Transporter's Phone 908-820-8800

7. Transporter 2 Company Name Lorco Petroleum Services

8. US EPA ID Number NJR 000023036

B. Transporter's Phone JOE RO 8800

9. Designated Facility Name and Site Address CLEAN EARTH OF NORTH JERSEY 105 JACOBUS AVE. SOUTH KEARNY, NJ 07032 973-344-4004

10. US EPA ID Number NJD 991291105

C. Facility's Phone 973-344-4004

11. Waste Shipping Name and Description

12. Containers No. Type 13. Total Quantity 14. Unit Wt/Vol

a. OIL CONTAMINATED SOLIDS NON DOT REGULATED MATERIAL

XX1 DM XXX50 P

b. c. d.

D. Additional Descriptions for Materials Listed Above S.I.

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information 24 HOUR EMERGENCY RESPONSE #908-820-8800 DECAL # 05135 MANIFEST USED FOR TRACKING PURPOSES ONLY TRUCK# 164

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name Paul Marino

Signature Paul Marino

Month Day Year 01/10/18

17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name STEVE D'ACK

Signature Steve D'ack

Month Day Year 01/10/18

18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name J. GREGGORTON

Signature J. Greggorton

Month Day Year 1/17/18

19. Discrepancy Indication Space RECEIVED PENDING MANIFEST CANCEL AND QUALITY CONTROL

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name Bernice Mills

Signature Bernice Mills

Month Day Year 1/19/18

GENERATOR TRANSPORTER FACILITY

TRANSPORTER #1