

Consulting
Engineers and
Scientists

**Semiannual Groundwater Monitoring Report
Fourth Quarter (Q4) 2018 and First Quarter (Q1) 2019**

Sag Harbor Former MGP Site

Village of Sag Harbor
Suffolk County, Long Island, NY
Site ID No. 1-52-159

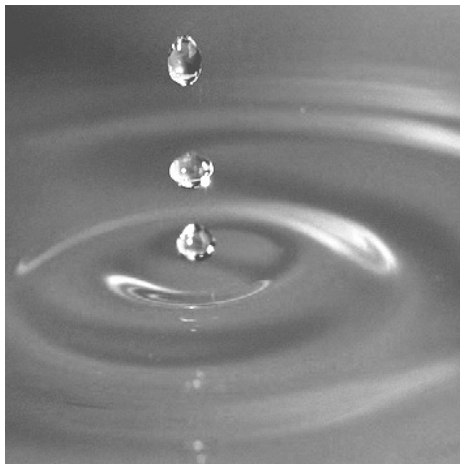
Submitted to:

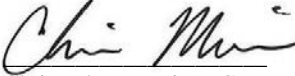
National Grid
175 East Old Country Road
Hicksville, NY 11801

Submitted by:

GEI Consultants, Inc., P. C.
110 Walt Whitman Road
Huntington Station, NY 11746
631.760.9300

August 2019
1702897.13.3




Christopher Morris, P.G.
Project Manager


Errol S. Kitt
Vice President

Table of Contents

1. Sag Harbor Site and Adjacent Offsite Areas	1
1.1 Monitoring Program	1
1.2 Monitoring Well Network	2
1.3 Hydrological Data	2
1.4 NAPL Thickness Data	3
1.5 Chemical Data	3
1.6 Data Trend Analysis	3
1.7 DNAPL Occurrence	4
1.8 Future Plans	5

Tables

1	Water Level Measurements and Calculated Groundwater Elevations
2	Summary of Historical NAPL Observations
3	Summary of BTEX, MTBE, and PAH Results
4	Summary of Historical Total BTEX Results
5	Summary of Historical Total PAH Results

Figures

1	Site Location Map
2	Monitoring Well Location Map
3	Shallow Groundwater Contours – High Tide
4	Shallow Groundwater Contours – Low Tide
5	Intermediate Groundwater Contours – High Tide
6	Intermediate Groundwater Contours – Low Tide

CM:gd
I:\Admin\Projects\Environmental\National Grid\OMM Downstate\13 Sites\Sag Harbor\Quarterly Reports\2019\Q2\Report.152159.2019-08-26.Q1_SAGWMonitoringRept_ SagHarbor.docx

1. Sag Harbor Site and Adjacent Offsite Areas

Semiannual Fourth Quarter (Q4) and First Quarter (Q1) Groundwater Monitoring Event Summary

Event Date: November 21, 2018 (Q4 2018 and March 11 and 12, 2019 (Q1 2019)

Site Phase: Semi-annual groundwater and NAPL monitoring Q1 2019, NAPL monitoring Q4 2018

Location: The location of the Sag Harbor Former MGP site is depicted on **Figure 1**.

1.1 Monitoring Program

Criteria to reduce the scope of the groundwater monitoring program based on historical and future analytical results were proposed, and subsequently approved by the New York State Department of Environmental Conservation (NYSDEC) on March 21, 2014. The criteria and the resulting reductions to the program were detailed in a follow-up letter to NYSDEC dated May 13, 2014. NYSDEC required that several monitoring wells in the intermediate zone be exempt from reduction criteria and be sampled annually. These wells include SHMW-03I, SHMW-05I, and SHMW-08I.

A reduction from quarterly to semi-annual sampling was recently approved by NYSDEC. Monitoring wells which were part of the quarterly program will be reduced to semi-annual sampling, while the annual wells will continue to be sampled annually. Additional reductions to the sampling frequencies for individual wells will follow modified reduction criteria.

Based on the established criteria, 13 wells have been eliminated from the sampling program, one shallow well was reduced to annual sampling and quarterly (now semi-annual) sampling has resumed in one intermediate well. The recent reductions in the scope of work are shown in the table below. The sampling list will continue to be re-evaluated on a semi-annual basis, with changes made, as appropriate.

Monitoring Well	Sampling Frequency		Monitoring Well	Sampling Frequency	
	Former	Current		Former	Current
SHMW-01SR	Annual	Eliminated	SHMW-08S	Quarterly	Semi-annual
SHMW-01IR	Annual	Eliminated	SHMW-08I*	Annual	Annual
SHMW-01D	Annual	Eliminated	SHMW-09S	Quarterly	Semi-annual
SHMW-02S	Annual	Eliminated	SHMW-09I	Annual	Semi-annual
SHMW-02IR	Annual	Annual	SHMW-10S	Annual	Eliminated
SHMW-02DR	Annual	Eliminated	SHMW-10I	Annual	Eliminated

Monitoring Well	Sampling Frequency		Monitoring Well	Sampling Frequency	
	Former	Current		Former	Current
SHMW-03S	Quarterly	Annual	SHMW-11S	Annual	Eliminated
SHMW-03I*	Annual	Annual	SHMW-11I	Annual	Eliminated
SHMW-04SR	Quarterly	Semi-annual	SHMW-12S	Quarterly	Semi-annual
SHMW-05SR	Quarterly	Semi-annual	SHMW-12I	Annual	Eliminated
SHMW-05IR*	Annual	Annual	SHMW-13S	Annual	Eliminated
SHMW-07SR	Quarterly	Semi-annual	SHMW-13I	Annual	Eliminated
SHMW-07IR	Annual	Eliminated			

Notes: SHMW-03I, 05IR, and 08I are exempt from reduction from annual sampling

The semi-annual and annual sampling rounds will be conducted during the first and third quarters of each year, respectively. NAPL monitoring will continue to be conducted quarterly. Seven wells were included in the Q1 2019 semi-annual sampling list.

1.2 Monitoring Well Network

A total of 25 monitoring wells are currently located at or in the vicinity of the site (**Figure 2**). MW-05 was destroyed sometime between March and June 2007. Monitoring wells MW-01, MW-02, MW-03, MW-04, MW-06, SHMW-01S, SHMW-01I, SHMW-02I, SHMW-02D, SHMW-04S, SHMW-04I, SHMW-05S, SHMW-05I, SHMW-06S, and SHMW-06I were abandoned prior to the Q4 2008 sampling event due to the remediation activities being conducted at the site. Seven of the monitoring wells, including SHMW-01SR, SHMW-01IR, SHMW-02IR, SHMW-02DR, SHMW-04SR, SHMW-05SR, and SHMW-05IR, were replaced as part of the post-remediation monitoring well replacement/installation program in Q4 2010.

Monitoring wells SHMW-02IR and SHMW-04SR were installed as larger diameter wells for potential dense non-aqueous phase liquid (DNAPL) recovery. In addition to the installation of the replacement monitoring wells listed above, new monitoring wells SHMW-01D and SHMW-02S were also installed as part of this program. Monitoring wells SHMW-07S and SHMW-07I, which were damaged presumably during the remedial activities, were abandoned during the replacement well installation program and reinstalled.

1.3 Hydrological Data

Groundwater levels were measured on March 11, 2019 at all 25 monitoring wells, during high and low tides. Monitoring well SHMW-02IR was repaired during Q3 2011, altering the survey point. As a result, the groundwater level measurement was not calculated. During Q1 2019, large volumes of melting snow were observed near monitoring wells SHMW-07SR, 07IR, 08S, and 13S. As a result, the groundwater water elevations for these wells were not used to generate groundwater contours for this report. Depth to groundwater measurements and calculated groundwater elevations are provided in **Table 1**. Shallow and intermediate groundwater contours for high and low tidal conditions are depicted on **Figures 3** through **6**.

The groundwater flow direction was generally to the west towards Sag Harbor Cove. The ranges in depth to water and water table elevation data, as well as calculated hydraulic gradients for the shallow and intermediate portions of the aquifer in Q1 2019, are provided in the following table:

Depth Zone	High Tide			Low Tide		
	Range		Gradient ³	Range		Gradient ³
	DTW ¹	WLE ²		DTW ¹	WLE ²	
Shallow	0.73 - 6.03	-0.71 - 2.33	-0.0011	0.71 - 5.42	-0.10 - 2.43	-0.0010
Intermediate	0.92 - 4.98	0.65 - 2.87	0.0033	0.45 - 5.98	-0.35 - 2.37	0.0045

Notes:

- ¹: Depth to water: Measured as feet below top of casing
- ²: Water level elevation: Calculated as feet above mean sea level
- ³: Feet/Feet

1.4 NAPL Thickness Data

Table 2 provides a summary of historical non-aqueous phase liquid (NAPL) data. In Q1 2019, all 25 monitoring wells were monitored for NAPL as part of the groundwater monitoring program. Evidence of light non-aqueous phase liquid (LNAPL) or DNAPL in the monitoring wells during Q4 2018 or Q1 2019 included 0.33 feet and 0.21 feet of DNAPL in SHMW-02IR in each respective gauging event, and blebs of DNAPL in SHMW-07SR in Q1 2019.

1.5 Chemical Data

In Q1 2019, a total of six wells were sampled for benzene, toluene, ethylbenzene, total xylenes (BTEX), and methyl tert-butyl ether (MTBE) by Environmental Protection Agency (EPA) Method 8260, as well as polycyclic aromatic hydrocarbons (PAHs) by EPA Method 8270. Well sampling was performed on March 12, 2019 and included all the wells on the semi-annual sampling list excluding SHMW-07SR, which was not sampled due to the presence of DNAPL.

Table 3 provides the chemical data for Q1 2019. The data indicates:

- Total BTEX concentrations ranged from non-detect (ND) in one well to 232.57 micrograms per liter (µg/L) in SHMW-12S.
- Total PAH concentrations ranged from ND in one well to 157.8 µg/L in SHMW-12S.
- MTBE was detected in one well at a concentration of 2.3 µg/L in SHMW-08S.

1.6 Data Trend Analysis

Total BTEX concentrations (see historical data in **Table 4**) have been relatively stable in recent sampling events, while total PAH concentrations have been variable (**Table 5**) in shallow groundwater on and adjacent to the site. In general, concentrations in individual monitoring wells were decreasing or stable in Q1 2019. An analysis of the current and historical data in recent quarterly sampling events is presented in the table below.

Shallow Zone	Historical		Q2 2018		Q3 2018		Q1 2019	
	Max	Average	Max	Average	Max	Average	Max	Average
Total BTEX	25,860	653	375	86	282	83	233	62
Total PAHs	14,332	609	552	154	575	209	158	56

Note:

Concentrations in µg/L

Exceedances of the respective ambient water quality standards or guidance values (AWQS) for BTEX were identified in each of the five shallow wells sampled in Q1 2019, including SHMW-04SR, SHMW-05SR, SHMW-08S, SHMW-09S, and SHMW-12S. Benzene exceeded the AWQS of 1 µg/L in each of the wells listed above, with a maximum detection of 200 µg/L in SHMW-12S. Ethylbenzene and total xylenes exceeded the standard of 5 µg/L in SHMW-04SR (29 µg/L and 23 µg/L) and SHMW-12S (7.9 µg/L and 24 µg/L). The decreasing total BTEX concentration trend resumed in SHMW-04SR (59.75 µg/L) during Q1 2019 following an increase in the previous sampling event. Concentrations in SHMW-12S (233.57 µg/L) also decreased relative to the two previous sampling events. Total BTEX concentrations in the remaining shallow wells were relatively stable. Total BTEX concentrations in intermediate well SHMW-09I were ND during Q1 2019.

MTBE was detected in SHMW-08S with a concentration of 2.3 µg/L; below the guidance value of 10 µg/L.

PAH exceedances of the AWQS concentrations in Q1 2019 were limited to naphthalene in SHMW-08S and SHMW-12S. The naphthalene concentrations in SHMW-08S (32 µg/L) and SHMW-12S (150 µg/L) were above the AWQS of 10 µg/L. Decreasing total PAH concentrations were identified during Q1 2019 in each of the five shallow wells sampled. Total PAHs concentrations in intermediate well SHMW-09I also decreased from 11 µg/L to ND. Total PAH concentrations in SHMW-09I had been ND for six consecutive sampling events prior to a slight increase during Q3 2018. No increasing total PAH concentration trends were identified during Q1 2019.

1.7 DNAPL Occurrence

The historical NAPL data (**Table 2**) indicates that measurable quantities of NAPL have primarily been found in two onsite shallow monitoring wells (MW-02 and MW-05), one onsite intermediate well (SHMW-02I), and one offsite shallow well (SHMW-04S). Non-measurable (trace) amounts of NAPL have historically been found in two onsite shallow wells, MW-03 and MW-04, as well as in offsite shallow well SHMW-06S, and was intermittently found in SHMW-07S. All of the wells identified above in which NAPL has been historically detected were either destroyed or abandoned prior to, or during, remedial activities.

No measurable amounts of LNAPL and DNAPL had been observed in replacement monitoring wells SHMW-04SR and SHMW-07SR prior to Q4 2014. Since that time, DNAPL was measured at a thickness of approximately 0.13 feet in SHMW-04SR during Q1 2015 and has

been measured sporadically and at a maximum thickness of approximately 0.17 feet in SHMW-07SR.

To date, no significant evidence of NAPL has been found in these monitoring wells or any of the remaining monitoring wells post remediation, excluding SHMW-02IR. The DNAPL thickness in SHMW-02I was approximately 4 feet immediately prior to abandonment during the Q3 2008 monitoring event. SHMW-02IR was installed as a larger diameter well for potential DNAPL recovery.

During Q4 2018 and Q1 2019, approximately 4.0 and 2.5 inches of DNAPL respectively, were measured in SHMW-02IR. Due to the thickness measured during Q4 2018 and Q1 2019, recovery operations were conducted and approximately 0.2 and 0.14 gallons respectively, were recovered. Recovery efforts were also conducted in Q4 2015, Q2 2017, Q1 2018, and Q3 2018. A total of approximately 2.64 gallons of product have been removed to-date. Subsequent gauging events will continue to monitor the rebound in DNAPL thickness. Additional recovery efforts will be conducted as appropriate.

1.8 Future Plans

- No sampling will be conducted in Q2 2019, as per the approved plan.
- Conduct the annual sampling event in Q3 2019.
- Continue quarterly NAPL monitoring at onsite and offsite monitoring wells.
- Attempt to recover DNAPL from SHMW-02IR, if the measured DNAPL thickness is greater than approximately one-foot. This represents a change from the previous level of four inches; however, the one-foot level of DNAPL will not overtop the two-foot sump installed in this well.

Tables

Table 1. Water Level Measurements and Calculated Groundwater Elevations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well ID	Top of Casing Elevation (ft)*	Tide	Time	3/11/2019		Notes
				Depth to Water (ft)	Groundwater Elevation (ft)	
SHMW-01SR	3.71	High	13:46	2.01	1.70	Well replaced in Q4 2010
		Low	8.47	1.96	1.75	
SHMW-01IR	3.81	High	13:47	2.11	1.70	Well replaced in Q4 2010
		Low	8.48	2.41	1.40	
SHMW-01D	3.67	High	13:46	1.41	2.26	Well installed in Q4 2010
		Low	8.47	1.98	1.69	
SHMW-02S	3.95	High	13:41	1.67	2.28	Well installed in Q4 2010
		Low	8.44	1.52	2.43	
SHMW-02IR	3.92	High	13:42	1.91	NC	Survey point altered
		Low	10:48	2.09	NC	
SHMW-02DR	3.66	High	13:42	1.82	1.84	Well replaced in Q4 2010
		Low	8.44	2.37	1.29	
SHMW-03S	3.83	High	13:56	2.71	1.12	
		Low	8.56	2.97	0.86	
SHMW-03I	3.85	High	13:55	2.02	1.83	
		Low	8.57	2.72	1.13	
SHMW-04SR	3.90	High	13:49	2.64	1.26	Well replaced in Q4 2010
		Low	8.51	2.71	1.19	
SHMW-05SR	5.03	High	13:52	3.36	1.67	Well replaced in Q4 2010
		Low	8.53	3.31	1.72	
SHMW-05IR	4.96	High	13:52	3.22	1.74	Well replaced in Q4 2010
		Low	8.54	3.45	1.51	
SHMW-07SR	3.48	High	14:14	0.03	3.45	Not used to generate contours due to large volume of melting snow in immediate area
		Low	9.11	0.01	3.47	
SHMW-07IR	3.38	High	14:15	0.03	3.35	Not used to generate contours due to large volume of melting snow in immediate area
		Low	9.11	0.01	3.37	
SHMW-08S	3.69	High	14:10	0.01	3.68	Not used to generate contours due to large volume of melting snow in immediate area
		Low	9.12	0.01	3.68	
SHMW-08I	3.79	High	14:10	0.92	2.87	
		Low	9.13	1.51	2.28	
SHMW-09S	3.06	High	14:05	0.73	2.33	
		Low	1:12	0.71	2.35	
SHMW-09I	2.82	High	14:06	1.22	1.6	
		Low	9.07	0.45	2.37	
SHMW-10S	4.75	High	13:59	4.17	0.58	
		Low	8.59	4.22	0.53	
SHMW-10I	4.75	High	13:58	3.55	1.20	
		Low	8.58	4.77	-0.02	
SHMW-11S	5.32	High	14:03	6.03	-0.71	
		Low	8.59	5.42	-0.10	
SHMW-11I	5.63	High	14:01	4.98	0.65	
		Low	9.01	5.98	-0.35	
SHMW-12S	1.98	High	14:08	0.00	NC	Artesian
		Low	9.08	0.00	NC	
SHMW-12I	1.99	High	14:08	0.00	NC	Artesian
		Low	9.08	0.00	NC	
SHMW-13S	3.36	High	14:12	0.09	3.27	Not used to generate contours due to large volume of melting snow in immediate area
		Low	9.16	0.04	3.32	
SHMW-13I	3.50	High	14:11	1.09	2.41	
		Low	9.15	1.51	1.99	

General Notes:

* Elevations were re-surveyed in November 2010.

NC = Not Calculated

NM = Not Measured

-- = Not Recorded

Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019

Well ID	May 2002 Observations	May 2004 Observations	Aug 2004 Observations	Oct 2004 Observations	Nov 2004 Observations	Dec 2004 Observations	Jan 2005 Observations	Feb 2005 Observations	Mar 2005 Observations	Apr/Q1 2005 Observations	Jun/Q2 2005 Observations	Sep/Q3 2005 Observations	Dec/Q4 2005 Observations	Mar/Q1 2006 Observations	Jun/Q2 2006 Observations	Sep/Q3 2006 Observations	Dec/Q4 2006 Observations
MW-01	None Observed	Odor	None Observed	Not Checked	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
MW-02	Approx. 0.16' of DNAPL, sheen on surface	Approx. 0.15' of DNAPL, sheen on surface	Approx. 0.29' of DNAPL	Approx. 0.2' of DNAPL	Approx. 0.01' of DNAPL, 1.0' intermittent DNAPL	Approx. 0.1' of DNAPL	Approx. 0.11' of DNAPL	Approx. 0.16' of DNAPL	Approx. 0.15' of DNAPL	Approx. 0.15' of DNAPL	Trace DNAPL at bottom of tape	Approx. 0.13' of DNAPL	Approx. 0.09' DNAPL, naphthalene-like odor	Approx. 0.01' DNAPL	Approx. 0.12' of DNAPL	Approx. 0.15' DNAPL	Approx. 0.10' DNAPL
MW-03	Intermittent DNAPL for 1.5'	Approx. 0.03' of DNAPL, naphthalene-like odor	NR	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	None, naphthalene-like odor	No DNAPL observed	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)	No DNAPL observed
MW-04	None Observed	Approx. 0.02' of DNAPL, naphthalene-like odor	NR	Trace DNAPL at bottom of tape	None Observed	None Observed	Trace DNAPL at bottom of tape	Not Checked (under snow pile)	None Observed	None Observed	None Observed	Trace DNAPL at bottom of tape	Trace DNAPL at bottom of tape	Trace DNAPL	Trace DNAPL	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)
MW-05	Blebs of LNAPL	Approx. 1.0' of DNAPL, naphthalene-like odor	Approx. 0.75' of DNAPL	Approx. 4.5' of LNAPL/NAPL	Approx. 0.35' of DNAPL, 3.6' intermittent DNAPL	Trace DNAPL at bottom of tape, bubbles in WC	Trace DNAPL at bottom of tape	Approx. 0.6' of DNAPL, approx. 0.02' of LNAPL	Sporadic DNAPL, approx. 0.1' of LNAPL	Sporadic DNAPL, approx. 0.1' of LNAPL	Approx. 3.0' of DNAPL	Approx. 0.75' of DNAPL, approx. 0.12' of LNAPL	DNAPL blebs in purge H2O, 0.5' DNAPL coating on tubes	Approx. 0.15' of DNAPL, approx. 0.1' of LNAPL	Approx. 0.22' DNAPL; 0.05' of LNAPL	Approx. 0.55' DNAPL; 0.06' of LNAPL	Trace LNAPL; DNAPL in purge water (not measurable)
MW-06	None Observed	Slight naphthalene-like odor	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-01S/01SR	None Observed	Slight naphthalene-like odor	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-01I/01IR	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-01D	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
SHMW-02S	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
SHMW-02I/02IR	None Observed	Approx. 4.9' of DNAPL, sheen	Approx. 4.7' of DNAPL	Approx. 4.9' of DNAPL	Approx. 1.0' of DNAPL, 3.0' intermittent DNAPL	Approx. 0.6' of DNAPL	Approx. 0.65' of DNAPL	Approx. 0.5' of DNAPL	Approx. 0.45' of DNAPL	Approx. 1.1' of DNAPL	Approx. 0.75' of DNAPL	Approx. 0.4' of DNAPL	Approx. 1.3' of DNAPL, naphthalene-like odor	Approx. 0.35' of DNAPL	Approx. 0.43' of DNAPL	Approx. 0.5' of DNAPL	Trace DNAPL (coating on tubes)
SHMW-02D/02DR	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-03S	None Observed	Odor	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-03I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-04S/04SR	None Observed	Approx. 0.6' of DNAPL, naphthalene-like odor	NR	Approx. 0.7' of DNAPL, 2.3' intermittent DNAPL	Approx. 0.55' of DNAPL	Approx. 0.29' of DNAPL	Approx. 0.35' of DNAPL	Approx. 0.22' of DNAPL	Approx. 0.25' of DNAPL	Approx. 0.25' of DNAPL	Approx. 0.90' of DNAPL	Approx. 0.26' of DNAPL	Approx. 0.5' DNAPL, naphthalene-like odor	Approx. 0.25' of DNAPL	Approx. 0.5' of DNAPL	Approx. 0.25' of DNAPL	Approx. 0.30' of DNAPL
SHMW-04I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-05S/05SR	None Observed	Blebs of DNAPL in purge water, odor	NR	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	No DNAPL observed	None Observed	None Observed	None Observed
SHMW-05I/05IR	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-06S	Slight sheen and naphthalene-like odor	Naphthalene-like odor	NR	NR	NR	NR	NR	NR	NR	NR	NR	Trace DNAPL at bottom of tape	Approx. 0.10' DNAPL, naphthalene-like odor	Trace DNAPL	Approx. 0.2' of DNAPL	Approx. 0.2' of DNAPL	Trace DNAPL (coating on tubes)
SHMW-06I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-07S/07SR	Sheen and naphthalene-like odor	Slight odor	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-07I/07IR	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-08S	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-08I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019

Well ID	May 2002 Observations	May 2004 Observations	Aug 2004 Observations	Oct 2004 Observations	Nov 2004 Observations	Dec 2004 Observations	Jan 2005 Observations	Feb 2005 Observations	Mar 2005 Observations	Apr/Q1 2005 Observations	Jun/Q2 2005 Observations	Sep/Q3 2005 Observations	Dec/Q4 2005 Observations	Mar/Q1 2006 Observations	Jun/Q2 2006 Observations	Sep/Q3 2006 Observations	Dec/Q4 2006 Observations
SHMW-09S	None Observed	Slight naphthalene-like odor	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-09I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-10S	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-10I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-11S	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-11I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-12S	None Observed	Sheen, strong sulfur-like odor	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-12I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-13S	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
SHMW-13I	None Observed	None Observed	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019

Well ID	Mar/Q1 2007 Observations	Jun/Q2 2007 Observations	Sep/Q3 2007 Observations	Dec/Q4 2007 Observations	Mar/Q1 2008 Observations	Jun/Q2 2008 Observations	Sep/Q3 2008 Observations	Dec/Q4 2008 Observations	Mar/Q1 2009 Observations	Jun/Q2 2009 Observations	Sep/Q3 2009 Observations	Dec/Q4 2009 Observations	Mar/Q1 2010 Observations	Jun/Q2 2010 Observations	Sep/Q3 2010 Observations	Dec/Q4 2010 Observations
MW-01	NR	NR	NR	None Observed	None Observed	Trace DNAPL	Trace DNAPL (at bottom of tubing)	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
MW-02	Approx.0.20' DNAPL	Approx.0.07' DNAPL	Approx. 0.11' DNAPL	Approx. ~0.08'	Trace DNAPL	Moderate DNAPL; not measureable	Trace DNAPL	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
MW-03	Trace DNAPL (coating on tubes)	None Observed	Trace DNAPL (coating on tubes)	Trace	Trace DNAPL (On bottom 1.5' of tubes)	Trace DNAPL	Trace DNAPL (0.05' at bottom of tubing)	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
MW-04	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)	Approx. ~0.02'	NR	Trace DNAPL	Trace DNAPL (at bottom of tubing)	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
MW-05	Trace LNAPL; DNAPL in purge water (not measurable)	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed	Well Destroyed
MW-06	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
SHMW-01S/01SR	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	None Observed
SHMW-01I/01IR	None Observed	NR	NR	None Observed	NR	NR	NR	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	None Observed
SHMW-01D	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	None Observed
SHMW-02S	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI	None Observed
SHMW-02I/02IR	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)	Approx. ~0.60'	Approx. 3' DNAPL	Approx. 1.5' DNAPL	Approx. 4' DNAPL	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	None Observed
SHMW-02D/02DR	None Observed	NR	NR	None Observed	NR	NR	NR	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	None Observed
SHMW-03S	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-03I	None Observed	NR	NR	None Observed	NR	NR	NR	None Observed	NR	None Observed	NR	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-04S/04SR	Approx.0.40' DNAPL	Approx.0.50' DNAPL	Approx. 0.5' DNAPL	Approx. ~0.61'	Approx. 1.05' DNAPL	Approx.0.6' DNAPL	Approx.0.75' DNAPL	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Trace LNAPL - DNAPL observed on tubing
SHMW-04I	None Observed	NR	NR	None Observed	NR	NR	NR	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
SHMW-05S/05SR	None Observed	None Observed	NR	None Observed	None Observed	None Observed	None Observed	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	None Observed
SHMW-05I/05IR	None Observed	NR	NR	None Observed	NR	NR	NR	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	None Observed
SHMW-06S	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)	Trace DNAPL (coating on tubes)	Trace	Trace DNAPL (on tubing)	Trace DNAPL	Trace DNAPL (on tubing)	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
SHMW-06I	None Observed	NR	NR	None Observed	NR	NR	NR	Well Inaccessible or Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned	Well Abandoned
SHMW-07S/07SR	None Observed	NR	NR	Trace	NR	NR	Trace DNAPL (on side of tubing approx 1' off bottom)	Well Inaccessible or Abandoned	Well Inaccessible	None Observed	Trace DNAPL (on side of tubing)	None Observed	None Observed	Well Inaccessible	Well Inaccessible	Trace LNAPL - DNAPL observed on tubing
SHMW-07I/07IR	None Observed	NR	NR	None Observed	NR	NR	NR	Well Inaccessible or Abandoned	Well Inaccessible	None Observed	NR	None Observed (approximately 10 feet of sand present in well)	None Observed (approximately 10 feet of sand present in well)	Well Inaccessible	Well Inaccessible	None Observed
SHMW-08S	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	Well Inaccessible or Abandoned	Well Inaccessible	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-08I	None Observed	NR	NR	None Observed	NR	NR	NR	Well Inaccessible or Abandoned	Well Inaccessible	None Observed	NR	None Observed	None Observed	None Observed	None Observed	None Observed

Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019

Well ID	Mar/Q1 2007 Observations	Jun/Q2 2007 Observations	Sep/Q3 2007 Observations	Dec/Q4 2007 Observations	Mar/Q1 2008 Observations	Jun/Q2 2008 Observations	Sep/Q3 2008 Observations	Dec/Q4 2008 Observations	Mar/Q1 2009 Observations	Jun/Q2 2009 Observations	Sep/Q3 2009 Observations	Dec/Q4 2009 Observations	Mar/Q1 2010 Observations	Jun/Q2 2010 Observations	Sep/Q3 2010 Observations	Dec/Q4 2010 Observations
SHMW-09S	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed	Well Inaccessible	None Observed	None Observed	None Observed	Well Inaccessible	None Observed	None Observed	No access
SHMW-09I	None Observed	NR	NR	None Observed	NR	NR	NR	NR	NR	NR	NR	None Observed	None Observed	None Observed	None Observed	No access
SHMW-10S	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-10I	None Observed	NR	NR	None Observed	NR	NR	NR	NR	NR	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-11S	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-11I	None Observed	NR	NR	None Observed	NR	NR	NR	NR	NR	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-12S	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-12I	None Observed	NR	NR	None Observed	NR	NR	NR	NR	NR	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-13S	None Observed	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-13I	None Observed	NR	NR	None Observed	NR	NR	NR	NR	NR	NR	NR	None Observed	None Observed	None Observed	None Observed	None Observed

**Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019**

[illegible]

Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019

Well ID	Mar/Q1 2011 Observations	Jun/Q2 2011 Observations	Sep/Q3 2011 Observations	Dec/Q4 2011 Observations	Mar/Q1 2012 Observations	Jun/Q2 2012 Observations	Sep/Q3 2012 Observations	Dec/Q4 2012 Observations	Mar/Q1 2013 Observations	Jun/Q2 2013 Observations	Sep/Q3 2013 Observations	Dec/Q4 2013 Observations	Mar/Q1 2014 Observations	Jun/Q2 2014 Observations	Sep/Q3 2014 Observations	Dec/Q4 2014 Observations
SHMW-09S	No access	No access	No access	No access	No access	No access	No access	No access	No access	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-09I	No access	No access	No access	No access	No access	No access	No access	No access	No access	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-10S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-10I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-11S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-11I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-12S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-12I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-13S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed
SHMW-13I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed

**Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019**

[illegible]

Table 2. Summary of Historical NAPL Observations
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q4 2018 and Q1 2019

Well ID	Mar/Q1 2015 Observations	Jun/Q2 2015 Observations	Sep/Q3 2015 Observations	Dec/Q4 2015 Observations	Mar/Q1 2016 Observations	Jun/Q2 2016 Observations	Sep/Q3 2016 Observations	Dec/Q4 2016 Observations	Mar/Q1 2017 Observations	May/Q2 2017 Observations	Sep/Q3 2017 Observations	Dec/Q4 2017 Observations	Mar/Q1 2018 Observations	May/Q2 2018 Observations	Sep/Q3 2018 Observations	Dec/Q4 2018 Observations	Mar/Q1 2019 Observations
SHMW-09S	None Observed	Approx. 0.25" of DNAPL	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-09I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-10S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-10I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-11S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-11I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-12S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-12I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-13S	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed
SHMW-13I	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	None Observed	Not Measured	None Observed

Notes:
DNAPL = Dense Non-aqueous Phase Liquid
LNAPL = Light Non-aqueous Phase Liquid
WC = Water Column
NR = Gauging Not Required
NI = Not Installed

Table 3. Summary of BTEX and PAH Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

				Location Name Sample Name Start Depth End Depth Depth Unit Sample Date Parent Sample	SHMW-04SR SHMW-04SR 2 12 ft 3/12/2019	SHMW-04SR DUP-01 2 12 ft 3/12/2019 SHMW-04SR	SHMW-05SR SHMW-05SR 2 12 ft 3/12/2019	SHMW-08S SHMW-08S 1 7 ft 3/12/2019	SHMW-09S SHMW-09S 2 12 ft 3/12/2019	SHMW-09I SHMW-09I 35 45 ft 3/12/2019	SHMW-12S SHMW-12S 1.5 6.5 ft 3/12/2019
Analyte	Units	CAS No.	NYS AWQS								
BTEX	µg/L										
Benzene		71-43-2	1		6.9	6.9	2.1	4.5	5.4	1 U	200
Toluene		108-88-3	5		0.85 J	0.85 J	1 U	1 U	1 U	1 U	0.67 J
Ethylbenzene		100-41-4	5		29	28	1 U	0.49 J	0.5 J	1 U	7.9
Total Xylene		1330-20-7	5		23	22	0.71 J	1.2 J	4.3	2 U	24
Total BTEX (ND=0)		TBTEX_ND0	NE		59.75	57.75	2.81	6.19	10.2	ND	232.57
Other VOCs	µg/L										
Methyl tert-butyl ether (MTBE)		1634-04-4	10*		1 U	1 U	1 U	2.3	1 U	1 U	1 U
NYSDEC PAH17	µg/L										
Acenaphthene		83-32-9	20*		3.8 J	10 U	15	13	16	10 U	3.9 J
Acenaphthylene		208-96-8	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Anthracene		120-12-7	50*		10 U	10 U	10 U	1.4 J	0.64 J	10 U	10 U
Benzo(a)anthracene		56-55-3	0.002*		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene		205-99-2	0.002*		2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ
Benzo(k)fluoranthene		207-08-9	0.002*		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene		191-24-2	NE		10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene		50-32-8	ND		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chrysene		218-01-9	0.002*		2 U	2 U	2 U	2 U	2 U	2 U	2 U
Dibenz(a,h)anthracene		53-70-3	NE		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene		206-44-0	50*		1 J	10 U	10 U	1.5 J	10 U	10 U	10 U
Fluorene		86-73-7	50*		10 U	10 U	4 J	5.3 J	3.7 J	10 U	10 U
Indeno(1,2,3-cd)pyrene		193-39-5	0.002*		2 U	2 U	2 U	2 U	2 U	2 U	2 U
2-Methylnaphthalene		91-57-6	NE		10 U	10 U	4.2 J	3.2 J	10 U	10 U	3.9 J
Naphthalene		91-20-3	10*		10 U	10 U	10 U	32	10 U	10 U	150
Phenanthrene		85-01-8	50*		10 U	10 U	4.7 J	5.4 J	2.8 J	10 U	10 U
Pyrene		129-00-0	50*		1.7 J	10 UJ	10 UJ	2.2 J	10 UJ	10 UJ	10 UJ
Total PAH (17) (ND=0)		TPAH17_ND0	NE		6.5	ND	27.9	64	23.14	ND	157.8

Table 3. Summary of BTEX and PAH Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Notes:

µg/L = micrograms per liter or parts per billion (ppb)

BTEX = benzene, toluene, ethylbenzene, and xylenes

PAH = polycyclic aromatic hydrocarbons

VOCs = volatile organic compounds

Total BTEX and Total PAHs are calculated using detects only.

Total PAH17 is calculated using the list of analytes: Acenaphthene, Acenaphthylene, Anthracene, Benz[a]anthracene, Benzo[a]pyrene, Benzo[b]fluoranthene, Benzo[g,h,i]perylene, Benzo[k]fluoranthene, Chrysene, Dibenzo[a,h]anthracene, Fluoranthene, Fluorene, Indeno[1,2,3-cd]pyrene, Naphthalene, 2-Methylnaphthalene, Phenanthrene, and Pyrene

NYS AWQS - New York State Ambient Water Quality Standards and Guidance Values for GA groundwater

* indicates the value is a guidance value and not a standard

MGP = Manufactured Gas Plant

ND = not detected

NE = not established

NYSDEC = New York State Department of Environmental Conservation

Bolding indicates a detected result concentration

Gray shading and bolding indicates that the detected result value exceeds the NYS AWQS

Validator Qualifiers:

J = estimated value

U = indicates not detected to the reporting limit

UJ = The results was not detected at or above the reporting limit shown and the reporting limit is estimated.

Table 4. Summary of Historical Total BTEX Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total BTEX Concentrations (µg/L)																	
		Sampling Date																	
		1995	2000		2002	2004		2005				2006				2007			
		Nov	Mar	Apr	May	May	Aug	Mar/Apr	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec
MW-01	1.50 - 7.32	2,720	10	68	9	4	0	0	12	67	0	21	47	310	190	160	240	150	270
MW-02	0.50 - 7.25	5,429	8,840	7,940	5,840	13,287	8,740	7,333	13,010	--	13,720	7,591	--	14,174	12,267	8,678	12,810	15,181	98
MW-03	2.17 - 10.17	1,222	668	1,553	1,363	2,573	--	2,050	2,867	560	2,622	4,880	1,971	4,965	2,398	1,680	2,930	3,225	2,831
MW-04	1.25 - 6.81	864	35	--	10	208	--	0	0	225	299	268	193	181	101	0	51	89	66
MW-05	2.46 - 7.46	9,100	170	5	102	11,600	2,938	2,697	18,900	--	--	--	--	--	--	--	--	--	--
MW-06	2.47 - 7.47	334	47	30	91	49	--	33	55	39	36	74	37	11	54	0	37	31	0
SHMW-01S/01SR	1.0 - 6.0	--	--	1,413	874	2,102	--	1,367	1,810	406	1,313	2,562	2,085	5,183	2,915	691	2,460	2,600	1,684
SHMW-01I/01IR	35.0 - 45.0	--	--	5	0	0	--	--	--	--	0	--	--	--	0	0	--	--	--
SHMW-01D	65.0 - 75.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-02S	1.0 - 6.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-02I/02IR	35.0 - 45.0	--	--	26	0	1,179	16	20	20	19	25	0	0	0	0	--	11	12	15
SHMW-02D/02DR	65.0 - 75.0	--	--	5	4	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-03S	2.0 - 12.0	--	--	63	0	110	--	48	53	46	75	131	67	97	13	122	80	12	50
SHMW-03I	35.0 - 45.0	--	--	0	52	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-04S/04SR	2.0 - 12.0	--	--	7,940	3,154	12,180	--	9,369	17,730	8,960	21,920	25,860	9,361	18,398	10,489	6,883	20,488	16,120	10,378
SHMW-04I	35.0 - 45.0	--	--	5	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-05S/05SR	2.0 - 12.0	--	--	37	69	83	--	107	282	2,960	115	202	45	43	26	35	458	676	98
SHMW-05I/05IR	35.0 - 45.0	--	--	0	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-06S	2.0 - 6.0	--	--	2,392	2,463	3,057	--	2,630	1,950	--	2,910	2,622	1,702	4,289	2,196	1,475	2,285	2,162	1,565
SHMW-06I	35.0 - 45.0	--	--	0	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-07S/07SR	1.0 - 11.0	--	--	2,011	1,562	414	--	1,482	3,340	2,458	1,722	1,400	1,060	--	1,137	185	--	2,139	726
SHMW-07I/07IR	35.0 - 45.0	--	--	0	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-08S	1.0 - 7.0	--	--	5	2	9	--	0	14	0	15	11	0	19	0	0	0	0	12
SHMW-08I	35.0 - 45.0	--	--	0	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-09S	2.0 - 12.0	--	--	1,024	506	1,100	--	500	1,000	--	920	1,130	770	768	500	418	1,240	178	600
SHMW-09I	35.0 - 45.0	--	--	0	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-10S	5.0 - 15.0	--	--	--	0	0	--	0	0	0	0	0	0	0	0	0	0	0	0
SHMW-10I	35.5 - 45.5	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-11S	3.5 - 13.5	--	--	--	0	0	--	0	0	0	0	0	0	0	0	0	0	0	0
SHMW-11I	35.0 - 45.0	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-12S	1.5 - 6.5	--	--	--	0	344	--	142	930	69	290	140	463	581	182	85	623	81	0
SHMW-12I	35.0 - 45.0	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	23
SHMW-13S	1.5 - 6.5	--	--	--	0	0	--	0	0	0	0	0	0	0	0	0	0	0	0
SHMW-13I	35.0 - 45.0	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0

Table 4. Summary of Historical Total BTEX Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total BTEX Concentrations (µg/L)																			
		Sampling Date																			
		2008				2009				2010				2011				2012			
		Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec
MW-01	1.50 - 7.32	337	141	208	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-02	0.50 - 7.25	8,865	7,415	2,240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	2.17 - 10.17	2,842	2,241	2,875	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-04	1.25 - 6.81	--	15	79	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-05	2.46 - 7.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	2.47 - 7.47	1	33	7	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-01S/01SR	1.0 - 6.0	1,595	306	243	--	--	--	--	--	--	--	--	0	1	0	0	3	0	0	0	0
SHMW-01I/01IR	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	3	--	--	--	0
SHMW-01D	65.0 - 75.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	3	--	--	--	0
SHMW-02S	1.0 - 6.0	--	--	--	--	--	--	--	--	--	--	--	3	0	3	0	5	1	0	0	0
SHMW-02I/02IR	35.0 - 45.0	18	41	29	--	--	--	--	--	--	--	--	4	0	--	--	14	--	--	--	0
SHMW-02D/02DR	65.0 - 75.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-03S	2.0 - 12.0	3	0	5	13	111	24	4	9	40	5	0	9	24	2	3	18	0	1	1	0
SHMW-03I	35.0 - 45.0	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-04S/04SR	2.0 - 12.0	7,567	8,059	7,561	--	--	--	--	--	--	--	--	2,717	702	469	292	572	391	709	654	449
SHMW-04I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-05S/05SR	2.0 - 12.0	77	83	64	--	--	--	--	--	--	--	--	20	22	25	27	45	25	29	28	16
SHMW-05I/05IR	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-06S	2.0 - 6.0	1,296	1,343	1,298	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-06I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-07S/07SR	1.0 - 11.0	--	1,075	1,374	--	--	1,500	3,472	2,183	1,825	3,946	--	858	455	1,172	607	700	1,418	670	2,822	251
SHMW-07I/07IR	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	11	--	--	--	0
SHMW-08S	1.0 - 7.0	8	9	10	--	--	5	5	4	6	13	4	9	7	10	5	9	5	7	2	6
SHMW-08I	35.0 - 45.0	--	--	--	--	--	0	--	0	--	--	--	0	--	--	--	5	--	--	--	0
SHMW-09S	2.0 - 12.0	1,039	1,298	671	483	--	584	455	224	--	--	--	--	--	--	--	--	--	--	130	165
SHMW-09I	35.0 -45.0	--	--	--	0	--	0	--	0	--	--	--	--	--	--	--	--	--	--	0	0
SHMW-10S	5.0 -15.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SHMW-10I	35.5 - 45.5	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	5	--	--	--	0
SHMW-11S	3.5 - 13.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	0	0
SHMW-11I	35.0 - 45.0	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-12S	1.5 - 6.5	166	482	111	279	28	315	45	58	222	217	8	70	82	672	473	337	127	434	41	19
SHMW-12I	35.0 - 45.0	--	--	--	0	--	--	--	2	--	--	--	0	--	--	--	6	--	--	--	0
SHMW-13S	1.5 - 6.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3	12	0	0	0
SHMW-13I	35.0 - 45.0	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	0	--	--	--	0

Table 4. Summary of Historical Total BTEX Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total BTEX Concentrations (µg/L)																			
		Sampling Date																			
		2013				2014				2015				2016				2017			
		Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	May	Sep	Dec
MW-01	1.50 - 7.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-02	0.50 - 7.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	2.17 - 10.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-04	1.25 - 6.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-05	2.46 - 7.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	2.47 - 7.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-01S/01SR	1.0 - 6.0	1	8	0	0	0	--	0	--	--	--	0	--	--	--	0	--	--	--	--	--
SHMW-01I/01IR	35.0 - 45.0	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-01D	65.0 - 75.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-02S	1.0 - 6.0	0	5	0	0	0	--	0	--	--	--	0	--	--	--	0	--	--	--	0	--
SHMW-02I/02IR	35.0 - 45.0	--	--	--	11	--	--	0	--	--	--	115	--	--	--	--	--	--	--	--	--
SHMW-02D/02DR	65.0 - 75.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-03S	2.0 - 12.0	6	0	0	2	3	--	5	--	--	--	47	--	--	--	9	--	--	--	2	--
SHMW-03I	35.0 - 45.0	--	--	--	4	--	--	0	--	--	--	0	--	--	--	--	0	--	--	0	--
SHMW-04S/04SR	2.0 - 12.0	158	14	949	1,846	145	504	900	302	369	428	504	297	328	840	461	372	329	303	358	251
SHMW-04I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-05S/05SR	2.0 - 12.0	16	683	17	21	13	12	15	9	12	7	14	20	8	8	11	12	18	5	9	7
SHMW-05I/05IR	35.0 - 45.0	--	--	--	0	--	--	0	--	--	--	0	--	--	--	--	0	--	--	0	--
SHMW-06S	2.0 - 6.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-06I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-07S/07SR	1.0 - 11.0	1,289	852	972	1,305	769	1991	3,508	840	0	1,777	1,938	1,362	577	2,600	--	1,047	--	--	--	--
SHMW-07I/07IR	35.0 - 45.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-08S	1.0 - 7.0	5	6	4	3	8	4	2	5	10	4	5	5	4	7	4	4	6	3	3	4
SHMW-08I	35.0 - 45.0	--	--	--	0	--	--	0	--	--	--	0	--	--	--	--	0	--	--	0	--
SHMW-09S	2.0 - 12.0	167	198	118	93	155	193	136	53	92	136	102	86	84	151	46	29	35	19	28	26
SHMW-09I	35.0 -45.0	--	--	--	2	--	--	4	--	--	--	408	--	--	--	10	3	0	0	14	19
SHMW-10S	5.0 -15.0	0	0	0	0	0	--	0	--	--	--	0	--	--	--	--	--	--	--	--	--
SHMW-10I	35.5 - 45.5	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-11S	3.5 - 13.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	--	--	--	0	--
SHMW-11I	35.0 - 45.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-12S	1.5 - 6.5	87	175	142	26	67	175	56	159	82	407	136	154	159	638	209	80	164	531	94	69
SHMW-12I	35.0 - 45.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-13S	1.5 - 6.5	0	0	0	0	0	--	0	--	--	--	0	--	--	--	--	--	--	--	--	--
SHMW-13I	35.0 - 45.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 4. Summary of Historical Total BTEX Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total BTEX Concentrations (µg/L)						
		Sampling Date				Min	Max	Mean
		2018			2019			
		Mar	May	Sep	Mar			
MW-01	1.50 - 7.32	--	--	--	--	0	2,720	112
MW-02	0.50 - 7.25	--	--	--	--	98	15,181	9,335
MW-03	2.17 - 10.17	--	--	--	--	560	4,965	2,479
MW-04	1.25 - 6.81	--	--	--	--	0	864	107
MW-05	2.46 - 7.46	--	--	--	--	5	18,900	5,202
MW-06	2.47 - 7.47	--	--	--	--	0	334	35
SHMW-01S/01SR	1.0 - 6.0	--	--	--	--	0	5,183	903
SHMW-01I/01IR	35.0 - 45.0	--	--	--	--	0	5	1
SHMW-01D	65.0 - 75.0	--	--	--	--	0	3	1
SHMW-02S	1.0 - 6.0	--	--	--	--	0	5	1
SHMW-02I/02IR	35.0 - 45.0	--	--	--	--	0	1,179	63
SHMW-02D/02DR	65.0 - 75.0	--	--	--	--	0	5	1
SHMW-03S	2.0 - 12.0	--	--	3	--	0	131	29
SHMW-03I	35.0 - 45.0	--	--	0	--	0	52	3
SHMW-04S/04SR	2.0 - 12.0	46.49	29.77	266	59.75	14	25,860	4,695
SHMW-04I	35.0 - 45.0	--	--	--	--	0	5	1
SHMW-05S/05SR	2.0 - 12.0	3.39	2.93	4	2.81	3	2,960	130
SHMW-05I/05IR	35.0 - 45.0	--	--	0	--	0	0	0
SHMW-06S	2.0 - 6.0	--	--	--	--	1,296	4,289	2,214
SHMW-06I	35.0 - 45.0	--	--	--	--	0	0	0
SHMW-07S/07SR	1.0 - 11.0	--	--	--	--	0	3,946	1,473
SHMW-07I/07IR	35.0 - 45.0	--	--	--	--	0	11	1
SHMW-08S	1.0 - 7.0	10.81	5.42	3	6.19	0	19	6
SHMW-08I	35.0 - 45.0	--	--	0	--	0	5	0
SHMW-09S	2.0 - 12.0	11.7	16.6	20	10.2	10	1,298	377
SHMW-09I	35.0 -45.0	0	0	15	0	0	408	20
SHMW-10S	5.0 -15.0	--	--	--	--	0	1	0
SHMW-10I	35.5 - 45.5	--	--	--	--	0	5	0
SHMW-11S	3.5 - 13.5	--	--	0	--	0	8	0
SHMW-11I	35.0 - 45.0	--	--	--	--	0	0	0
SHMW-12S	1.5 - 6.5	232.78	375.1	282	232.57	0	930	222
SHMW-12I	35.0 - 45.0	--	--	--	--	0	23	3
SHMW-13S	1.5 - 6.5	--	--	--	--	0	12	0
SHMW-13I	35.0 - 45.0	--	--	--	--	0	0	0

NOTES:
-- not analyzed or not applicable
µg/L - micrograms per liter
BTEX - benzene, toluene, ethylbenzene, and xylenes

Table 5. Summary of Historical Total PAH Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total PAH Concentrations (µg/L)																	
		Sampling Date																	
		1995	2000		2002	2004		2005				2006				2007			
		Nov	Mar	Apr	May	May	Aug	Mar/Apr	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec
MW-01	1.50 - 7.32	4,906	1,548	257	402	30	24	0	61	200	0	0	0	97	95	0	54	87	39
MW-02	0.50 - 7.25	6,991	5,511	5,114	10,729	25,167	4,414	5,809	10,504	--	6,919	5,209	--	0	8,617	3,150	7,421	5,398	165
MW-03	2.17 - 10.17	7,034	3,065	3,433	3,774	3,522	--	2,272	4,557	516	92	1,256	565	4,831	6,212	349	489	463	2,904
MW-04	1.25 - 6.81	3,612	75	--	0	90	--	0	22	1,098	103	11	37	66	31	0	66	238	6
MW-05	2.46 - 7.46	16,386	779	101	1,160	431,600	2,049	918	188,200	--	--	--	--	--	--	--	--	--	--
MW-06	2.47 - 7.47	5,416	894	653	258	33	--	90	79	204	0	22	0	0	645	35	46	17	0
SHMW-01S/01SR	1.0 - 6.0	--	--	4,147	2,663	2,424	--	1,989	2,185	840	0	42	115	3,989	3,874	0	1,058	1,691	42
SHMW-01I/01IR	35.0 - 45.0	--	--	32	0	0	--	--	--	--	0	--	--	--	0	--	--	--	--
SHMW-01D	65.0 - 75.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-02S	1.0 - 6.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-02I/02IR	35.0 - 45.0	--	--	266	0	580,200	41	185	124	271	30	74	32	91	89	0	10	175	32
SHMW-02D/02DR	65.0 - 75.0	--	--	308	76	89	--	--	--	--	0	--	--	--	0	--	--	--	15
SHMW-03S	2.0 - 12.0	--	--	422	0	295	--	79	130	117	339	0	0	147	118	430	191	12	154
SHMW-03I	35.0 - 45.0	--	--	2	320	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-04S/04SR	2.0 - 12.0	--	--	4,275	5,107	5,965	--	3,959	6,669	4,684	5,879	2,364	3,572	4,196	6,250	2,632	3,999	4,693	4,305
SHMW-04I	35.0 - 45.0	--	--	18	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-05S/05SR	2.0 - 12.0	--	--	13	170	94	--	82	91	26	53	17	11	11	110	0	0	14	8
SHMW-05I/05IR	35.0 - 45.0	--	--	0	17	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-06S	2.0 - 6.0	--	--	4,130	4,694	3,024	--	3,162	2,366	--	4,157	120	201	3,900	4,062	1,703	3,574	4,368	380
SHMW-06I	35.0 - 45.0	--	--	2	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-07S/07SR	1.0 - 11.0	--	--	7,211	6,585	2,708	--	3,224	4,604	6,187	3,507	2,004	3,119	--	3,721	0	--	3,902	4
SHMW-07I/07IR	35.0 - 45.0	--	--	0	0	0	--	--	--	--	0	--	--	--	2,212	--	--	--	0
SHMW-08S	1.0 - 7.0	--	--	110	71	94	--	25	70	33	83	112	57	77	99	13	90	10	13
SHMW-08I	35.0 - 45.0	--	--	13	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-09S	2.0 - 12.0	--	--	1,787	2,472	1,697	--	1,463	1,600	--	2,609	94	1,935	1,138	2,737	48	206	2,246	130
SHMW-09I	35.0 - 45.0	--	--	3	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-10S	5.0 - 15.0	--	--	--	22	6	--	0	0	0	0	0	0	0	0	0	0	0	1
SHMW-10I	35.5 - 45.5	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-11S	3.5 - 13.5	--	--	--	0	3	--	173	0	0	0	0	0	0	0	0	0	0	0
SHMW-11I	35.0 - 45.0	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	4
SHMW-12S	1.5 - 6.5	--	--	--	60	218	--	71	600	230	260	110	470	310	280	15	560	0	155
SHMW-12I	35.0 - 45.0	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	20
SHMW-13S	1.5 - 6.5	--	--	--	0	0	--	0	0	0	0	0	0	0	0	0	0	0	0
SHMW-13I	35.0 - 45.0	--	--	--	0	0	--	--	--	--	0	--	--	--	0	--	--	--	0

Table 5. Summary of Historical Total PAH Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total PAH Concentrations (µg/L)																			
		Sampling Date																			
		2008				2009				2010				2011				2012			
		Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec
MW-01	1.50 - 7.32	145	2	35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-02	0.50 - 7.25	400	3,455	3,488	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	2.17 - 10.17	508	96	1,109	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-04	1.25 - 6.81	--	0	22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-05	2.46 - 7.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	2.47 - 7.47	0	0	10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-01S/01SR	1.0 - 6.0	0	0	0	--	--	--	--	--	--	--	--	0	0	0	0	4	7	21	0	0
SHMW-01I/01IR	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-01D	65.0 - 75.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-02S	1.0 - 6.0	--	--	--	--	--	--	--	--	--	--	--	0	0	0	0	0	5	0	0	0
SHMW-02I/02IR	35.0 - 45.0	8	42	209	--	--	--	--	--	--	--	--	9	3	--	--	0	--	--	--	56
SHMW-02D/02DR	65.0 - 75.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-03S	2.0 - 12.0	0	0	17	29	0	20	0	0	0	22	0	0	2	7	25	22	6	10	22	2
SHMW-03I	35.0 - 45.0	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-04S/04SR	2.0 - 12.0	0	1,328	1,868	--	--	--	--	--	--	--	--	3,598	1,440	978	811	942	581	1,296	1,195	639
SHMW-04I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-05S/05SR	2.0 - 12.0	2	0	31	--	--	--	--	--	--	--	--	0	4	167	273	131	309	219	420	20
SHMW-05I/05IR	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-06S	2.0 - 6.0	0	44	5,848	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-06I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-07S/07SR	1.0 - 11.0	--	54	3,252	--	--	2,919	4,722	5,286	3,410	4,547	--	1,456	0	1,736	885	955	927	444	4,342	419
SHMW-07I/07IR	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	4	--	--	--	0
SHMW-08S	1.0 - 7.0	14	21	55	--	--	59	60	112	129	201	34	3	11	185	195	35	152	111	113	182
SHMW-08I	35.0 - 45.0	--	--	--	--	--	1	--	0	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-09S	2.0 - 12.0	0	92	485	503	--	68	39	389	--	--	--	--	--	--	--	--	--	--	787	690
SHMW-09I	35.0 - 45.0	--	--	--	0	--	0	--	0	--	--	--	--	--	--	--	--	--	--	0	0
SHMW-10S	5.0 - 15.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	0	0
SHMW-10I	35.5 - 45.5	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-11S	3.5 - 13.5	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	4	6	0	0	2
SHMW-11I	35.0 - 45.0	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	0	--	--	--	0
SHMW-12S	1.5 - 6.5	9	137	259	280	0	332	4	216	177	585	3	0	0	584	739	513	154	361	217	104
SHMW-12I	35.0 - 45.0	--	--	--	0	--	--	--	0	--	--	--	0	--	--	--	2	--	--	--	0
SHMW-13S	1.5 - 6.5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	2	2	0	0	0
SHMW-13I	35.0 - 45.0	--	--	--	0	--	0	--	0	--	--	--	0	--	--	--	1	--	--	--	0

Table 5. Summary of Historical Total PAH Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total PAH Concentrations (µg/L)															
		Sampling Date															
		2013				2014				2015				2016			
		Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec	Mar	Jun	Sep	Dec
MW-01	1.50 - 7.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-02	0.50 - 7.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-03	2.17 - 10.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-04	1.25 - 6.81	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-05	2.46 - 7.46	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-06	2.47 - 7.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-01S/01SR	1.0 - 6.0	8	0	0	0	67	--	0	--	--	--	--	--	--	--	0	--
SHMW-01I/01IR	35.0 - 45.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-01D	65.0 - 75.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-02S	1.0 - 6.0	5	0	0	0	0	--	0	--	--	--	23	--	--	--	0	--
SHMW-02I/02IR	35.0 - 45.0	--	--	--	245	--	--	11	--	--	--	25	--	--	--	--	--
SHMW-02D/02DR	65.0 - 75.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-03S	2.0 - 12.0	23	14	16	6	5	--	3	--	--	--	16	--	--	--	18	--
SHMW-03I	35.0 - 45.0	--	--	--	4	--	--	0	--	--	--	0	--	--	--	--	0
SHMW-04S/04SR	2.0 - 12.0	402	100	1,875	1,916	190	523	1,637	309	571	551	886	112	359	948	808	232
SHMW-04I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-05S/05SR	2.0 - 12.0	107	175	155	291	171	153	367	121	94	94	208	308	106	184	178	146
SHMW-05I/05IR	35.0 - 45.0	--	--	--	0	--	--	0	--	--	--	0	--	--	--	--	0
SHMW-06S	2.0 - 6.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-06I	35.0 - 45.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-07S/07SR	1.0 - 11.0	2,620	950	4,030	1,381	1733	5945	12,876	904	0	14,332	11,494	3,943	745	5,132	--	2,286
SHMW-07I/07IR	35.0 - 45.0	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-08S	1.0 - 7.0	95	151	180	148	147	174	250	160	116	213	140	157	132	161	153	146
SHMW-08I	35.0 - 45.0	--	--	--	0	--	--	0	--	--	--	0	--	--	--	--	0
SHMW-09S	2.0 - 12.0	721	575	603	211	560	832	1,315	360	529	909	121	107	373	673	317	363
SHMW-09I	35.0 -45.0	--	--	--	2	--	--	2	--	--	--	3	--	--	--	0	3
SHMW-10S	5.0 -15.0	0	0	0	1	0	--	0	--	--	--	0	--	--	--	--	--
SHMW-10I	35.5 - 45.5	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-11S	3.5 - 13.5	1	0	7	16	1	0	1	201	2	1	5	3	0	1	6	--
SHMW-11I	35.0 - 45.0	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-12S	1.5 - 6.5	62	410	604	133	0	353	493	247	76	523	502	317	227	670	601	312
SHMW-12I	35.0 - 45.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--
SHMW-13S	1.5 - 6.5	0	0	0	0	0	--	1	--	--	--	0	--	--	--	--	--
SHMW-13I	35.0 - 45.0	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	--

Table 5. Summary of Historical Total PAH Results
Sag Harbor Former MGP Site
Groundwater Monitoring Program - Q1 2019

Well No.	Screen Interval (feet)	Total PAH Concentrations (µg/L)										
		Sampling Date								Min	Max	Mean
		2017				2018			2019			
		Mar	May	Sep	Dec	Mar	May	Sep	Mar			
MW-01	1.50 - 7.32	--	--	--	--	--	--	--	--	0	4,906	380
MW-02	0.50 - 7.25	--	--	--	--	--	--	--	--	0	25,167	6,235
MW-03	2.17 - 10.17	--	--	--	--	--	--	--	--	92	7,034	2,352
MW-04	1.25 - 6.81	--	--	--	--	--	--	--	--	0	3,612	304
MW-05	2.46 - 7.46	--	--	--	--	--	--	--	--	101	431,600	80,149
MW-06	2.47 - 7.47	--	--	--	--	--	--	--	--	0	5,416	420
SHMW-01S/01SR	1.0 - 6.0	--	--	--	--	--	--	--	--	0	4,147	740
SHMW-01I/01IR	35.0 - 45.0	--	--	--	--	--	--	--	--	0	32	4
SHMW-01D	65.0 - 75.0	--	--	--	--	--	--	--	--	0	0	0
SHMW-02S	1.0 - 6.0	--	--	0	--	--	--	--	--	0	23	2
SHMW-02I/02IR	35.0 - 45.0	--	--	--	--	--	--	--	--	0	580,200	22,393
SHMW-02D/02DR	65.0 - 75.0	--	--	--	--	--	--	--	--	0	308	49
SHMW-03S	2.0 - 12.0	--	--	29	--	--	--	37	--	0	430	62
SHMW-03I	35.0 - 45.0	--	--	0	--	--	--	0	--	0	320	18
SHMW-04S/04SR	2.0 - 12.0	68	170	2	49	1.5	0	488	6.5	0	6,669	1,871
SHMW-04I	35.0 - 45.0	--	--	--	--	--	--	--	--	0	18	3
SHMW-05S/05SR	2.0 - 12.0	171	107	48	62	26.1	52.3	117	27.9	0	420	113
SHMW-05I/05IR	35.0 - 45.0	--	--	0	--	--	--	0	--	0	17	1
SHMW-06S	2.0 - 6.0	--	--	--	--	--	--	--	--	0	5,848	2,690
SHMW-06I	35.0 - 45.0	--	--	--	--	--	--	--	--	0	2	0
SHMW-07S/07SR	1.0 - 11.0	--	--	--	--	--	--	--	--	0	14,332	3,420
SHMW-07I/07IR	35.0 - 45.0	--	--	--	--	--	--	--	--	0	2,212	222
SHMW-08S	1.0 - 7.0	141	28	134	117	83	56	179	64	3	250	104
SHMW-08I	35.0 - 45.0	--	--	0	--	--	--	0	--	0	13	1
SHMW-09S	2.0 - 12.0	297	37	32	36	168.5	108.3	57	23.14	0	2,737	692
SHMW-09I	35.0 -45.0	0	0	0	0	0	0	11	0	0	11	1
SHMW-10S	5.0 -15.0	--	--	--	--	--	--	--	--	0	22	1
SHMW-10I	35.5 - 45.5	--	--	--	--	--	--	--	--	0	0	0
SHMW-11S	3.5 - 13.5	--	--	9	--	--	--	8	--	0	201	9
SHMW-11I	35.0 - 45.0	--	--	--	--	--	--	--	--	0	4	0
SHMW-12S	1.5 - 6.5	361	532	475	264	279.6	551.8	575	157.8	0	739	289
SHMW-12I	35.0 - 45.0	--	--	--	--	--	--	--	--	0	20	2
SHMW-13S	1.5 - 6.5	--	--	--	--	--	--	--	--	0	3	0
SHMW-13I	35.0 - 45.0	--	--	--	--	--	--	--	--	0	1	0

NOTES:
-- not analyzed or not applicable
µg/L - micrograms per liter
PAH - polycyclic aromatic hydrocarbons

Figures



SOURCE:

Map created with TOPO!® ©2001 National Geographic (www.nationalgeographic.com/topo)



Sag Harbor Former MGP Site
Sag Harbor, New York

nationalgrid

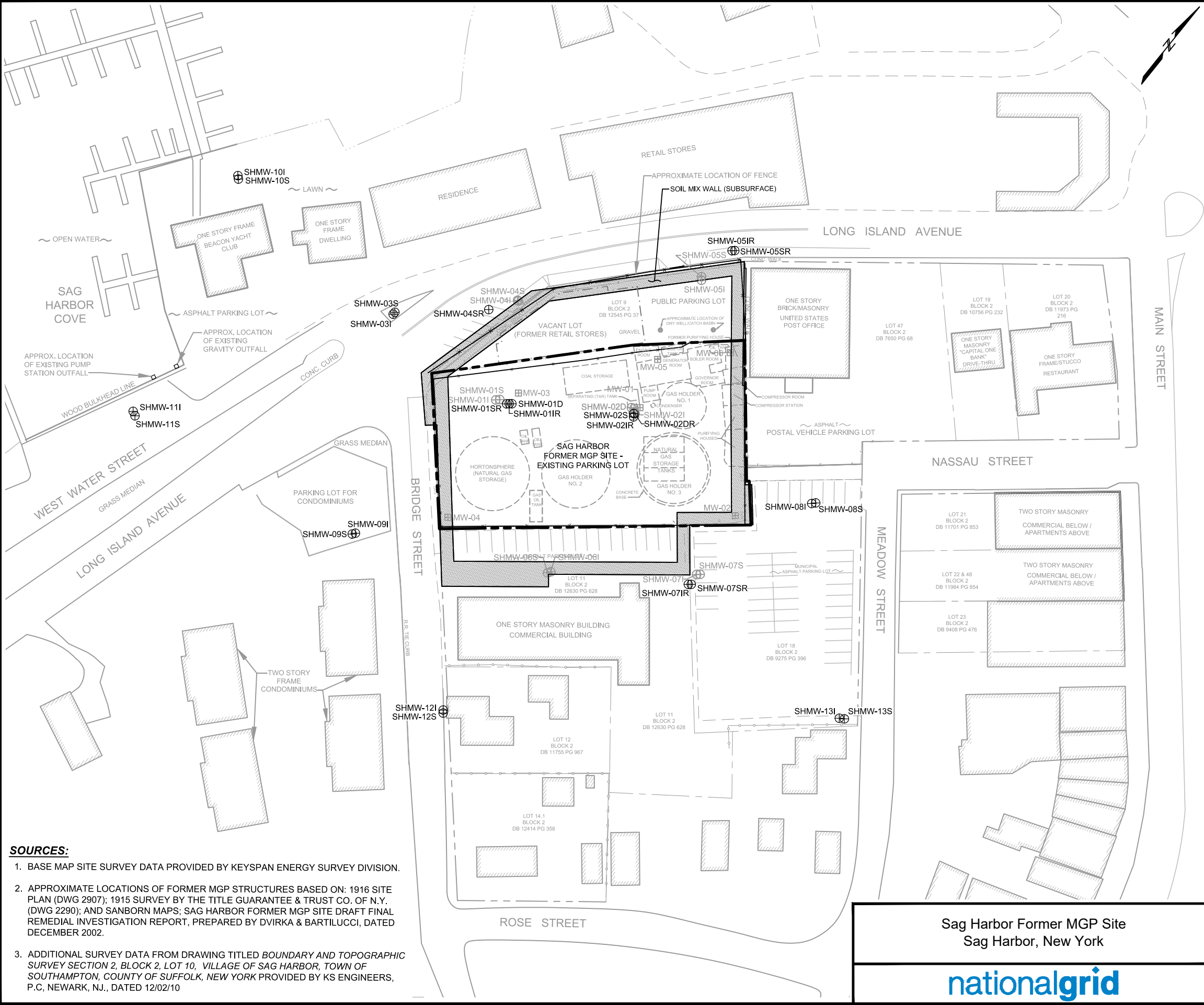


Project 1702897

SITE LOCATION MAP

August 2019

Fig. 1



LEGEND

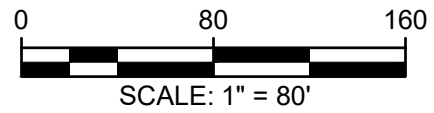
APPROXIMATE LOCATION OF FORMER MGP STRUCTURE

LOCATION OF EXISTING STRUCTURE

SHMW-05S

SHMW-03S

- SOURCES:**
1. BASE MAP SITE SURVEY DATA PROVIDED BY KEYSpan ENERGY SURVEY DIVISION.
 2. APPROXIMATE LOCATIONS OF FORMER MGP STRUCTURES BASED ON: 1916 SITE PLAN (DWG 2907); 1915 SURVEY BY THE TITLE GUARANTEE & TRUST CO. OF N.Y. (DWG 2290); AND SANBORN MAPS; SAG HARBOR FORMER MGP SITE DRAFT FINAL REMEDIAL INVESTIGATION REPORT, PREPARED BY DVIRKA & BARTILUCCI, DATED DECEMBER 2002.
 3. ADDITIONAL SURVEY DATA FROM DRAWING TITLED *BOUNDARY AND TOPOGRAPHIC SURVEY SECTION 2, BLOCK 2, LOT 10, VILLAGE OF SAG HARBOR, TOWN OF SOUTHAMPTON, COUNTY OF SUFFOLK, NEW YORK* PROVIDED BY KS ENGINEERS, P.C, NEWARK, NJ., DATED 12/02/10



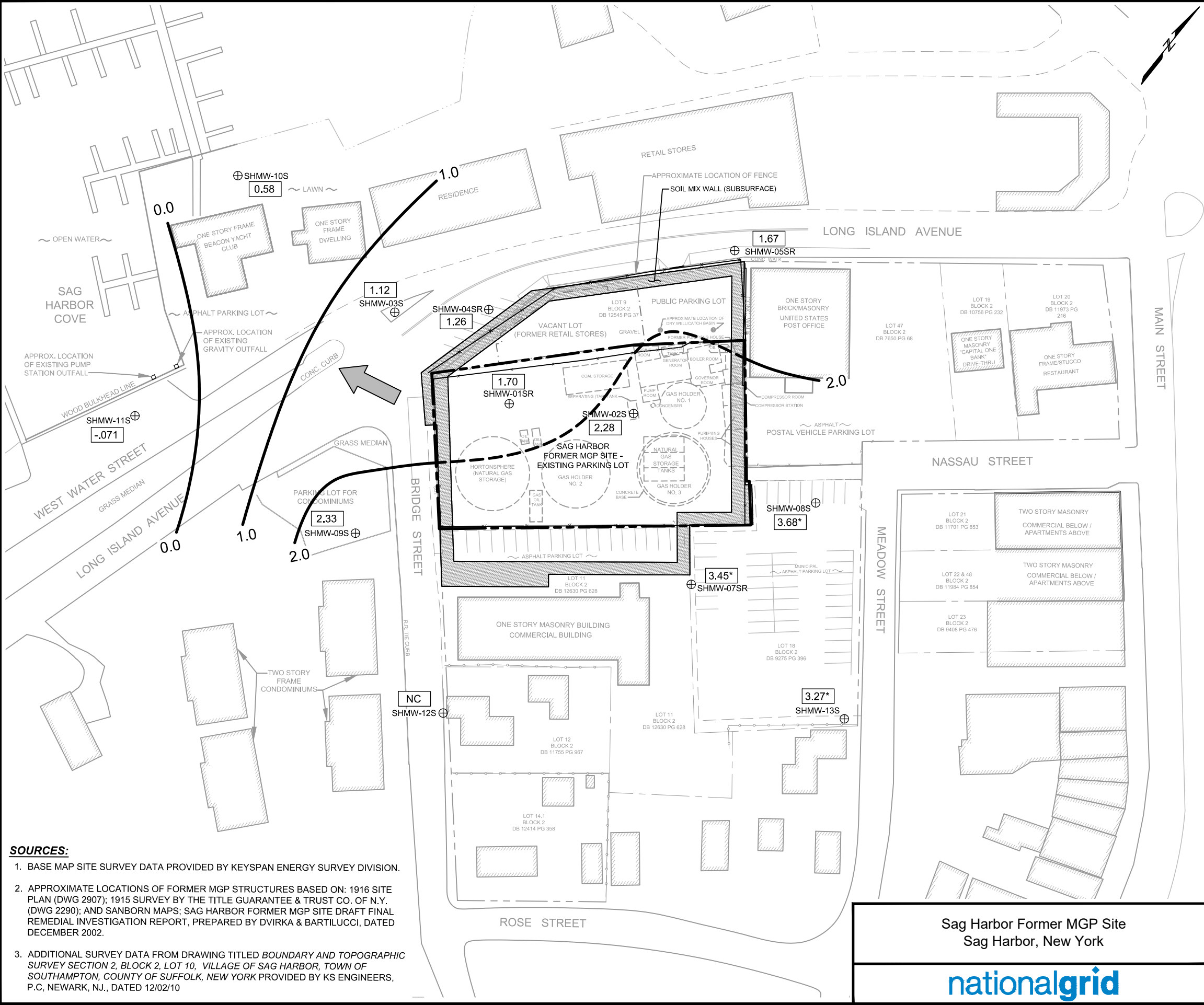
Sag Harbor Former MGP Site
Sag Harbor, New York

Project 1702897

MONITORING WELL
LOCATION MAP

August 2019

Fig. 2



LEGEND

APPROXIMATE LOCATION OF FORMER MGP STRUCTURE

LOCATION OF EXISTING STRUCTURE

CURRENT SITE BOUNDARY

ADJACENT SITE BOUNDARY

CHAIN-LINK FENCE

STOCKADE FENCE

SHMW-05S

FORMER MONITORING WELL
(WELL ABANDONED OR DESTROYED)

SHMW-03S

MONITORING WELL

0.58

GROUNDWATER ELEVATION IN FEET

3.45*

MEASUREMENT NOT USED TO GENERATE CONTOURS

NC

GROUNDWATER ELEVATION NOT CALCULATED

1.0

GROUNDWATER CONTOUR (FT)

2.0

GROUNDWATER CONTOUR (INFERRED)

APPROXIMATE GROUNDWATER FLOW DIRECTION

- SOURCES:**
1. BASE MAP SITE SURVEY DATA PROVIDED BY KEYSpan ENERGY SURVEY DIVISION.
 2. APPROXIMATE LOCATIONS OF FORMER MGP STRUCTURES BASED ON: 1916 SITE PLAN (DWG 2907); 1915 SURVEY BY THE TITLE GUARANTEE & TRUST CO. OF N.Y. (DWG 2290); AND SANBORN MAPS; SAG HARBOR FORMER MGP SITE DRAFT FINAL REMEDIAL INVESTIGATION REPORT, PREPARED BY DVIRKA & BARTILUCCI, DATED DECEMBER 2002.
 3. ADDITIONAL SURVEY DATA FROM DRAWING TITLED *BOUNDARY AND TOPOGRAPHIC SURVEY SECTION 2, BLOCK 2, LOT 10, VILLAGE OF SAG HARBOR, TOWN OF SOUTHAMPTON, COUNTY OF SUFFOLK, NEW YORK* PROVIDED BY KS ENGINEERS, P.C, NEWARK, NJ., DATED 12/02/10

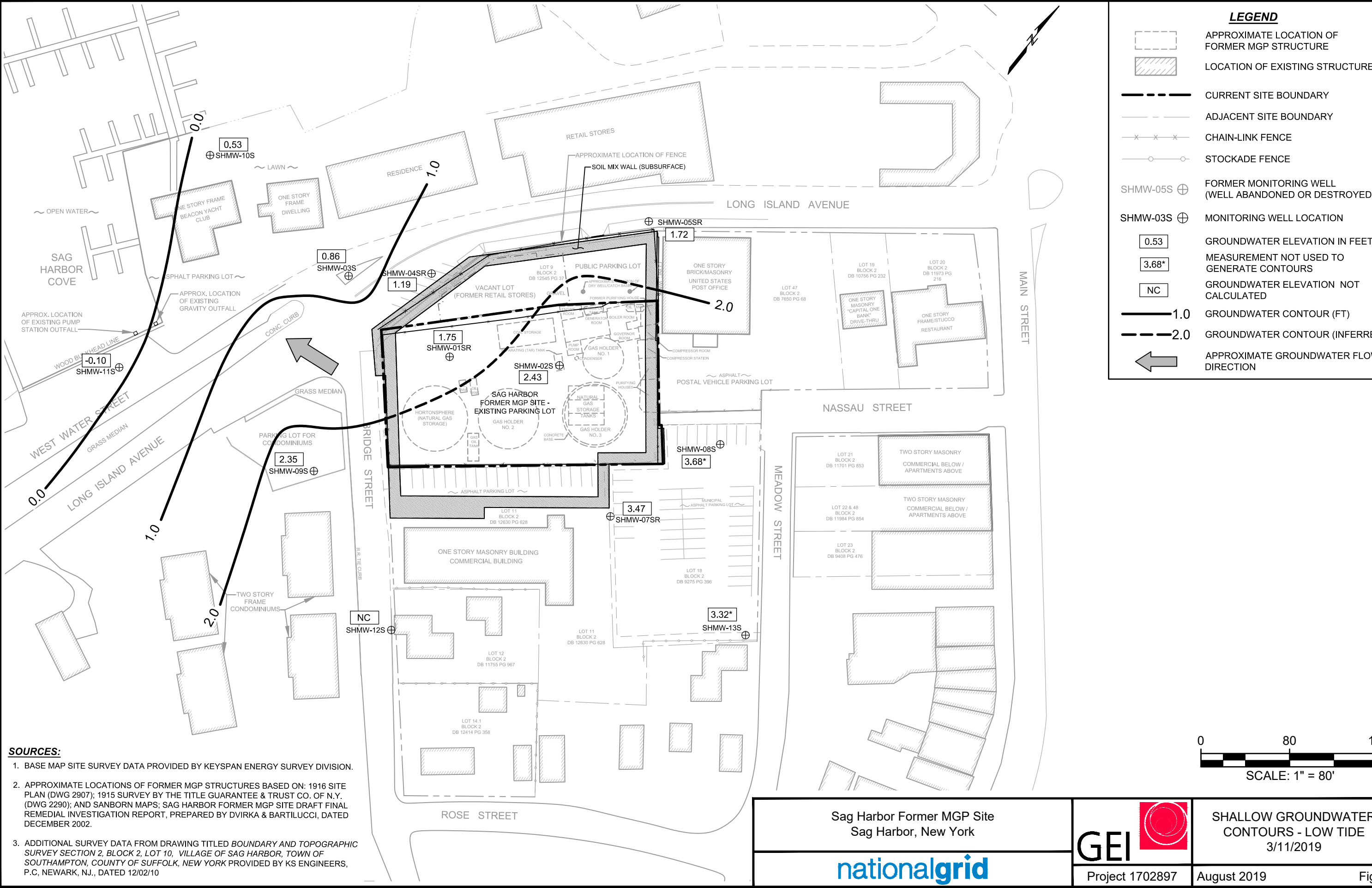
Sag Harbor Former MGP Site
Sag Harbor, New York

SHALLOW GROUNDWATER
CONTOURS - HIGH TIDE
3/11/2019



Project 1702897

August 2019

Fig. 3



- SOURCES:**
1. BASE MAP SITE SURVEY DATA PROVIDED BY KEYSpan ENERGY SURVEY DIVISION.
 2. APPROXIMATE LOCATIONS OF FORMER MGP STRUCTURES BASED ON: 1916 SITE PLAN (DWG 2907); 1915 SURVEY BY THE TITLE GUARANTEE & TRUST CO. OF N.Y. (DWG 2290); AND SANBORN MAPS; SAG HARBOR FORMER MGP SITE DRAFT FINAL REMEDIAL INVESTIGATION REPORT, PREPARED BY DVIRKA & BARTILUCCI, DATED DECEMBER 2002.
 3. ADDITIONAL SURVEY DATA FROM DRAWING TITLED *BOUNDARY AND TOPOGRAPHIC SURVEY SECTION 2, BLOCK 2, LOT 10, VILLAGE OF SAG HARBOR, TOWN OF SOUTHAMPTON, COUNTY OF SUFFOLK, NEW YORK* PROVIDED BY KS ENGINEERS, P.C, NEWARK, NJ., DATED 12/02/10

Sag Harbor Former MGP Site Sag Harbor, New York		SHALLOW GROUNDWATER CONTOURS - LOW TIDE 3/11/2019	
		Project 1702897	August 2019
		Fig. 4	



