Second Half 2016
Semi-Annual Groundwater Monitoring Report
Patchogue Former MGP Site
NYSDEC Site No. 1-52-182
Village of Patchogue, Suffolk County, New York

Prepared for

National Grid USA

Hicksville, New York

March 2017

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Project Number: 149322.730.004

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Section 1

Introduction

This Semi-Annual Groundwater Monitoring Report documents the implementation and summarizes the results of the groundwater monitoring activities conducted during the second half of 2016 at the Patchogue Former Manufactured Gas Plant (MGP) Site (hereinafter referred to as the "Site"). The groundwater monitoring activities included the performance of the water level measurements, non-aqueous phase liquid (NAPL) gauging and groundwater sampling.

The groundwater monitoring event and the preparation of this report are part of the routine groundwater monitoring program being conducted at the Site. This report has been prepared for submittal to the New York State Department of Environmental Conservation (NYSDEC) and includes the following:

- Description of the scope of the field activities, methods and procedures;
- Table summarizing the results of the water level measurements and the gauging of the monitoring wells and piezometers for the presence of NAPL (see Table 1);
- Table summarizing the analytical results for the groundwater samples obtained during the second half 2016 monitoring event including a comparison to the applicable groundwater quality criteria (see Table 2);
- Comparison of data from this monitoring period to data from historical monitoring events (Tables 3 and 4);
- Discussion of the results and findings from the groundwater monitoring data;
- A water table elevation contour map depicting the generalized direction of groundwater flow based on groundwater elevation data obtained from monitoring wells and piezometers, as well as surface water elevation data obtained from staff gauges installed in the Patchogue River (Figure 1);
- Field Sampling Data Sheets (Appendix A);
- Laboratory Data Report (Appendix B);
- Data Usability Summary Report (Appendix C); and
- Electronic Data Deliverable (Appendix D).

1.1 Background

Groundwater monitoring events have been conducted at the Site since March 2008 including two monitoring events conducted as part of the Remedial Investigation (RI) in March 2008 and July 2008. The groundwater monitoring event conducted in December 2016 is the subject of this report. The results of previous monitoring events have had fairly consistent concentrations and areal distribution of constituents in groundwater. Prior to the March 2010 groundwater monitoring event, site-related dissolved phase constituents [e.g., benzene, toluene, ethylbenzene, xylenes (BTEX) and polycyclic aromatic hydrocarbons (PAHs)] were detected at concentrations above the Class GA groundwater quality criteria [i.e., standards from the 6 NYCRR Part 703 Standards and guidance values from the Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1] in a limited area near the center of the Site. These elevated concentrations did not extend downgradient to the wells closer to the Patchogue River. However, during the March 2010 and September 2010 monitoring events, detections of BTEX and PAH compounds were more widely distributed than during previous events. It was surmised that this change was the result of a temporary dewatering operation at a construction project conducted by

the Village of Patchogue at their wastewater treatment facility (WWTF) directly across the river from the Site. Based on the understanding of Site conditions, it was anticipated that when the dewatering operations had ceased, concentrations in groundwater would re-equilibrate with steady-state (i.e., pre-dewatering) groundwater flow conditions, and eventually return to levels similar to those prior to dewatering. To confirm this, National Grid increased the frequency of the groundwater monitoring from semi-annually to quarterly. The subsequent six quarterly monitoring events documented the return of groundwater flow and groundwater quality to conditions consistent with those prior to the dewatering operations.

Based on this finding, in a May 24, 2012 email, National Grid proposed to the NYSDEC that the frequency of groundwater sampling and analysis return to a semi-annual basis with the schedule for water level monitoring and NAPL gauging remaining on a quarterly basis. NYSDEC agreed with this proposal. Collection of water level data remained on a quarterly schedule to provide additional water level data from the piezometers that had been installed in the first half of 2012 in support of the Pre-Remedial Design Investigation. Subsequently, in an October 8, 2013 letter to the NYSDEC, National Grid proposed that that the frequency of all components of the groundwater monitoring program (i.e., water level measurements, NAPL gauging and groundwater sampling) be returned to the semi-annual schedule. This proposal was made because the data from the water level measurements and NAPL gauging, including data from the newer piezometers, continued to indicate very consistent findings from quarter to quarter and confirmed the understanding of groundwater flow conditions and NAPL occurrence at the Site. The NYSDEC concurred with this proposal in a December 9, 2013 email.

Section 2

Scope of Work

Field activities for the second half 2016 groundwater monitoring were conducted by Brown and Caldwell Associates (BC) between December 27 and 29, 2016. The activities conducted during this monitoring event are described below. Locations of the monitoring wells, piezometers and staff gauges referenced below are depicted on Figure 1.

Prior to groundwater sampling, water level measurements and NAPL gauging were performed in the piezometers and monitoring wells associated with the Site. The level of the Patchogue River was measured at the two staff gauges (SG-1 and SG-2). Water level measurements and NAPL gauging were made using an electronic oil/water interface probe, and measured to the nearest 0.01 foot. At the locations where NAPL was detected using the oil/water interface probe, a 3-foot long threaded rod attached to a nylon mason line was lowered into the monitoring well or piezometer to confirm the presence of the NAPL. The threaded rod was lowered to the bottom of the monitoring well to measure the approximate thickness of the NAPL accumulation.

Groundwater sampling was conducted at ten monitoring wells following the water level and NAPL gauging activities. MW-5 was not sampled during this monitoring period due to the presence of NAPL observed in the well during NAPL gauging activities. The presence of NAPL in MW-5 is consistent with observations during previous gauging activities. The standard protocol is that if NAPL is observed in a well during gauging or sampling, groundwater samples are not submitted for laboratory analyses. Additionally, monitoring well MW-6 was not sampled during this monitoring period as the sampling crew could not locate the well and monitoring well. The surface completion for MW-6 is relatively low to the ground surface and the field crew was unable to locate the well due to matted down overgrown vegetation in the general area of MW-6. Noteworthy is that NAPL is routinely observed in MW-6 and, therefore, the well is typically not sampled during the semi-annual sampling events. Groundwater sampling was conducted using low flow purging and sampling techniques in accordance with the United States Environmental Protection Agency (USEPA) protocol (USEPA, July 1996, Revised January 2010). Samples were submitted to Aqua Pro-Tech Laboratories (APL) located in Fairfield, New Jersey. APL is certified (Certification No. 11634) through the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP).

The groundwater samples were analyzed for: BTEX compounds and methyl tertiary-butyl ether (MTBE) using SW-846 Method 8260B; and PAHs using USEPA SW-846 Method 8270C. The selective ion monitoring (SIM) component of the 8270 analysis (used to obtain the required detection limits for certain PAH compounds) was inadvertently included for the following semi-volatile organic compounds (SVOCs): hexachlorobenzene, hexachlorobutadiene, and n-nitroso-dimethylamine. Although these compounds are not related to MGP impacts, they are reported herein because they were included in the analysis. The groundwater samples were also analyzed in the field for pH, specific conductivity, temperature, turbidity, oxidation-reduction potential (ORP), and dissolved oxygen (see Appendix A for field data sheets).

The laboratory report from APL is provided in Appendix B. Laboratory analytical data were provided to BC in electronic form by APL and have been incorporated into the environmental database maintained by BC for the Site.

In addition to the samples described above, quality assurance/quality control (QA/QC) samples were also collected. The QA/QC samples included: trip blanks (one per cooler containing samples for BTEX and MTBE analysis), a field duplicate, and an equipment blank. Also, extra sample volume was collected from one location to provide for matrix spike/matrix spike duplicate (MS/MSD) analysis. The trip blanks were analyzed for BTEX and MTBE only. The other QA/QC samples were analyzed for BTEX, MTBE, and PAHs.

Laboratory results for the groundwater sample analyses were forwarded to a data validator, Environmental Data Services, Inc. of Newport News, Virginia, for review and preparation of a Data Usability Summary Report (DUSR). The DUSR presents a summary of data usability including a discussion of qualified data. The DUSR is provided as Appendix C. As described in the DUSR, the data were considered by the validator to be valid and usable. An Electronic Data Deliverable (EDD) of the validated analytical data, prepared in accordance with NYSDEC requirements, is provided in Appendix D.

Section 3

Results and Findings

3.1 Water Level Data

Table 1 provides the water level data and calculated water elevations from the December 2016 measurements. Figure 1 illustrates the elevation contours of the water table based on these data. The contours were developed using water level elevation data from the shallow monitoring wells and shallow piezometers at the Site (i.e., those with screens that straddle, or are just below, the water table) and the two surface water staff gauges in the Patchogue River. The water level elevations used for contouring are representative of water table elevations at the Site. The groundwater elevation (hydraulic head) values for the wells and piezometers screened in deeper intervals are also posted for reference on Figure 1. The water table is relatively shallow and is typically positioned in the fill that overlies the native alluvial deposits and outwash deposits. The water table contours indicate that lateral groundwater flow is from northwest to southeast across the Site toward the Patchogue River. Comparisons of the groundwater elevations in the monitoring wells to the river elevation, as measured at staff gauges SG-1 and SG-2, demonstrate that groundwater elevations are higher than the river level indicating that groundwater is discharging to the Patchogue River. The upward vertical hydraulic gradient measured at well pairs adjacent to the river (well pairs MW-4S and MW-4D, and MW-9S and MW-9D) is indicative of a discharge area and provides further support to the conclusion that groundwater is discharging to the Patchogue River. The general configuration of the water table contours, developed using the December 2016 data, and the interpreted groundwater flow patterns are consistent with those from previous rounds of water level measurements with one exception. The exception occurred during the March 2010 sampling event when the large-scale dewatering activities were being conducted on the WWTF site located east of the Site on the opposite side of the river (see discussion in Section 1.1). Operation of this dewatering system temporarily altered groundwater flow patterns and levels at the Site (see "Groundwater Monitoring Report, Second Semiannual 2010 Sampling Event" [GEI, November 2010]).

3.2 NAPL Gauging

Table 1 presents the results of the NAPL gauging conducted in the monitoring wells and piezometers associated with the Site during the December 2016 groundwater monitoring event. NAPL was identified in the following wells/piezometers during the gauging activities:

- **MW-5:** Reddish, amber colored NAPL with strong mothball-like odor on the lower 0.34 feet of the threaded rod.
- **PZ-3A:** Black silt with slight odor and sheen/NAPL blebs at base of threaded rod.

NAPL has been observed in MW-5 and PZ-3A during previous gauging events. As discussed in Section 2, although not part of the second half 2016 groundwater monitoring because it could not be located, NAPL is also typically observed in MW-6 during the routine gauging activities.

3.3 Groundwater Quality Data

Table 2 provides the results of the laboratory analyses of the groundwater samples collected during the December 2016 monitoring event and a comparison of the data to the New York State Class GA groundwater quality criteria. Comparisons of total BTEX and total PAH concentrations from this sampling event to previous sampling events are provided as Tables 3 and 4, respectively.

As previously stated, NAPL was identified in one of the 12 monitoring wells (MW-5) associated with the Site. MW-5 is located in the central part of the Site in the area of former MGP operations (refer to Figure 1). As discussed in Section 2, because MW-5 contained NAPL and MW-6 could not be located, groundwater samples were not collected from these wells. Groundwater samples were collected from the remaining ten monitoring wells and submitted to the laboratory for analysis.

The constituent concentrations in groundwater samples collected during the December 2016 monitoring event were consistent with those measured during previous monitoring events. No MTBE or BTEX compounds were detected at any of the ten monitoring wells sampled during the December 2016 monitoring event.

PAH compounds were not detected at six of the ten monitoring wells that were sampled during the December 2016 monitoring event. However, in samples collected from monitoring wells MW-3, MW-4, MW-9S, and MW-9D, PAH compounds were detected at low concentrations (i.e., slightly above the laboratory method detection limit) above the Class GA groundwater quality criteria during the December 2016 monitoring event. The PAH compounds that were identified in the groundwater samples from these sampling locations at concentrations above the Class GA groundwater quality criteria include one or more of the following four compounds: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene. These PAH compounds have very low aqueous solubilities, are not readily mobile in groundwater, and are unlikely to have migrated from the on-site source area. The criteria that were exceeded for three of these four PAHs are unpromulgated guidance values rather than Part 703 standards. The criteria for the fourth PAH, benzo(a)pyrene, is a Part 703 standard. The guidance value for the other PAHs, 0.002 µg/L, is nearly two orders of magnitude below the method detection limit; the standard for benzo(a)pyrene is “non-detect”. Therefore, any detection of these compounds in groundwater will result in an exceedance. The detection of these constituents is likely related to the disturbance of fine or colloid sized particles during purging or sampling activities. These particles are derived from within the well or the soil adjacent to the well that become suspended into the water column of the well as a result of disturbance during purging and sampling activities.

As indicated on the chain-of-custodies that accompanied the samples (refer to laboratory report provided in Appendix B), PAHs were the only constituents requested for analysis associated with the Method 8270 analysis for SVOCs. However, as discussed in Section 2, the laboratory inadvertently analyzed the samples for a few other SVOCs for this sampling event. Specifically, the laboratory also analyzed the samples for hexachlorobenzene, hexachlorobutadiene, and n-Nitroso-dimethylamine. Low-level detections of hexachlorobenzene were measured in the sample from MW-4D and the duplicate sample collected from MW-9S at concentrations slightly above its Part 703 standard of 0.04 µg/L. Hexachlorobenzene is not considered to be associated with former MGP operations and thus, is not considered to be site-related. Rather, the detections of hexachlorobenzene can likely be attributed to historic commercial and industrial activities near the Site. Hexachlorobenzene is a component of fungicides and can be a byproduct in the production of chlorinated solvents (and an impurity). It can also be associated with fly ash and paper production processes. Hexachlorobenzene is known to have a very low aqueous solubility, is not readily mobile in groundwater, and is unlikely to have migrated from the on-site source area.

Section 4

Summary and Conclusions

As noted in previous monitoring events, NAPL was identified in one monitoring well (MW-5) and one piezometer (PZ-3A) during the December 2016 event. MW-5 and PZ-3A are located in the center of the Site in the area of former MGP operations where NAPL has been identified in the soil.

No MTBE or BTEX compounds were detected at any of the monitoring wells sampled during the December 2016 monitoring event.

PAH compounds were not detected at six of the ten monitoring wells sampled during the December 2016 monitoring event. At MW-3, MW-4, MW-9S, and MW-9D, one or more PAH compounds were detected at low concentrations (i.e., slightly above the laboratory method detection limit) above the Class GA groundwater quality criteria during the December 2016 monitoring event. The detected PAH compounds have very low aqueous solubilities, are not readily mobile in groundwater and are unlikely to have migrated from the onsite source area. In addition, the criteria that were exceeded for three of the four detected PAHs are unpromulgated guidance values rather than Part 703 standards. The criteria for these compounds are extremely low, approximately two orders of magnitude below the laboratory method detection limit. Therefore, any detection of these compounds in groundwater will result in an exceedance. This will continue to be evaluated through subsequent semi-annual monitoring events. As discussed in Section 3.3, the detections of hexachlorobenzene in samples collected from MW-4D and MW-9S are not considered to be related to the former MGP operations conducted at the Site.

No dissolved phase impacts are identified in groundwater samples collected at monitoring well locations positioned downgradient of the MGP-impacts identified in the soil in the area of former MGP operations. Monitoring will continue in order to confirm these conditions.

Section 5

References

Brown and Caldwell Associates, December 2012, Construction Completion Report Utility Corridor Work Plan Implementation, Patchogue Former MGP Site, Village of Patchogue, Suffolk County, New York, Site ID No. 1-52-182.

GEI, November 2010. Groundwater Monitoring Report, Second Semiannual 2010 Sampling Event, Patchogue Former MGP Site, Town of Brookhaven, Suffolk County, Long Island, New York, Site ID No. 1-52-182.

USEPA, July 1996; Revised January 2010. Low-Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells.

Tables

TABLE 1
WATER ELEVATIONS AND NAPL MONITORING DATA
SECOND HALF 2016
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Location ID	Top of Casing Elevation [(a)] (ft., NAVD)	12/27/2016 Depth to Water (ft., BTOC)	Water Elevation (ft., NAVD)	Depth to NAPL (ft., BTOC)	Total Depth of Well (ft., BGS)	Remarks
MW-1	11.47	5.97	5.50	NI	15.22	
MW-3	5.56	2.42	3.14	NI	10.40	
MW-4S	7.97	5.24	2.73	NI	12.29	
MW-4D	7.79	4.96	2.83	NI	26.69	
MW-5	8.66	4.69	3.97	10.16	10.50	0.34' of reddish amber NAPL at base of threaded rod, strong mothball-like odor.
MW-6	5.03	--	--	--	--	Unable to locate well.
MW-7S	8.45	4.81	3.64	NI	12.46	
MW-7D	8.31	4.45	3.86	NI	27.17	
MW-8S	5.08	0.90	4.18	NI	9.95	
MW-8D	4.98	0.84	4.14	NI	25.16	
MW-9S	4.47	1.62	2.85	NI	10.23	
MW-9D	4.66	1.53	3.13	NI	22.98	
SG-1	5.23	4.13	1.10	NI	NA	
SG-2	5.17	3.90	1.27	NI	NA	
PZ-1A	8.05	3.75	4.30	NI	10.05	
PZ-1B	8.91	4.87	4.04	NI	22.50	
PZ-2A	8.77	4.49	4.28	NI	8.08	
PZ-2B	8.29	4.03	4.26	NI	18.05	Slight, mothball-like odor on threaded rod.
PZ-3A	8.78	4.89	3.89	8.91	9.33	0.42' of black silt with slight odor and sheen/NAPL blebs at base of threaded rod.
PZ-3B	8.90	5.27	3.63	NI	21.90	
PZ-4A	4.79	1.82	2.97	NI	4.90	

Notes:
NAVD - North American Vertical Datum
ft. - Feet
BGS - Below Ground Surface
BTOC - Below Top of Casing
NAPL - Non-Aqueous Phase Liquid
NA - Not Applicable
NI - NAPL Not Indicated by Oil/Water Interface Probe
(a) - Monitoring wells resurveyed on 7/3/12 following utility corridor construction activities. See "Construction Completion Report, Utility Corridor Work Plan Implementation (Brown and Caldwell, December 2012)". Above ground casing at MW-5 was lowered during utility corridor construction activities and was resurveyed in September 2015.

TABLE 2
GROUNDWATER ANALYSIS RESULTS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Constituent	Class GA Groundwater Criteria		Loc ID	MW-1	MW-3	MW-4D	MW-4S	MW-7D
				12/29/2016	12/27/2016	12/28/2016	12/28/2016	12/28/2016
	TOGS 1.1.1 Guidance	NYS Part 703 Standard	Sample Date Units					
Volatile Organic Compounds (VOCs)								
BTEX								
Benzene	NE	1	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Xylenes, m & p	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2-Dimethylbenzene (o-Xylene)	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Toluene	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Xylenes, total	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	ND	ND
Other VOCs								
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
tert-Butyl alcohol	NE	NE	µg/L	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Semi-Volatile Organic Compounds (SVOCs)								
Polycyclic Aromatic Hydrocarbons (PAHs)								
Acenaphthene	20	NE	µg/L	2.13 U	2.20 U	2.13 U	2.17 U	2.00 U
Acenaphthylene	NE	NE	µg/L	2.13 U	2.20 U	2.13 U	2.17 U	2.00 U
Anthracene	50	NE	µg/L	2.13 U	2.20 UJ	2.13 U	2.17 U	2.00 U
Benzo(a)anthracene	0.002	NE	µg/L	0.021 U	**0.024**	**0.024**	0.022 U	0.020 U
Benzo(a)pyrene	NE	0	µg/L	0.021 U	0.022 U	**0.022**	0.022 U	0.020 U
Benzo(b)fluoranthene	0.002	NE	µg/L	0.021 U	0.022 U	0.021 U	0.022 U	0.020 U
Benzo(g,h,i)perylene	NE	NE	µg/L	2.13 U	2.20 UJ	2.13 U	2.17 U	2.00 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.021 U	0.022 U	**0.022**	0.022 U	0.020 U
Chrysene	0.002	NE	µg/L	2.13 U	2.20 UJ	2.13 U	2.17 U	2.00 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.021 U	0.022 U	0.021 U	0.022 U	0.020 U
Fluoranthene	50	NE	µg/L	2.13 U	2.20 U	2.13 U	2.17 U	2.00 U
Fluorene	50	NE	µg/L	2.13 U	2.20 U	2.13 U	2.17 U	2.00 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.021 U	0.022 U	0.021 U	0.022 U	0.020 U
Naphthalene	10	NE	µg/L	2.13 U	2.20 U	2.13 U	2.17 U	2.00 U
Phenanthrene	50	NE	µg/L	2.13 U	2.20 UJ	2.13 U	2.17 U	2.00 U
Pyrene	50	NE	µg/L	2.13 U	2.20 U	2.13 U	2.17 U	2.00 U
Total PAHs	NE	NE	µg/L	ND	0.024	0.07	ND	ND
Other SVOCs								
Hexachlorobenzene	NE	0.04	µg/L	0.021 U	0.022 U	**0.044**	0.022 U	0.020 U
Hexachlorobutadiene	NE	0.5	µg/L	0.021 U	0.022 U	0.021 U	0.022 U	0.020 U
n-Nitroso-dimethylamine	NE	NE	µg/L	0.106 U	0.110 U	0.106 U	0.109 U	0.100 U

TABLE 2
GROUNDWATER ANALYSIS RESULTS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Constituent	Class GA Groundwater Criteria		Loc ID	MW-7S	MW-8D	MW-8S	MW-9D	MW-9S	MW-9S (DUP)
				12/28/2016	12/28/2016	12/28/2016	12/27/2016	12/27/2016	12/27/2016
	TOGS 1.1.1 Guidance	NYS Part 703 Standard	Sample Date Units						
Volatile Organic Compounds (VOCs)									
BTEX									
Benzene	NE	1	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Ethylbenzene	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Xylenes, m & p	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
1,2-Dimethylbenzene (o-Xylene)	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Toluene	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Xylenes, total	NE	5	µg/L	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U	1.00 U
Total BTEX	NE	NE	µg/L	ND	ND	ND	ND	ND	ND
Other VOCs									
tert-Butyl methyl ether (MTBE)	10	NE	µg/L	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U	2.00 U
tert-Butyl alcohol	NE	NE	µg/L	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U	10.0 U
Semi-Volatile Organic Compounds (SVOCs)									
Polycyclic Aromatic Hydrocarbons (PAHs)									
Acenaphthene	20	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22
Acenaphthylene	NE	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22 U
Anthracene	50	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22 U
Benzo(a)anthracene	0.002	NE	µg/L	0.020 U	0.020 U	0.020 U	0.021 U	**0.058**	**0.057**
Benzo(a)pyrene	NE	0	µg/L	0.020 U	0.020 U	0.020 U	**0.028**	**0.035**	**0.042**
Benzo(b)fluoranthene	0.002	NE	µg/L	0.020 U	0.020 U	0.020 U	**0.021 J**	0.024 U	**0.019 J**
Benzo(g,h,i)perylene	NE	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22 U
Benzo(k)fluoranthene	0.002	NE	µg/L	0.020 U	0.020 U	0.020 U	**0.025**	**0.023 J**	**0.032**
Chrysene	0.002	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22 U
Dibenz(a,h)anthracene	NE	NE	µg/L	0.020 U	0.020 U	0.020 U	0.021 U	0.024 U	0.022 U
Fluoranthene	50	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22 U
Fluorene	50	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22 U
Indeno(1,2,3-c,d)pyrene	0.002	NE	µg/L	0.020 U	0.020 U	0.020 U	0.021 U	0.024 U	0.022 U
Naphthalene	10	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	2.22 U
Phenanthrene	50	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.44 U	0.65 U
Pyrene	50	NE	µg/L	2.00 U	2.00 U	2.00 U	2.08 U	2.83	3.13 J
Total PAHs	NE	NE	µg/L	ND	ND	ND	0.074 J	2.95 J	5.50 J
Other SVOCs									
Hexachlorobenzene	NE	0.04	µg/L	0.020 U	0.020 U	0.020 U	0.021 U	0.024 U	**0.048**
Hexachlorobutadiene	NE	0.5	µg/L	0.020 U	0.020 U	0.020 U	0.021 U	0.024 U	0.022 U
n-Nitroso-dimethylamine	NE	NE	µg/L	0.100 U	0.100 U	0.100 U	0.104 U	0.122 U	0.111 U

Notes:
J - Estimated concentration. The result is below the practical quantitation limit but above the method detection limit.
U - The analyte was analyzed for, but was not detected.
µg/L - micrograms per liter
ND - Not detected.
NE - Not established.
Boxed concentrations are above New York State Class GA Groundwater Quality Criteria (Standards or Guidance values).

TABLE 3
SUMMARY OF HISTORICAL BTEX CONCENTRATIONS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Sampling Date	Total BTEX Concentrations (µg/L) [a]														
	Monitoring Well														
	MW-1	MW-2S	MW-2D	MW-3	MW-4S	MW-4D	MW-5	MW-6	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D	PZ-4A
Mar-08	0	0	0	0	3.4	0	1016	57	NS	NS	NS	NS	NS	NS	NI
Jul-08	NS	0	0	0	0	0	678	0	0	0	0	0	0	0	NI
Mar-09	0	0	0	0	0	0	975	0	0	1	0	0	0	0	NI
Sep-09	0	0	0	0	0	0	1257	1	0	0	0	0	0	0	NI
Mar-10	0	0	0	0	0	0	637	2	0	9	0	0	0	0	NI
Sep-10	0	0	0	0	0	0	NS	0	0	0	0	0	27	0	NI
Jan-11	1.7	0	0	0	0	0	NS	NS	0	0	0	0	1	0	NI
Apr-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0	NI
Aug-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0	NI
Nov-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0	NI
Feb-12	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0	NI
May-12	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0	NI
Nov-12	0	-- [b]	-- [a]	0	12	0	NS	NS	1	0	0	0	NS	NS	NI
Jun-13	0	-- [b]	-- [b]	0	0.8	0	NS	NS	0.7	0	0	0	0	NS	NI
Dec-13	0	-- [b]	-- [b]	NS	0	0	NS	NS	0.8	0	0	0	NS	NS	NI
Jun-14	0	-- [b]	-- [b]	0	0	0	NS	NS	0.8	0	0	0	NS	NS	0
Dec-14	0	-- [b]	-- [b]	0	0	0	NS	NS	1.3	0	0	0	0	0	NS
Jun-15	0	-- [b]	-- [b]	0	0	0	NS	NS	0	0	0	0	0	0	NS
Dec-15	0	-- [b]	-- [b]	0	0	0	NS	NS	0.5	0	0	0	0	0	NS
Jun-16	0	-- [b]	-- [b]	0	0	0	NS	NS	0	0	0	0	0	0	NS
Dec-16	0	-- [b]	-- [b]	0	0	0	NS	NS	0	0	0	0	0	0	NS
Minimum	0.0	0.0	0.0	0.0	0.0	0.0	637.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Maximum	1.7	0.0	0.0	0.0	12.0	0.0	1257.0	57.3	1.3	9.0	0.0	0.0	27.0	0.0	0.0
Mean	0.1	0.0	0.0	0.0	0.8	0.0	912.6	10.1	0.3	0.5	0.0	0.0	1.6	0.0	0.0

Notes:
BTEX - Benzene, toluene, ethylbenzene and xylene isomers
µg/L - micrograms per liter
NS - Not sampled.
NI - Piezometer not installed at time of sampling.
(a) - To calculate Total BTEX concentration, a value of zero is used for non-detect values.
(b) - Monitoring well was decommissioned on 6/4/12 as part of the Utility Corridor Construction activities. See "Construction Completion Report, Utility Corridor Work Plan Implementation (Brown and Caldwell, December 2012)".

TABLE 4
SUMMARY OF HISTORICAL PAH CONCENTRATIONS
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Sampling Date	Total PAH Concentrations (µg/L) [a]														
	Monitoring Well														
	MW-1	MW-2S	MW-2D	MW-3	MW-4S	MW-4D	MW-5	MW-6	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D	PZ-4A
Mar-08	0	0	0	0.76	0.6	4.3	1774	214	NS	NS	NS	NS	NS	NS	NI
Jul-08	NS	0.7	0	0	8.0	0	1799	154	0	0.47	0	0	12.0	0	NI
Mar-09	0	0	0	0	0	0	2730	0	0	0	0	0	0	0	NI
Sep-09	0	0	0	0	0	0	3373	1	0	0	0	0	0	0	NI
Mar-10	0	0	0	0	0	39	2390	17	0	0	22	0	2	0	NI
Sep-10	0	0	0	128	0	6	NS	14	0	0	11	0	396	0	NI
Jan-11	22	0	0	17	0	12	NS	NS	0	0	6	0	42	5	NI
Apr-11	0	0	0	6	0	20	NS	NS	0	0	0	0	9	0	NI
Aug-11	0	0	0.1	14	0.1	0	NS	NS	0	0	0.4	0	16	1.2	NI
Nov-11	0	0	0.2	10	0.4	0	NS	NS	0	0	0.8	0.2	8	3.4	NI
Feb-12	0.2	0	0	6	0.6	4	NS	NS	0.1	0	0.6	0	5	2.9	NI
May-12	0.4	0.1	0.6	5	0	5.8	NS	NS	0.1	0.3	1	0	6	2.8	NI
Nov-12	0.1	-- [b]	-- [b]	5.6	0.4	11.7	NS	NS	2.5	2.6	0.8	1.2	NS	NS	NI
Jun-13	0.8	-- [b]	-- [b]	NS	0.3	3.7	NS	NS	1.3	0.4	0.4	0.6	2	NS	NI
Dec-13	0	-- [b]	-- [b]	NS	0	2.5	NS	NS	0.8	0.4	0.3	0	NS	NS	NI
Jun-14	0	-- [b]	-- [b]	2.2	0.9	0	NS	NS	0.8	0.3	0.2	0	NS	NS	0.3
Dec-14	0.1	-- [b]	-- [b]	1.2	0.4	0	NS	NS	3	0	0.1	0	21.4	0.3	NS
Jun-15	0	-- [b]	-- [b]	1.1	0.9	0	NS	NS	0.9	0	0.3	0	10.4	0.3	NS
Dec-15	0	-- [b]	-- [b]	0	0	0	NS	NS	0.9	0	0	0	3.9	0	NS
Jun-16	0	-- [b]	-- [b]	1.9	0.8	0	NS	NS	2.5	0	0	0	5.9	0	NS
Dec-16	0	-- [b]	-- [b]	0.02	0	0.1	NS	NS	0	0	0	0	5.5	0.07	NS
Min	0.0	0.0	0.0	0.0	0.0	0.0	1773.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
Max	22.0	0.7	0.6	128.0	8.0	39.0	3373.0	214.2	3.0	2.6	22.0	1.2	396.0	5.0	0.3
Mean	1.2	0.1	0.1	10.5	0.6	5.2	2413.1	66.7	0.6	0.2	2.2	0.1	32.1	1.0	0.3

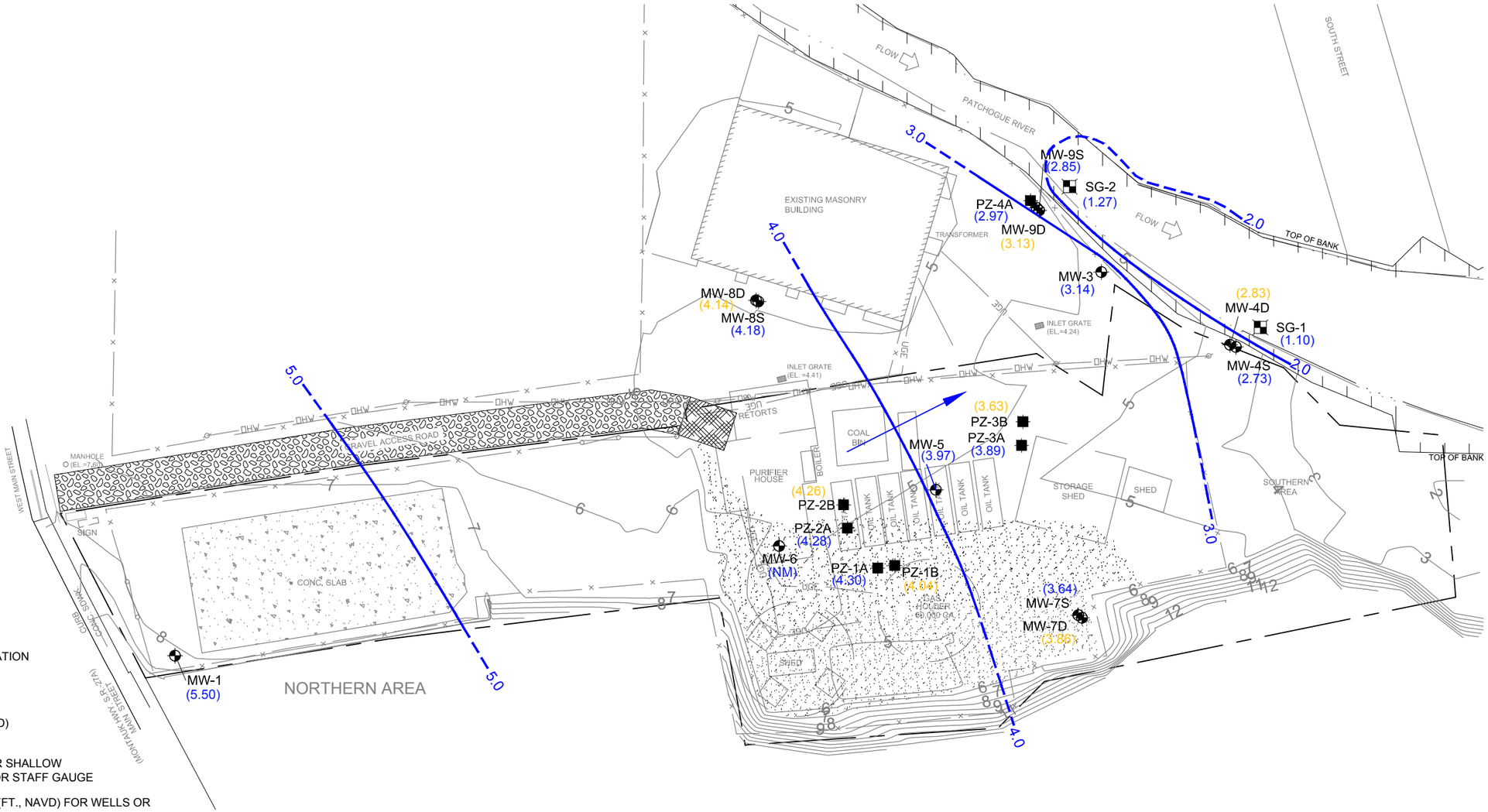
Notes:
PAH - Polycyclic aromatic hydrocarbons
µg/L - micrograms per liter
NS - Not sampled.
NI - Piezometer not installed at time of sampling.
(a) - To calculate Total PAH concentration, a value of zero is used for non-detect values.
(b) - Monitoring well was decommissioned on 6/4/12 as part of the Utility Corridor Construction activities. See "Construction Completion Report, Utility Corridor Work Plan Implementation (Brown and Caldwell, December 2012)".

Figures

Path: \\bcusrfp01\Projects\DRAFTING\NATIONAL_GRID\Patchogue\Quarterly-GW-Contour-Map File Name: FIG-1-(Dec-27-2016) Plot Date: March 13, 2017 7:59 AM Cadd User: Richard James

0 60 120

SCALE IN FEET



LEGEND:

- PROPERTY LINE
- FENCE
- TOPOGRAPHIC CONTOUR
- SHALLOW MONITORING WELL LOCATION
- PIEZOMETER LOCATION
- STAFF GAUGE LOCATION
- 4 — WATER TABLE CONTOUR (FT., NAVD) DASHED WHERE INFERRED
- (5.50) — WATER ELEVATION (FT., NAVD) FOR SHALLOW MONITORING WELL, PIEZOMETER OR STAFF GAUGE
- (4.14) — GROUNDWATER HEAD ELEVATION (FT., NAVD) FOR WELLS OR PIEZOMETERS SCREENED BELOW WATER TABLE (FROM DEEP MONITORING WELL OR PIEZOMETER)
- (NM) — NOT MEASURED
- GENERALIZED DIRECTION OF GROUNDWATER FLOW

NOTES:
1. BASE MAP INFORMATION OBTAINED FROM TETRA TECH EC, INC. DRAWING ENTITLED "CONCEPTUAL SITE MODEL", DATED DECEMBER 17, 2008.

Brown AND Caldwell

SCALE: 1" = 60'

149322

DATE: March 13, 2017

NATIONAL GRID
PATCHOGUE FORMER MGP SITE
VILLAGE OF PATCHOGUE, NEW YORK

WATER TABLE ELEVATION CONTOUR MAP
DECEMBER 27, 2016

FIGURE

1

Appendix A: Field Sampling Data Sheets

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1
Sample I.D.: MW-1-20161229 (if different from well no.)

Project: NG-Patchogue
Personnel: TJP, JAJ

Date: 12/29/16 Time: 806
Weather: Cloudy Air Temp.: 37°F

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 6.00 ft Bottom of Well: 16.22 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☐ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 190 mL/min Elapsed Time: 30 min Volume Pumped: 1.56 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/29/16

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: NG-Patchogue
Client: National Grid
Personnel: TJP, JAS
Purge/Sample Depth: 12'
Project Number:
Date: 12/29/16
Well ID: MW-1
Sample ID: MW-1-20161229

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
806	6.01	7.03	1.13	8.49	49.2	-46	6.10	190	
809	6.03	7.57	1.15	5.92	73.2	-51			
812	6.05	8.09	1.16	2.89	121	-55			
815	6.06	8.18	1.17	2.48	120	-56			
818	6.06	8.23	1.17	2.31	117	-56	6.10		
821	6.07	8.49	1.17	2.14	93.8	-59			
824	6.08	8.62	1.17	2.11	76.8	-60			
827	6.08	8.64	1.18	2.10	74.1	-59			
830	6.08	8.78	1.18	2.06	59.5	-60			
833	6.08	8.94	1.18	2.02	51.6	-61			
836	6.07	8.99	1.19	2.28	44.4	-62			
839	Sample MW-1-20161229								

Certified Sample Information:
Time of Sample: 839
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: HOV2MY58
Serial No. Handheld: MAX018X1
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-7D
Sample I.D.: MW-7D-20161228 (If different from well no.)

Project: NG - Patchogue
Personnel: TJP, JAT

Date: 12/28/16 Time: 1408
Weather: Partly Cloudy Air Temp.: 38

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 4.51 ft Bottom of Well: 23.17 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 3.15 mL/min Elapsed Time: 33 min Volume Pumped: 7.6ml + 2.5 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☑ Teflon® ☑ Stainless Steel
Tubing/Rope: ☑ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☐ Clear ☑ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/28/16

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: NG-Patchogue
Client: National Grid
Personnel: TJP, JAS
Purge/Sample Depth: 23'
Project Number:
Date: 12/28/16
Well ID: MW-7D
Sample ID: MW-7D-20161228

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1408	6.64	11.26	0.618	3.06	146	68	4.53		
1411	6.34	11.40	0.677	2.98	128	82			
1414	5.96	11.96	0.719	2.19	143	124			
1417	5.94	11.96	0.725	2.16	148	125			
1420	5.78	12.10	0.755	1.90	142	136			
1423	5.77	12.11	0.757	1.88	141	136			
1426	5.74	12.16	0.765	1.95	143	137	4.58		Empty Horiba
1429	5.72	12.40	0.771	1.81	103	139			
1432	5.71	12.42	0.771	1.79	98.4	141			
1435	5.67	12.45	0.773	1.72	69.4	148	4.56		
1438	5.65	12.45	0.774	1.68	54.0	155			
1441	5.64	12.43	0.775	1.68	47.5	157			
1444	Sample		MW-7D-2016	1228					

Certified Sample Information:
Time of Sample: 1444
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: HOV2MY58
Serial No. Handheld: MAX 018X1
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-7S
Sample I.D.: MW-7S-20161228 (If different from well no.)

Project: NG-Patchogue
Personnel: TTP, TAT

Date: 12/28/16 Time: 1323
Weather: Partly Cloudy Air Temp.: 38

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 4.72 ft Bottom of Well: _____ ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2 G.L
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☐ Clear ☑ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/28/16

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: NG - Patchogue
Client: National Grid
Personnel: TJP, TAS
Purge/Sample Depth: 8'
Project Number:
Date: 12/28/16
Well ID: MW-75
Sample ID: MW-75-20161228

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1323	6.42	9.20	0.747	2.55	179	-103		250	
1326	6.42	9.24	0.748	2.48	168	-105	4.80		
1329	6.49	9.46	0.751	2.28	117	-118			
1332	6.52	9.52	0.757	2.18	90.5	-122			
1335	6.55	9.63	0.755	2.05	72.4	-126			
1338	6.55	9.64	0.753	2.03	68.9	-126	4.81		
1341	6.55	9.71	0.754	1.96	63.3	-128			
1344	6.56	9.75	0.754	1.93	56.1	-129			
1347	6.59	9.86	0.754	1.83	40.2	-133	4.82		
1350	6.59	9.88	0.754	1.83	38.0	-133			
1353	6.57	9.86	0.752	2.19	34.1	-355			
1356	Sample MW-75-20161228								

Certified Sample Information:
Time of Sample: 1356
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: HOVZ MY58
Serial No. Handheld: MAX 018 X1
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-3
Sample I.D.: MW-3-20161227 (If different from well no.)

Project: Patchogue
Personnel: TJP, JAT

Date: 12/27/16 Time: 1357
Weather: Partly Cloudy Air Temp.: 53°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 2.42 ft Bottom of Well: 10.40 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☐ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☑ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 315 mL/min Elapsed Time: 30 min Volume Pumped: 2.5 GAL
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☑ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☐ Bladder Pump ☑ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☑ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☐ No ☑ Yes Name: MW-3-20161227

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/27/16

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Client: National Grid
Personnel: TJP, JAT
Purge/Sample Depth: 6
Project Number:
Date: 12/27/16
Well ID: MW-3 ~~-20~~
Sample ID: MW-3-20161227

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1357	6.85	13.11	1.22	9.61	89.3	8		315 mL/min	
1400	6.56	12.53	1.21	8.33	37.9	4	2.47		
1403	6.51	12.46	1.20	7.87	25.0	9			
1406	6.44	12.34	1.20	7.36	14.3	14			
1409	6.43	12.31	1.19	6.88	9.6	15			
1412	6.41	12.30	1.19	6.76	8.6	15			
1415	6.40	12.28	1.19	6.30	7.0	12	2.48		
1418	6.40	12.24	1.19	6.00	5.6	6			
1421	6.34	12.26	1.19	5.65	4.9	-2			
1424	6.36	12.27	1.19	5.26	5.1	-1			
1427	6.36	12.26	1.18	3.61	4.3	-17			
1430	Sample MW-3-20161227								

Certified Sample Information:
Time of Sample: 1430
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: HOV7M458
Serial No. Handheld: MAX018X1
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4S
Sample I.D.: MW-4S-20161228

Project: ~~TJP, JAT~~ NG - Patchogue
Personnel: TJP, JAT

Date: 12/28/16 Time: 930
Weather: Cloudy Air Temp.: 38

WELL DATA:

Casing Diameter: 6" ❑ Stainless Steel ☑ Steel ❑ PVC ❑ Teflon® ❑ Other:
Intake Diameter: 2" ❑ Stainless Steel ❑ Galv. Steel ☑ PVC ❑ Teflon® ❑ Open rock
DEPTH TO: Static Water Level: 5.25 ft Bottom of Well: 12.29 ft
DATUM ❑ Top of Protective Casing ☑ Top of Well Casing ❑ Other:
CONDITION Is Well clearly labeled? ☑ Yes ❑ No Is well clean to bottom? ☑ Yes ❑ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ❑ No
Does Weep Hole adequately drain well head? ☑ Yes ❑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ❑ No
Is Padlock Functional? ☑ Yes ❑ No ❑ NA Is Inner Casing Intact? ☑ Yes ❑ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ❑ No
VOLUME OF WATER: Standing in well: ____ To be purged: ____

PURGE DATA:

METHOD: ❑ Bailer, Size 1.75" ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Centrifugal Pump ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: (Pump)/Bailer ❑ Teflon® ☑ Stainless Steel ❑ PVC ❑ Other: ____
(Tubing)/Rope ❑ Teflon® ☑ Polyethylene ❑ Polypropylene ❑ Other: ____

Pumping Rate: 190 ml/min Elapsed Time: 30 min Volume Pumped: 1.5 GAL
Was well Evacuated? ❑ Yes ☑ No Number of Well Volumes Removed: ____
PURGING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD ❑ Bailer, Size 1.75" ☑ Bladder Pump ❑ 2" Submersible Pump ❑ 4" Submersible Pump
❑ Syringe Sampler ❑ Peristaltic Pump ❑ Inertial Lift Pump ❑ Other: ____

MATERIALS: (Pump)/Bailer: ❑ Teflon® ☑ Stainless Steel (Tubing)/Rope: ❑ Teflon® ☑ Polyethylene
SAMPLING EQUIPMENT: ❑ Dedicated ❑ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ❑ Yes ❑ No Method: ____
APPEARANCE: ☑ Clear ❑ Turbid ❑ Color ____ ❑ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data

DUP: ☑ No ❑ Yes Name: ____
MS/MSD: ☑ No ❑ Yes Name: ____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: [signature] Date: 12/28/16

Brown AND Caldwell

2 Park Way Upper Saddle River, NJ 07458
Phone (201) 574-4700 Fax (201) 236 1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: NG - Patchogue
Client: National Grid
Personnel: TSP, JAS
Purge/Sample Depth: 8'

Project Number:
Date: 12/28/16
Well ID: MW-45
Sample ID: MW-45-20161228

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
930	5.88	7.41	0.700	3.08	203	-25		190	
933	6.10	8.47	0.703	2.17	111	-66			
936	6.23	8.88	0.702	2.07	66.5	-90	5.35		
939	6.25	8.97	0.702	2.04	53.5	-94			
942	6.32	9.46	0.705	1.99	37.6	-103			
945	6.35	9.39	0.706	1.96	28.6	-108			
948	6.36	9.42	0.706	1.95	25.5	-108	5.36		
951	6.36	9.39	0.707	1.95	26.7	-109			
954	6.40	9.52	0.709	1.90	19.3	-112			
957	6.41	9.59	0.710	1.89	18.2	-113			
1000	6.42	9.57	0.711	1.88	18.1	-112			
1003	Sample MW-45-20161228								

Certified Sample Information:
Time of Sample: 1003
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No Unit: HOV2MY58
Serial No Handheld: MAX018X1
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-40
Sample I.D.: MW-40-20161228 (if different than above)

Project: NG - Patchogue
Personnel: TJP, JAT

Date: 12/28/16 Time: 845
Weather: Cloudy Air Temp: 38°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO: Static Water Level: 5.02 ft Bottom of Well: 26.69 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☑ Yes ☐ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☑ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☐ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No

VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.25" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 190 mL/min Elapsed Time: 30 min Volume Pumped: 1.5 Gal
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: 1.25" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data

DUP: ☑ No ☐ Yes Name: _____
MS/MSD: ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols

Signature: _____ Date: 12/28/16

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: NG - Patchogue
Client: National Grid
Personnel: TJP, JAT
Purge/Sample Depth: 22'

Project Number:
Date: 12/29/16
Well ID: MW-40
Sample ID: MW-40-20161228

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
8:45	5.50	7.03	0.598	10.74	7.3	220		190 mL/min	
8:48	5.54	8.55	0.600	7.59	11.6	221	5.06		
8:51	5.50	9.33	0.629	3.63	29.3	227			
8:54	5.48	9.39	0.638	3.39	29.9	228			
8:57	5.44	9.48	0.663	2.96	25.4	230	5.06		
900	5.43	9.46	0.681	2.52	19.4	234			
903	5.42	9.53	0.681	2.50	17.9	234			
906	5.42	9.59	0.682	2.44	14.9	235			
909	5.42	9.60	0.683	2.41	14.5	235	5.06		
912	5.42	9.78	0.683	2.31	12.9	237			
915	5.42	9.85	0.685	2.47	11.1	239			
918	Sample MW-40-20161228								

Certified Sample Information:
Time of Sample: 918

Analyst Signature: Josh Jay

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: HoV2MY58
Calibration Date/Time:

Serial No. Handheld: MAX018X1

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-9S
Sample I.D.: MW-9S-20161727 (if different from well no.)

Project: NG - Patchogue
Personnel: TSP, JAT

Date: 12/27/16 Time: 1500
Weather: Clear Air Temp.: 53 °F

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☑ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 1.62 ft Bottom of Well: 10.23 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☑ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 315 mL/min Elapsed Time: 30 min Volume Pumped: 2.56AL
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☑ Prepared Off-Site ☐ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☐ Bladder Pump ☑ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☑ Prepared Off-Site ☐ Field Cleaned
Metals samples field filtered? ☑ Yes ☐ No Method: _____
APPEARANCE: ☐ Clear ☑ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☐ No ☑ Yes Name: Dup-20161727
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/27/16

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: NG - Patchogue
Client: National Grid
Personnel: TJP, JAT
Purge/Sample Depth: ~~6~~ 6'
Project Number:
Date: 12/27/16
Well ID: MW-9S
Sample ID: MW-9S-20161227

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1500	6.49	11.48	0.876	3.08	316	-43			
1503	6.29	11.44	0.885	2.38	180	-93	1.75		
1506	6.28	11.45	0.879	2.37	141	-95			
1509	6.28	11.64	0.838	2.29	122	-107			
1512	6.27	11.65	0.836	2.29	102	-108			
1515	6.28	11.68	0.830	2.28	91.3	-110			
1518	6.29	11.80	0.793	2.24	59.9	-116	1.75		
1521	6.30	11.86	0.789	2.24	46.7	-117			
1524	6.30	11.87	0.788	2.23	48.0	-117			
1527	6.31	12.00	0.764	2.22	30.2	-122			
1530	6.30	12.04	0.754	2.20	25.8	-122			
1533	Sample MW-9S-20161227								

Certified Sample Information:
Time of Sample: 1533
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: H0V2MY58
Serial No. Handheld: MAX018X1
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-9D
Sample I.D.: MW-9D-20161227 (If different from well no.)

Project: NG - Patchogue
Personnel: TJP, JAT

Date: 12/27/16 Time: 1552
Weather: Clear Air Temp.: 53°

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 1.53 ft Bottom of Well: 22.98 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: _____ Elapsed Time: _____ Volume Pumped: _____
Was well Evacuated? ☐ Yes ☐ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: ____ ☐ Bladder Pump ☑ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/27/16

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: NG - Patchogue
Client: National Grid
Personnel: TRP, JAS
Purge/Sample Depth: 17'
Project Number:
Date: 12/7/16
Well ID: MW-9D
Sample ID: MW-9D-20161227

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1552	6.51	12.57	0.354	3.85	285	51			
1555	5.50	13.11	0.502	2.37	293	110	1.61		
1558	5.35	13.15	0.509	2.30	242	179			
1601	5.12	13.26	0.519	2.18	176	209			
1604	5.10	13.27	0.520	2.17	170	211	1.61		
1607	5.02	13.31	0.523	2.14	125	225			
1610	4.98	13.32	0.525	2.09	73.3	240			
1613	4.94	13.34	0.525	2.09	68.8	240			
1616	4.90	13.36	0.527	2.06	45.6	251			
1619	4.90	13.35	0.527	2.05	40.8	252			
1622	4.89	13.35	0.528	2.03	33.5	255			
1625	Sample MW-9D-20161227								

Certified Sample Information:
Time of Sample: 1625
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horiba U-52
Serial No. Unit: 1T0V2MY58
Serial No. Handheld: MAX018X3
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8S
Sample I.D.: MW-8S-20161228 (if different from well no.)

Project: NG-Patchogue
Personnel: TJP, JAT

Date: 12/28/16 Time: 1108
Weather: Partly Cloudy Air Temp.: 38

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 0.95 ft Bottom of Well: 9.95 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☑ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☑ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☐ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/28/16

Brown AND Caldwell
2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name:	NG - Patchogue	Project Number:	
Client:	National Grid	Date:	12/28/16
Personnel:	TJP; JAS	Well ID:	MW-8S
Purge/Sample Depth:	6'	Sample ID:	MW-8S-20161228

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1108	5.90	11.14	0.723	3.41	301	-5		250	
1111	5.93	11.39	0.735	2.34	250	-12	0.79		
1114	5.94	11.52	0.746	2.15	214	-17			
1117	5.98	11.90	0.756	1.89	109	-35			
1120	6.00	11.95	0.756	1.87	91.3	-36			
1123	6.01	11.78	0.756	1.85	82.5	-37			
1126	6.03	12.16	0.762	1.81	56.9	-43			
1129	6.03	12.19	0.760	1.80	53.6	-45	1.00		
1132	6.05	12.26	0.765	1.77	39.8	-50			
1135	6.04	12.29	0.765	1.71	39.7	-50			
1138	6.05	12.40	0.764	1.61	33.4	-52			
1141	Sample MW-8S-20161228								

Certified Sample Information:

Time of Sample: 1141 Analyst Signature:

Instrument Data:

Manufacturer/Model: Horiba U-52

Serial No. Unit: HOV2MY58 Serial No. Handheld: MAX-018X1

Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Brown AND Caldwell

Upper Saddle River, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8D
Sample I.D.: MW-8D-20161228 (if different from well no.)

Project: ~~TJP, JAT~~ NG-Patchogue
Personnel: TJP, JAT

Date: 12/28/16 Time: 1024
Weather: Cloudy Air Temp.: 38

WELL DATA:

Casing Diameter: 6" ☐ Stainless Steel ☑ Steel ☐ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 0.81 ft Bottom of Well: 25.16 ft
DATUM: ☐ Top of Protective Casing ☑ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☐ Yes ☑ No Is well clean to bottom? ☑ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☑ Yes ☐ No
Does Weep Hole adequately drain well head? ☑ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☑ Yes ☐ No
Is Padlock Functional? ☐ Yes ☐ No ☑ NA Is Inner Casing Intact? ☑ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☐ Yes ☐ No
VOLUME OF WATER: Standing in well: _____ To be purged: _____

PURGE DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel ☐ PVC ☐ Other: _____
Tubing/Rope: ☐ Teflon® ☑ Polyethylene ☐ Polypropylene ☐ Other: _____

Pumping Rate: 250 mL/min Elapsed Time: 30 min Volume Pumped: 2 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: _____
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned

SAMPLING DATA:

METHOD: ☐ Bailer, Size: 1.75" ☑ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump
☐ Syringe Sampler ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: _____

MATERIALS: Pump/Bailer: ☐ Teflon® ☑ Stainless Steel
Tubing/Rope: ☐ Teflon® ☑ Polyethylene

SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☑ Field Cleaned
Metals samples field filtered? ☐ Yes ☐ No Method: _____
APPEARANCE: ☑ Clear ☐ Turbid ☐ Color: _____ ☐ Contains Immiscible Liquid
FIELD DETERMINATIONS: See attached form for field parameter data.

DUP : ☑ No ☐ Yes Name: _____
MS/MSD : ☑ No ☐ Yes Name: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.

Signature: _____ Date: 12/28/16

Brown AND Caldwell

2 Park Way, Upper Saddle River, NJ 07458
Phone: (201) 574-4700 Fax: (201) 236-1607

NJ FIELD LAB ID# 02023
LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: N6 - Patchogue
Client: National Grid
Personnel: TJP, JAT
Purge/Sample Depth: 21'

Project Number:
Date: 12/28/16
Well ID: MW-8D
Sample ID: MW-8D-20161228

Actual Time	Certified Parameters					ORP (mV)	DTW (ft)	Pumping Rate (mL/min)	Comments
	pH	Temp (°C)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)				
1024	6.36	12.13	0.337	4.87	23.3	81			
1027	6.09	12.84	0.460	2.78	38.7	114	0.87		
1030	6.07	12.87	0.467	2.76	38.8	116			
1033	6.05	12.90	0.469	2.70	40.3	118			
1036	6.01	12.99	0.484	2.52	39.3	128	0.90		
1039	5.95	13.09	0.498	2.31	36.3	138			
1042	5.94	13.11	0.499	2.29	37.6	139			
1045	5.89	13.09	0.510	2.17	33.1	150	0.90		
1048	5.88	13.13	0.511	2.15	31.5	151			
1051	5.87	13.15	0.516	2.07	25.9	157			
1054	5.86	13.13	0.517	2.04	24.4	161			
1057	Sample MW-8D-20161228								

Certified Sample Information:
Time of Sample: 1057
Analyst Signature:

Instrument Data:
Manufacturer/Model: Horib. U-52
Serial No. Unit: HOV2MY58
Serial No. Handheld: MAX018X1
Calibration Date/Time:

Are low-flow parameters subject to field lab certification? ☐ Yes ☑ No (not required for CERCLA sites or sites outside of NJ)

If yes, low-flow data must be accompanied by a completed "Field Calibration Record, Horiba U-52" form or equivalent.

Appendix B: Laboratory Reports (CD-ROM)

Appendix C: Data Usability Summary Report (DUSR)

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
NATIONAL GRID, PATCHOGUE, NEW YORK

Client: Brown and Caldwell, Upper Saddle River, New Jersey
SDG: 6120841
Laboratory: Aqua Pro-Tech Laboratories, Fairfield, New Jersey
Site: National Grid, Patchogue, New York
Date: February 23, 2017

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	MW-3-20161227	6120841-01	Water
1MS	MW-3-20161227MS	6120841-01MS	Water
1MSD	MW-3-20161227MSD	6120841-01MSD	Water
2	MW-9S-20161227	6120841-02	Water
3	MW-9D-20161227	6120841-03	Water
4	DUP-20161227	6120841-04	Water
5	FB-20161227	6120841-05	Water
6	MW-4D-20161228	6120841-06	Water
7	MW-4S-20161228	6120841-07	Water
7MS**	MW-4S-20161228MS	6120841-07MS	Water
7MSD**	MW-4S-20161228MSD	6120841-07MSD	Water
8	MW-8D-20161228	6120841-08	Water
9	MW-8S-20161228	6120841-09	Water
10	MW-7S-20161228	6120841-10	Water
11	MW-7D-20161228	6120841-11	Water
12	FB-20161228	6120841-12	Water
13	MW-1-20161228	6120841-13	Water
14*	TRIP BLANK_20161229	6120841-14	Water

* - VOC only ** - PAH by 8270C only

A Data Usability Summary Review was performed on the analytical data for eleven water samples, two aqueous field blank samples, and one aqueous trip blank sample collected on December 27-29, 2016 by Brown and Caldwell at the National Grid, Patchogue, New York Site. The samples were analyzed under Environmental Protection Agency (USEPA) *"Test Methods for the Evaluation of Solid Waste, USEPA SW-846, Third Edition, September 1986, with revisions"*.

Specific method references are as follows:

Analysis	*Method References*
VOC (BTEX, MTBE & TBA)	USEPA SW-846 Method 8260B
SVOC (PAH)	USEPA SW-846 Method 8270C
SVOC (PAH)	USEPA SW-846 Method 8270C SIM

The data have been validated according to the protocols and quality control (QC) requirements of the analytical methods and the USEPA Region II Data Review Standard Operating Procedures (SOPs) as follows:

- SOP Number HW-24, Revision 4, September 2014: Validating Volatile Organic Compounds by SW-846 Method 8260B & 8260C;
- SOP Number HW-22, Revision 4, August 2008: Validating Semivolatile Organic Compounds by SW-846 Method 8270D;
- and the reviewer's professional judgment.

The following items/criteria were reviewed:

Organics

- Data Completeness
- Holding times and sample preservation
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample (LCS) recoveries
- Method blank and field blank contamination
- Gas Chromatography (GC)/Mass Spectrometry (MS) tuning
- Initial and continuing calibration summaries
- Compound Quantitation
- Internal standard area and retention time summary forms
- Field Duplicate sample precision

Overall Usability Issues:

There were no rejections of data.

Overall the data is acceptable for the intended purposes as qualified for the following deficiencies.

- Four PAH by 8270 compounds were qualified as estimated in one sample due to low MS/MSD recoveries.

Data Completeness

- The data is a complete Category B data package as defined under the requirements for the NYS Department of Environmental Conservation Analytical Services Protocol.

Volatile Organic Compounds (BTEX, MTBE & tert-Butyl Alcohol)

Holding Times

- All samples were analyzed within 14 days for preserved water samples.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The MS/MSD sample exhibited acceptable percent recoveries (%R) and/or relative percent differences (RPD) except for the following.

MS/MSD Sample ID	Compound	MS %R/MSD %R/RPD	Qualifier	Affected Samples
1	tert-Butyl Alcohol	OK/145%/OK	None	Sample ND

Laboratory Control Samples

- The LCS sample exhibited acceptable %R values.

Method Blank

- The method blanks were free of contamination.

Field Blank

- The following table summarizes field blank contamination.

Blank ID	Compound	Conc. ug/L	Qualifier	Affected Samples
FB-20161227	Toluene	0.897	None	All Associated ND
FB-20161228	None - ND	-	-	-
TRIP BLANK_20161228	None - ND	-	-	-

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and average RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Compound Quantitation

- All criteria were met.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

VOC				
Compound	MW-9S-20161227 ug/L	DUP-20161227 ug/L	RPD	Qualifier
None	ND	ND	-	-

Semivolatile Organic Compounds (PAH) by 8270C and 8270C SIM

Holding Times

- All samples were extracted within 7 days for water samples and analyzed within 40 days.

Surrogate Spike Recoveries

- All samples exhibited acceptable surrogate %R values.

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Recoveries

- The following table presents MS/MSD samples that exhibited percent recoveries (%R) outside the QC limits and/or relative percent differences (RPD) above QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J). Results are valid and usable, however possibly biased.

PAH by 8270C			
MS/MSD Sample ID	Compound	MS %R/MSD %R/ RPD	Qualifier
1	Benzo(g,h,i)perylene	10%/30%/101	UJ
	Chrysene	46%/48%/OK	UJ
	Fluoranthene	62%/69%/OK	UJ
	Pyrene	58%/63%/OK	UJ

Laboratory Control Samples

- The LCS samples exhibited acceptable %R values.

Method Blank

- The method blanks were free of contamination.

Field Blanks

- The following table summarizes field blank contamination.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
FB-20161227	None - ND	-	-	-	-
FB-20161228	None - ND	-	-	-	-

GC/MS Tuning

- All criteria were met.

Initial Calibration

- All %RSD and mean RRF criteria were met.

Continuing Calibration

- All %D and RRF criteria were met.

Compound Quantitation

- All criteria were met.

Internal Standard (IS) Area Performance

- All internal standards met response and retention time (RT) criteria.

Field Duplicate Sample Precision

- Field duplicate results are summarized below. The precision was acceptable.

PAH by 8270C				
Compound	MW-9S-20161227 ug/L	DUP-20161227 ug/L	RPD	Qualifier
Acenaphthene	2.83	3.13	10%	None
Pyrene	ND	0.645	NC	

PAH by 8270C SIM				
Compound	MW-9S-20161227 ug/L	DUP-20161227 ug/L	RPD	Qualifier
Benzo(a)anthracene	0.0576	0.0567	2%	None
Benzo(a)pyrene	0.0349	0.0424	19%	
Benzo(b)fluoranthene	ND	0.0192	NC	
Benzo(k)fluoranthene	0.0233	0.0319	31%	None - <5X RL
Hexachlorobenzene	ND	0.0478	NC	None

Please contact the undersigned at (757) 564-0090 if you have any questions or need further information.

Signed: Nancy Weaver Dated: 2/24/17

Nancy Weaver
Senior Chemist

Data Qualifiers

J = The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was not detected above the sample reporting limit; and the reporting limit is approximate.

U = The analyte was analyzed for, but was not detected above the sample reporting limit.

R = The sample results is rejected due to serious deficiencies. The presence or absence of the analyte cannot be verified.

ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-3-20161227**
Lab Sample ID:	**6120841-01**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 14:30	Prep Date:	01/03/17 22:40	File ID:	4V25352.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/03/17 23:31
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-9S-20161227**
Lab Sample ID:	**6120841-02**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 15:33	Prep Date:	01/03/17 22:40	File ID:	4V25353.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/03/17 23:56
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

3

ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-9D-20161227**
Lab Sample ID:	**6120841-03**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 16:25	Prep Date:	01/03/17 22:40	File ID:	4V25354.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/04/17 00:21
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client: Brown and Caldwell USR
Client Sample ID: DUP-20161227
Lab Sample ID: 6120841-04
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/27/16 00:00	Prep Date:	01/03/17 22:40	File ID:	4V25355.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/04/17 00:47
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**FB-20161227**
Lab Sample ID:	**6120841-05**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 16:45	Prep Date:	01/03/17 22:40	File ID:	4V25351.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/03/17 23:05
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	0.897	0.205	1.00	J
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-4D-20161228**
Lab Sample ID:	**6120841-06**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 09:18	Prep Date:	01/03/17 22:40	File ID:	4V25356.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/04/17 01:13
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client: Brown and Caldwell USR
Client Sample ID: MW-4S-20161228
Lab Sample ID: 6120841-07
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 10:03	Prep Date:	01/03/17 22:40	File ID:	4V25357.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/04/17 01:38
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-8D-20161228**
Lab Sample ID:	**6120841-08**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 10:57	Prep Date:	01/03/17 22:40	File ID:	4V25358.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/04/17 02:04
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-8S-20161228**
Lab Sample ID:	**6120841-09**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 11:41	Prep Date:	01/03/17 22:40	File ID:	4V25359.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0542	Analyzed:	01/04/17 02:29
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0602
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

1D

ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client: Brown and Caldwell USR
Client Sample ID: MW-7S-20161228
Lab Sample ID: 6120841-10
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 13:56	Prep Date:	01/05/17 22:39	File ID:	4V25407.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0921	Analyzed:	01/05/17 22:39
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0909
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

11

ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client: Brown and Caldwell USR
Client Sample ID: MW-7D-20161228
Lab Sample ID: 6120841-11
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 14:44	Prep Date:	01/05/17 23:05	File ID:	4V25408.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0921	Analyzed:	01/05/17 23:05
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0909
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11 11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client: Brown and Caldwell USR
Client Sample ID: FB-20161228
Lab Sample ID: 6120841-12
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 15:00	Prep Date:	01/06/17 00:20	File ID:	4V25411.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0921	Analyzed:	01/06/17 00:20
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0909
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client: Brown and Caldwell USR
Client Sample ID: MW-1-20161228
Lab Sample ID: 6120841-13
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/29/16 08:39	Prep Date:	01/05/17 23:30	File ID:	4V25409.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0921	Analyzed:	01/05/17 23:30
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0909
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Volatile Organics - GC/MS - SW 846 8260B

Client:	**Brown and Caldwell USR**
Client Sample ID:	**Trip Blank_20161229**
Lab Sample ID:	**6120841-14**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/29/16 00:00	Prep Date:	01/05/17 23:55	File ID:	4V25410.D
Init/Final Vol:	5 mL / 5 mL	Prep Batch:	B7A0921	Analyzed:	01/05/17 23:55
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0909
		Prep Method:	PURGE & TRAP 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
71-43-2	Benzene	ND	0.129	1.00	U
100-41-4	EthylBenzene	ND	0.244	1.00	U
179601-23-1	m+p-Xylenes	ND	0.461	2.00	U
1634-04-4	Methyl tert-Butyl Ether	ND	0.596	1.00	U
95-47-6	o-Xylene	ND	0.244	1.00	U
75-65-0	tert-Butyl alcohol	ND	8.17	10.0	U
108-88-3	Toluene	ND	0.205	1.00	U
1330-20-7	Total Xylenes	ND	0.705	1.00	U

11

11.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-3-20161227**
Lab Sample ID:	**6120841-01**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 14:30	Prep Date:	01/03/17 10:17	File ID:	DS11667.D
Init/Final Vol:	910 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/04/17 22:39
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0614
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.674	2.20	U
208-96-8	Acenaphthylene	ND	0.298	2.20	U
120-12-7	Anthracene	ND	0.351	2.20	U
191-24-2	Benzo(g,h,i)perylene	ND	0.544	2.20	~~U~~ UJ
218-01-9	Chrysene	ND	0.474	2.20	~~U~~ UJ
206-44-0	Fluoranthene	ND	0.331	2.20	~~U~~ UJ
86-73-7	Fluorene	ND	0.197	2.20	U
91-20-3	Naphthalene	ND	0.596	2.20	U
85-01-8	Phenanthrene	ND	0.508	2.20	U
129-00-0	Pyrene	ND	0.408	2.20	~~U~~ UJ

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-9S-20161227
Lab Sample ID: 6120841-02
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/27/16 15:33	Prep Date:	01/03/17 10:17	File ID:	DS11668.D
Init/Final Vol:	820 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/04/17 23:05
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0614
		Prep Method:	Sep Funnel MS 8000		

9.2.6

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	2.83	0.748	2.44	
208-96-8	Acenaphthylene	ND	0.330	2.44	U
120-12-7	Anthracene	ND	0.389	2.44	U
191-24-2	Benzo(g,h,i)perylene	ND	0.604	2.44	U
218-01-9	Chrysene	ND	0.526	2.44	U
206-44-0	Fluoranthene	ND	0.367	2.44	U
86-73-7	Fluorene	ND	0.218	2.44	U
91-20-3	Naphthalene	ND	0.661	2.44	U
85-01-8	Phenanthrene	ND	0.563	2.44	U
129-00-0	Pyrene	ND	0.452	2.44	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-9D-20161227**
Lab Sample ID:	**6120841-03**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 16:25	Prep Date:	01/03/17 10:17	File ID:	DS11669.D
Init/Final Vol:	960 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/04/17 23:30
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0614
		Prep Method:	Sep Funnel MS 8000		

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9.2

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.639	2.08	U
208-96-8	Acenaphthylene	ND	0.282	2.08	U
120-12-7	Anthracene	ND	0.332	2.08	U
191-24-2	Benzo(g,h,i)perylene	ND	0.516	2.08	U
218-01-9	Chrysene	ND	0.449	2.08	U
206-44-0	Fluoranthene	ND	0.314	2.08	U
86-73-7	Fluorene	ND	0.186	2.08	U
91-20-3	Naphthalene	ND	0.565	2.08	U
85-01-8	Phenanthrene	ND	0.481	2.08	U
129-00-0	Pyrene	ND	0.386	2.08	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

New 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**DUP-20161227**
Lab Sample ID:	**6120841-04**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 00:00	Prep Date:	01/03/17 10:17	File ID:	DS11670.D
Init/Final Vol:	900 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/04/17 23:56
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0614
		Prep Method:	Sep Funnel MS 8000		

9.2.

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	3.13	0.681	2.22	
208-96-8	Acenaphthylene	ND	0.301	2.22	U
120-12-7	Anthracene	ND	0.354	2.22	U
191-24-2	Benzo(g,h,i)perylene	ND	0.550	2.22	U
218-01-9	Chrysene	ND	0.479	2.22	U
206-44-0	Fluoranthene	ND	0.334	2.22	U
86-73-7	Fluorene	ND	0.199	2.22	U
91-20-3	Naphthalene	ND	0.602	2.22	U
85-01-8	Phenanthrene	ND	0.513	2.22	U
129-00-0	Pyrene	0.645	0.412	2.22	J

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**FB-20161227**
Lab Sample ID:	**6120841-05**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 16:45	Prep Date:	01/03/17 10:17	File ID:	DS11671.D
Init/Final Vol:	840 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/05/17 00:21
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0614
		Prep Method:	Sep Funnel MS 8000		

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9.2.

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.730	2.38	U
208-96-8	Acenaphthylene	ND	0.323	2.38	U
120-12-7	Anthracene	ND	0.380	2.38	U
191-24-2	Benzo(g,h,i)perylene	ND	0.589	2.38	U
218-01-9	Chrysene	ND	0.513	2.38	U
206-44-0	Fluoranthene	ND	0.358	2.38	U
86-73-7	Fluorene	ND	0.213	2.38	U
91-20-3	Naphthalene	ND	0.645	2.38	U
85-01-8	Phenanthrene	ND	0.550	2.38	U
129-00-0	Pyrene	ND	0.442	2.38	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-4D-20161228**
Lab Sample ID:	**6120841-06**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 09:18	Prep Date:	01/03/17 11:06	File ID:	CS14903.D
Init/Final Vol:	940 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/07/17 18:54
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

9.2.

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.652	2.13	U
208-96-8	Acenaphthylene	ND	0.288	2.13	U
120-12-7	Anthracene	ND	0.339	2.13	U
191-24-2	Benzo(g,h,i)perylene	ND	0.527	2.13	U
218-01-9	Chrysene	ND	0.459	2.13	U
206-44-0	Fluoranthene	ND	0.320	2.13	U
86-73-7	Fluorene	ND	0.190	2.13	U
91-20-3	Naphthalene	ND	0.577	2.13	U
85-01-8	Phenanthrene	ND	0.491	2.13	U
129-00-0	Pyrene	ND	0.395	2.13	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit
RL - Reporting limit

MJ 2/23/17

7

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-4S-20161228**
Lab Sample ID:	**6120841-07**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 10:03	Prep Date:	01/03/17 11:06	File ID:	CS14904.D
Init/Final Vol:	920 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/07/17 19:20
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

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9.2

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.666	2.17	U
208-96-8	Acenaphthylene	ND	0.295	2.17	U
120-12-7	Anthracene	ND	0.347	2.17	U
191-24-2	Benzo(g,h,i)perylene	ND	0.538	2.17	U
218-01-9	Chrysene	ND	0.468	2.17	U
206-44-0	Fluoranthene	ND	0.327	2.17	U
86-73-7	Fluorene	ND	0.195	2.17	U
91-20-3	Naphthalene	ND	0.589	2.17	U
85-01-8	Phenanthrene	ND	0.502	2.17	U
129-00-0	Pyrene	ND	0.403	2.17	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-8D-20161228**
Lab Sample ID:	**6120841-08**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 10:57	Prep Date:	01/03/17 11:06	File ID:	CS14905.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/07/17 19:46
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

9.2.

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.613	2.00	U
208-96-8	Acenaphthylene	ND	0.271	2.00	U
120-12-7	Anthracene	ND	0.319	2.00	U
191-24-2	Benzo(g,h,i)perylene	ND	0.495	2.00	U
218-01-9	Chrysene	ND	0.431	2.00	U
206-44-0	Fluoranthene	ND	0.301	2.00	U
86-73-7	Fluorene	ND	0.179	2.00	U
91-20-3	Naphthalene	ND	0.542	2.00	U
85-01-8	Phenanthrene	ND	0.462	2.00	U
129-00-0	Pyrene	ND	0.371	2.00	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

Nw 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-8S-20161228**
Lab Sample ID:	**6120841-09**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 11:41	Prep Date:	01/03/17 11:06	File ID:	CS14906.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/07/17 20:12
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.613	2.00	U
208-96-8	Acenaphthylene	ND	0.271	2.00	U
120-12-7	Anthracene	ND	0.319	2.00	U
191-24-2	Benzo(g,h,i)perylene	ND	0.495	2.00	U
218-01-9	Chrysene	ND	0.431	2.00	U
206-44-0	Fluoranthene	ND	0.301	2.00	U
86-73-7	Fluorene	ND	0.179	2.00	U
91-20-3	Naphthalene	ND	0.542	2.00	U
85-01-8	Phenanthrene	ND	0.462	2.00	U
129-00-0	Pyrene	ND	0.371	2.00	U

6
9.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

10

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-7S-20161228**
Lab Sample ID:	**6120841-10**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 13:56	Prep Date:	01/03/17 11:06	File ID:	CS14907.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/07/17 20:39
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

9

9.2.

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.613	2.00	U
208-96-8	Acenaphthylene	ND	0.271	2.00	U
120-12-7	Anthracene	ND	0.319	2.00	U
191-24-2	Benzo(g,h,i)perylene	ND	0.495	2.00	U
218-01-9	Chrysene	ND	0.431	2.00	U
206-44-0	Fluoranthene	ND	0.301	2.00	U
86-73-7	Fluorene	ND	0.179	2.00	U
91-20-3	Naphthalene	ND	0.542	2.00	U
85-01-8	Phenanthrene	ND	0.462	2.00	U
129-00-0	Pyrene	ND	0.371	2.00	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-7D-20161228
Lab Sample ID: 6120841-11
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 14:44	Prep Date:	01/03/17 11:06	File ID:	CS14908.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/07/17 21:04
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

9

9.2.

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.613	2.00	U
208-96-8	Acenaphthylene	ND	0.271	2.00	U
120-12-7	Anthracene	ND	0.319	2.00	U
191-24-2	Benzo(g,h,i)perylene	ND	0.495	2.00	U
218-01-9	Chrysene	ND	0.431	2.00	U
206-44-0	Fluoranthene	ND	0.301	2.00	U
86-73-7	Fluorene	ND	0.179	2.00	U
91-20-3	Naphthalene	ND	0.542	2.00	U
85-01-8	Phenanthrene	ND	0.462	2.00	U
129-00-0	Pyrene	ND	0.371	2.00	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: FB-20161228
Lab Sample ID: 6120841-12
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 15:00	Prep Date:	01/04/17 10:16	File ID:	CS14909.D
Init/Final Vol:	850 mL / 1 mL	Prep Batch:	B7A0403	Analyzed:	01/07/17 21:30
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

9.2.6

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.721	2.35	U
208-96-8	Acenaphthylene	ND	0.319	2.35	U
120-12-7	Anthracene	ND	0.375	2.35	U
191-24-2	Benzo(g,h,i)perylene	ND	0.582	2.35	U
218-01-9	Chrysene	ND	0.507	2.35	U
206-44-0	Fluoranthene	ND	0.354	2.35	U
86-73-7	Fluorene	ND	0.211	2.35	U
91-20-3	Naphthalene	ND	0.638	2.35	U
85-01-8	Phenanthrene	ND	0.544	2.35	U
129-00-0	Pyrene	ND	0.436	2.35	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-1-20161228
Lab Sample ID: 6120841-13
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/29/16 08:39	Prep Date:	01/05/17 09:33	File ID:	CS14910.D
Init/Final Vol:	940 mL / 1 mL	Prep Batch:	B7A0507	Analyzed:	01/07/17 21:57
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A1012
		Prep Method:	Sep Funnel MS 8000		

9.2.6

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
83-32-9	Acenaphthene	ND	0.652	2.13	U
208-96-8	Acenaphthylene	ND	0.288	2.13	U
120-12-7	Anthracene	ND	0.339	2.13	U
191-24-2	Benzo(g,h,i)perylene	ND	0.527	2.13	U
218-01-9	Chrysene	ND	0.459	2.13	U
206-44-0	Fluoranthene	ND	0.320	2.13	U
86-73-7	Fluorene	ND	0.190	2.13	U
91-20-3	Naphthalene	ND	0.577	2.13	U
85-01-8	Phenanthrene	ND	0.491	2.13	U
129-00-0	Pyrene	ND	0.395	2.13	U

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-3-20161227**
Lab Sample ID:	**6120841-01**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/27/16 14:30	Prep Date:	01/03/17 10:17	File ID:	BM09358.D
Init/Final Vol:	910 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/05/17 13:25
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	0.0241	0.0213	0.0220	
50-32-8	Benzo(a)pyrene	ND	0.0142	0.0220	U
205-99-2	Benzo(b)fluoranthene	ND	0.0187	0.0220	U
207-08-9	Benzo(k)fluoranthene	ND	0.0190	0.0220	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0213	0.0220	U
118-74-1	Hexachlorobenzene	ND	0.0203	0.0220	U
87-68-3	Hexachlorobutadiene	ND	0.0209	0.0220	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0207	0.0220	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0214	0.110	U

10

10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-9S-20161227
Lab Sample ID: 6120841-02
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/27/16 15:33	Prep Date:	01/03/17 10:17	File ID:	BM09359.D
Init/Final Vol:	820 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/05/17 13:55
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	0.0576	0.0237	0.0244	
50-32-8	Benzo(a)pyrene	0.0349	0.0157	0.0244	
205-99-2	Benzo(b)fluoranthene	ND	0.0207	0.0244	U
207-08-9	Benzo(k)fluoranthene	0.0233	0.0211	0.0244	J
53-70-3	Dibenzo(a,h)anthracene	ND	0.0237	0.0244	U
118-74-1	Hexachlorobenzene	ND	0.0226	0.0244	U
87-68-3	Hexachlorobutadiene	ND	0.0232	0.0244	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0229	0.0244	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0238	0.122	U

10

10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-9D-20161227
Lab Sample ID: 6120841-03
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/27/16 16:25	Prep Date:	01/03/17 10:17	File ID:	BM09360.D
Init/Final Vol:	960 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/05/17 14:26
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0202	0.0208	U
50-32-8	Benzo(a)pyrene	0.0282	0.0134	0.0208	
205-99-2	Benzo(b)fluoranthene	0.0206	0.0177	0.0208	J
207-08-9	Benzo(k)fluoranthene	0.0247	0.0180	0.0208	
53-70-3	Dibenzo(a,h)anthracene	ND	0.0202	0.0208	U
118-74-1	Hexachlorobenzene	ND	0.0193	0.0208	U
87-68-3	Hexachlorobutadiene	ND	0.0198	0.0208	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0196	0.0208	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0203	0.104	U

10
10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit
RL - Reporting limit

nw 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: DUP-20161227
Lab Sample ID: 6120841-04
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/27/16 00:00	Prep Date:	01/03/17 10:17	File ID:	BM09361.D
Init/Final Vol:	900 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/05/17 14:57
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	0.0567	0.0216	0.0222	
50-32-8	Benzo(a)pyrene	0.0424	0.0143	0.0222	
205-99-2	Benzo(b)fluoranthene	0.0192	0.0189	0.0222	J
207-08-9	Benzo(k)fluoranthene	0.0319	0.0192	0.0222	
53-70-3	Dibenzo(a,h)anthracene	ND	0.0216	0.0222	U
118-74-1	Hexachlorobenzene	0.0478	0.0206	0.0222	
87-68-3	Hexachlorobutadiene	ND	0.0211	0.0222	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0209	0.0222	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0217	0.111	U

10

10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit
RL - Reporting limit

2123/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: FB-20161227
Lab Sample ID: 6120841-05
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/27/16 16:45	Prep Date:	01/03/17 10:17	File ID:	BM09362.D
Init/Final Vol:	840 mL / 1 mL	Prep Batch:	B7A0312	Analyzed:	01/05/17 15:28
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0231	0.0238	U
50-32-8	Benzo(a)pyrene	ND	0.0154	0.0238	U
205-99-2	Benzo(b)fluoranthene	ND	0.0202	0.0238	U
207-08-9	Benzo(k)fluoranthene	ND	0.0206	0.0238	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0231	0.0238	U
118-74-1	Hexachlorobenzene	ND	0.0220	0.0238	U
87-68-3	Hexachlorobutadiene	ND	0.0226	0.0238	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0224	0.0238	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0232	0.119	U

10

10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

4

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-4D-20161228
Lab Sample ID: 6120841-06
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 09:18	Prep Date:	01/03/17 11:06	File ID:	BM09363.D
Init/Final Vol:	940 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/05/17 15:58
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	0.0243	0.0206	0.0213	
50-32-8	Benzo(a)pyrene	0.0222	0.0137	0.0213	
205-99-2	Benzo(b)fluoranthene	ND	0.0181	0.0213	U
207-08-9	Benzo(k)fluoranthene	0.0217	0.0184	0.0213	
53-70-3	Dibenzo(a,h)anthracene	ND	0.0206	0.0213	U
118-74-1	Hexachlorobenzene	0.0440	0.0197	0.0213	
87-68-3	Hexachlorobutadiene	ND	0.0202	0.0213	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0200	0.0213	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0207	0.106	U

10 10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

MW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-4S-20161228
Lab Sample ID: 6120841-07
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 10:03	Prep Date:	01/03/17 11:06	File ID:	BM09364.D
Init/Final Vol:	920 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/05/17 16:28
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0211	0.0217	U
50-32-8	Benzo(a)pyrene	ND	0.0140	0.0217	U
205-99-2	Benzo(b)fluoranthene	ND	0.0185	0.0217	U
207-08-9	Benzo(k)fluoranthene	ND	0.0188	0.0217	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0211	0.0217	U
118-74-1	Hexachlorobenzene	ND	0.0201	0.0217	U
87-68-3	Hexachlorobutadiene	ND	0.0207	0.0217	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0204	0.0217	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0212	0.109	U

10

10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2123.17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client:	**Brown and Caldwell USR**
Client Sample ID:	**MW-8D-20161228**
Lab Sample ID:	**6120841-08**
Project:	**NG-Patchogue**
Work Order:	**6120841**

Date Sampled:	12/28/16 10:57	Prep Date:	01/03/17 11:06	File ID:	BM09365.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/05/17 16:59
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0194	0.0200	U
50-32-8	Benzo(a)pyrene	ND	0.0129	0.0200	U
205-99-2	Benzo(b)fluoranthene	ND	0.0170	0.0200	U
207-08-9	Benzo(k)fluoranthene	ND	0.0173	0.0200	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0194	0.0200	U
118-74-1	Hexachlorobenzene	ND	0.0185	0.0200	U
87-68-3	Hexachlorobutadiene	ND	0.0190	0.0200	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0188	0.0200	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0195	0.100	U

10

10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-8S-20161228
Lab Sample ID: 6120841-09
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 11:41	Prep Date:	01/03/17 11:06	File ID:	BM09366.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/05/17 17:29
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0194	0.0200	U
50-32-8	Benzo(a)pyrene	ND	0.0129	0.0200	U
205-99-2	Benzo(b)fluoranthene	ND	0.0170	0.0200	U
207-08-9	Benzo(k)fluoranthene	ND	0.0173	0.0200	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0194	0.0200	U
118-74-1	Hexachlorobenzene	ND	0.0185	0.0200	U
87-68-3	Hexachlorobutadiene	ND	0.0190	0.0200	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0188	0.0200	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0195	0.100	U

10

10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-7S-20161228
Lab Sample ID: 6120841-10
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 13:56	Prep Date:	01/03/17 11:06	File ID:	BM09367.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/05/17 17:59
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0194	0.0200	U
50-32-8	Benzo(a)pyrene	ND	0.0129	0.0200	U
205-99-2	Benzo(b)fluoranthene	ND	0.0170	0.0200	U
207-08-9	Benzo(k)fluoranthene	ND	0.0173	0.0200	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0194	0.0200	U
118-74-1	Hexachlorobenzene	ND	0.0185	0.0200	U
87-68-3	Hexachlorobutadiene	ND	0.0190	0.0200	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0188	0.0200	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0195	0.100	U

10 10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-7D-20161228
Lab Sample ID: 6120841-11
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 14:44	Prep Date:	01/03/17 11:06	File ID:	BM09368.D
Init/Final Vol:	1000 mL / 1 mL	Prep Batch:	B7A0314	Analyzed:	01/05/17 18:29
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0618
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0194	0.0200	U
50-32-8	Benzo(a)pyrene	ND	0.0129	0.0200	U
205-99-2	Benzo(b)fluoranthene	ND	0.0170	0.0200	U
207-08-9	Benzo(k)fluoranthene	ND	0.0173	0.0200	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0194	0.0200	U
118-74-1	Hexachlorobenzene	ND	0.0185	0.0200	U
87-68-3	Hexachlorobutadiene	ND	0.0190	0.0200	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0188	0.0200	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0195	0.100	U

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10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

RW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: FB-20161228
Lab Sample ID: 6120841-12
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/28/16 15:00	Prep Date:	01/04/17 10:16	File ID:	BM09396.D
Init/Final Vol:	850 mL / 1 mL	Prep Batch:	B7A0403	Analyzed:	01/06/17 20:34
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0902
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0228	0.0235	U
50-32-8	Benzo(a)pyrene	ND	0.0152	0.0235	U
205-99-2	Benzo(b)fluoranthene	ND	0.0200	0.0235	U
207-08-9	Benzo(k)fluoranthene	ND	0.0204	0.0235	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0228	0.0235	U
118-74-1	Hexachlorobenzene	ND	0.0218	0.0235	U
87-68-3	Hexachlorobutadiene	ND	0.0224	0.0235	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0221	0.0235	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0229	0.118	U

10 10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns
MDL - Minimum detection limit
RL - Reporting limit

NW 2/23/17

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ANALYSIS DATA SHEET

Semivolatile Organics - GC/MS - SIM - SW 846 8270C

Client: Brown and Caldwell USR
Client Sample ID: MW-1-20161228
Lab Sample ID: 6120841-13
Project: NG-Patchogue
Work Order: 6120841

Date Sampled:	12/29/16 08:39	Prep Date:	01/05/17 09:33	File ID:	BM09394.D
Init/Final Vol:	940 mL / 1 mL	Prep Batch:	B7A0507	Analyzed:	01/06/17 19:34
Dilution:	1	Matrix:	Ground Water	Sequence:	S7A0902
		Prep Method:	Sep Funnel MS 8000		

CAS NO.	COMPOUND	CONC. (ug/L)	MDL	RL	Q
56-55-3	Benzo(a)anthracene	ND	0.0206	0.0213	U
50-32-8	Benzo(a)pyrene	ND	0.0137	0.0213	U
205-99-2	Benzo(b)fluoranthene	ND	0.0181	0.0213	U
207-08-9	Benzo(k)fluoranthene	ND	0.0184	0.0213	U
53-70-3	Dibenzo(a,h)anthracene	ND	0.0206	0.0213	U
118-74-1	Hexachlorobenzene	ND	0.0197	0.0213	U
87-68-3	Hexachlorobutadiene	ND	0.0202	0.0213	U
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0200	0.0213	U
62-75-9	n-Nitroso-dimethylamine	ND	0.0207	0.106	U

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10.2.

ND - Indicates compound analyzed for but not detected
J - Indicates estimated value
B - Indicates compound found in associated blank
E - Concentration exceeds highest calibration standard

D - Indicates result is based on a dilution
P - Greater than 25% diff. between 2 GC columns.
MDL - Minimum detection limit
RL - Reporting limit

JW 2/23/17

Appendix D: Electronic Data Deliverable (CD-ROM)