

Second Quarter 2012  
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  
September 2012

Second Quarter 2012 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  
175 East Old Country Road  
Hicksville, New York 11801

September 2012

Project Number: 142128.410.006



Brown and Caldwell Associates  
2 Park Way, Suite 2A  
Upper Saddle River, New Jersey 07458

# Table of Contents

Appendices .....	i
List of Tables .....	ii
List of Figures .....	ii
1. Introduction .....	1-1
1.1 Background .....	1-1
2. Scope of Work .....	2-1
3. Results and Findings .....	3-1
3.1 Water Level Data .....	3-1
3.2 NAPL Gauging.....	3-1
3.3 Groundwater Quality Data .....	3-1
4. Summary and Conclusions.....	4-1
References .....	REF-1

## Appendices

---

- Appendix A   Field Sampling Data Sheets
- Appendix B   Laboratory Reports (CD-ROM)
- Appendix C   Data Usability Summary Report
- Appendix D   Electronic Data Deliverable (CD-ROM)

## List of Tables

---

Table 1. Water Elevation and NAPL Monitoring Data

Table 2. Groundwater Analysis Results

Table 3. Summary of Historical BTEX Concentrations

Table 4. Summary of Historical PAH Concentrations

## List of Figures

---

Figure 1. Water Table Contour Map



## Section 1

# Introduction

Brown and Caldwell Associates (BC) is pleased to submit this report containing the data deliverables related to the Second Quarter 2012 groundwater monitoring event conducted at the Patchogue Former Manufactured Gas Plant (MGP) Site (hereinafter referred to as the “Site”). The groundwater monitoring event and the preparation of this deliverable 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 results of the water level measurements and the gauging in monitoring wells for the presence of non-aqueous phase liquids (NAPL) (Table 1);
- Table summarizing the analytical results for groundwater samples including a comparison to applicable groundwater quality criteria (Table 2);
- Comparison of data from this monitoring period to data from previous periods (Tables 3 and 4);
- Discussion of the results and findings from the groundwater monitoring data;
- Potentiometric surface map depicting generalized direction of groundwater flow based on groundwater elevation data from wells and surface water elevation data from staff gauges 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

A total of twelve groundwater monitoring events have been conducted at the Site since March 2008. These twelve events include: two monitoring events conducted as part of the Remedial Investigation (RI) in March 2008 and July 2008; four semi-annual monitoring events conducted between March 2009 and September 2010; and five quarterly monitoring events in January 2011, April 2011, August 2011, November 2011, February and May 2012. The May 2012 event is the subject of this report. Up until the March 2010 monitoring event, the concentrations and areal distribution of constituents in groundwater had been fairly consistent. Site-related dissolved-phase constituents (e.g., benzene, toluene, ethylbenzene, xylenes [BTEX], and polycyclic aromatic hydrocarbons [PAH]) 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 at the wastewater treatment facility (WWTF) 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; these subsequent monitoring events did document the return of groundwater flow and groundwater quality to conditions consistent with those prior to the dewatering operations. The May 2012 monitoring event, described herein, is the second quarterly monitoring event conducted in 2012.

## Section 2

# Scope of Work

Field activities for the groundwater monitoring event were conducted by BC on May 23 through May 25, 2012. On May 23, 2012, prior to conducting groundwater sampling, depth-to-water measurements and NAPL gauging were conducted on the 14 monitoring wells associated with the Site. The level of the Patchogue River was also measured at the two staff gauges. Locations of the 14 monitoring wells and staff gauges are depicted on Figure 1.

Groundwater samples were collected from 12 monitoring wells on May 23 through May 25, 2012. Wells MW-5 and MW-6 were not sampled this monitoring period due to the presence of NAPL in these wells. The presence of NAPL in these wells is consistent with observations during previous NAPL gauging activities conducted as part of the quarterly monitoring events. The standard protocol is that if NAPL is observed in a well during gauging or sampling, groundwater samples are not submitted for laboratory analyses. Groundwater sampling was conducted using low-flow purging and sampling techniques in accordance with USEPA (July 1996, Revised January 2010) protocol. Samples were submitted to an analytical laboratory and analyzed for: BTEX and methyl tertiary butyl ether (MTBE) using USEPA SW-846 Method 8260B; and PAHs, using USEPA SW-846 Method 8270C. 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 samples were submitted for the above-described laboratory analyses to Lancaster Laboratories, Inc. (Lancaster) located in Lancaster, Pennsylvania. Lancaster is certified (Certification No. 10670) through the New York State Department of Health (NYSDOH) Environmental Laboratory Approval Program (ELAP). The laboratory report from Lancaster is provided as Appendix B. The laboratory analytical data were provided to BC in electronic form by Lancaster and have been incorporated into an environmental database 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 Williamsburg, 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 is provided in Appendix D.

## Section 3

# Results and Findings

### 3.1 Water Level Data

Table 1 provides the water level data from the May 23, 2012 measurements. Figure 1 illustrates the elevation contours of the water table based on these data. The contours were developed using water level data only from the shallow wells at the Site (i.e., those with screens that straddle, or are just below, the water table) and the surface water staff gauges in the Patchogue River because these values are more representative of water table elevations than data from the deeper wells. However, the groundwater elevation (hydraulic head) values for the wells screened in deeper intervals are also posted on Figure 1. The water table is relatively shallow and is typically positioned in the fill that overlies the 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 levels in the Site monitoring wells to the river elevations, as measured at the staff gauge locations, demonstrate that groundwater elevations are higher than the river level, thus indicating that groundwater is discharging to the Patchogue River. The upward vertical hydraulic gradient measured at the two well clusters adjacent to the river (MW-4S and D, and MW-9S and D) provides further support to the conclusion that groundwater is discharging to the Patchogue River. The general configuration of the water table contours (as shown on Figure 1), developed using the May 23, 2012 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 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 during the May 2012 quarterly groundwater sampling event. NAPL was identified in the following wells during the gauging activities:

- **MW-5:** Brown-black DNAPL blebs on last 1.0 ft of threaded rod, strong tar-like odor.
- **MW-6:** Black NAPL blebs on bottom 0.15 ft of threaded rod, strong tar-like odor.

NAPL had been observed in these two wells on occasion during previous NAPL gauging events.

### 3.3 Groundwater Quality Data

Table 2 provides the results of the laboratory analyses of the groundwater samples collected during the Second Quarter 2012 and a comparison of the data to the New York State 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. 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 described above, during water level monitoring and gauging activities, NAPL was identified in two of the 14 monitoring wells, MW-5 and MW-6; these two wells are located in the central part of the Site in the area of former MGP operations. Therefore, these two wells were not sampled. Groundwater samples were collected from the remaining 12 monitoring wells and submitted for analysis. In general, the analytical results were consistent with those from previous monitoring events. BTEX compounds were not detected in groundwater samples from any of these wells. At most locations, PAH compounds were either not detected or were detected at concentrations below the Class GA groundwater quality criteria. However, in samples collected from monitoring wells MW-9D, MW-9S, MW-7D, MW-3, and MW-2D one or more PAH compounds were detected at low concentrations (i.e., slightly above the laboratory method detection limit), but above the Class GA groundwater quality criteria during the Second Quarter 2012 (May 2012) event.

The PAH compounds that were identified in the groundwater samples from these monitoring wells at concentrations above the Class GA groundwater quality criteria—benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(a)pyrene, chrysene and indeno(1,2,3-cd)pyrene—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 five of these six PAHs are unpromulgated guidance values rather than Part 703 standards, while the criteria for the sixth PAH, benzo(a)pyrene, is a Part 703 standard. The standard for benzo(a)pyrene was exceeded at concentrations below the method quantitation limit. The guidance value for the five PAHs, 0.002 µg/L, is nearly two orders of magnitude below the method detection limit, and the standard for benzo(a)pyrene is “non-detect”. Therefore, any detection of these compounds in groundwater will result in an exceedance. The concentrations of these constituents will be further evaluated through continued quarterly groundwater monitoring.

## Section 4

# Summary and Conclusions

NAPL was identified in two of the 14 monitoring wells, MW-5 and MW-6 during the Second Quarter 2012 (May 2012), as in previous monitoring events. Both MW-5 and MW-6 are located in the center of the Site in the area of former MGP operations. No BTEX compounds were detected during the analysis of groundwater samples collected from the twelve other monitoring wells during this monitoring event. At seven of the twelve wells, PAH compounds were either not detected or were detected at concentrations below the Class GA groundwater quality criteria. However, in samples collected from monitoring wells MW-9D, MW-9S, MW-7D, MW-3, and MW-2D one or more PAH compounds were detected at low concentrations (i.e., slightly above the method detection limit), but above the Class GA groundwater quality criteria. These findings are consistent with those of previous monitoring events. At MW-9D, MW-9S, and MW-2D one of the PAH compounds exceeded Part 703 Standard while the other exceedances identified are exceedances of unpromulgated guidance values. The criteria for these compounds are extremely low, approximately two orders of magnitude below the laboratory method detection limit. The six PAH compounds that were identified at concentrations above the Class GA groundwater quality criteria have very low aqueous solubilities, are not readily mobile in groundwater, and are unlikely to have migrated from the on-site source area. This will continue to be evaluated through subsequent quarterly monitoring events.

During the last five quarters, the concentrations of BTEX and PAHs in the shallow groundwater and the areal distribution of these concentrations are similar to those from monitoring events which occurred prior to March 2010. This indicates that constituent concentrations in groundwater have decreased and have generally re-equilibrated with the steady-state groundwater flow conditions that existed prior to the operation of the large-scale temporary construction dewatering system (see Section 1.1) that affected the results of the March and September 2010 monitoring events, as anticipated. Monitoring will continue in order to confirm these conditions.

# References

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**  
**MAY 2012**  
**PATCHOGUE FORMER MGP SITE**  
**PATCHOGUE, NEW YORK**

Well ID	Top of Casing Elevation (ft., NAVD)	5/23/2012				Remarks
		Depth to Water (ft., BTOC)	Water Elevation (ft., NAVD)	Depth to NAPL (ft., BTOC)	Total Depth of Well (ft., BGS)	
MW-1	11.23	5.85	5.38	ND	16.2	
MW-2S	8.97	4.46	4.51	ND	14.05	
MW-2D	8.23	3.81	4.42	ND	26.2	
MW-3	5.39	2.47	2.92	ND	10.48	
MW-4S	7.74	5.11	2.63	ND	12.1	
MW-4D	7.57	4.86	2.71	ND	26.5	
MW-5	7.93	4.16	3.77	15.65	16.65	Brown-black NAPL Blebs on last 1.0 ft of threaded rod, strong tar-like odor.
MW-6*	8.08	6.51	1.57	21.65	21.8	Black NAPL blebs on bottom 0.15 ft of threaded rod, strong tar-like odor. *Depth to water measurement is anomalously low compared to previous and subsequent measurements.
MW-7S	8.21	4.53	3.68	ND	12.4	
MW-7D	8.09	4.32	3.77	ND	27.9	
MW-8S	4.86	0.87	3.99	ND	9.8	
MW-8D	4.77	0.82	3.95	ND	25.1	
MW-9S	4.47	1.54	2.93	ND	10.23	
MW-9D	4.66	1.55	3.11	ND	23.15	
SG-1	5.23	4.11	1.12	--	NA	
SG-2	5.16	3.85	1.31	--	NA	

**Notes:**

NAVD - North American Vertical Datum  
BGS - Below Ground Surface  
BTOC - Below Top of Casing  
NAPL - Non-aqueous phase liquid  
NA - Not applicable  
ND - Not Detected

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

	Class GA Groundwater Criteria										
	TOGS 1.1.1	NYS Part 703		Loc ID	MW-1	MW-1 DUP	MW-2S	MW-2D	MW-3	MW-4S	MW-4D
Constituent	Guidance	Standard	Units	Date	5/23/2012	5/23/2012	5/24/2012	5/24/2012	5/24/2012	5/24/2012	5/24/2012
Volatile Organic Compounds											
BTEX											
Benzene	NE	1	µg/L		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	NE	5	µg/L		0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Ethylbenzene	NE	5	µg/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
m&p-Xylenes	NE	5	µg/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
o-Xylene	NE	5	µg/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Xylenes, Total	NE	NE	µg/L		0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Total BTEX	NE	NE	µg/L		ND	ND	ND	ND	ND	ND	ND
Other VOCs											
Methyl Tertiary Butyl Ether	10	NE	µg/L		0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Semi-Volatile Organic Compounds (SVOCs)											
Polycyclic Aromatic Hydrocarbons (PAHs)											
Acenaphthene	20	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 U	0.2 J	0.1 U	0.3 J
Acenaphthylene	NE	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 U	0.3 J	0.1 U	2
Anthracene	50	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 U	0.4 J	0.1 U	0.2 J
Benzo(a)anthracene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 J	0.1 J	0.1 U	0.1 U
Benzo(a)pyrene	NE	0	µg/L		0.1 U	0.1 U	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	NE	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Chrysene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U
Dibenzo(a,h)anthracene	NE	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L		0.1 J	0.1 U	0.1 U	0.1 U	2	0.1 U	0.1 U
Fluorene	50	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1
Indeno(1,2,3-cd)pyrene	0.002	NE	µg/L		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U

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

Constituent	Class GA Groundwater Criteria			Loc ID Date	MW-1 5/23/2012	MW-1 DUP 5/23/2012	MW-2S 5/24/2012	MW-2D 5/24/2012	MW-3 5/24/2012	MW-4S 5/24/2012	MW-4D 5/24/2012
	TOGS 1.1.1 Guidance	NYS Part 703 Standard	Units								
Naphthalene	10	NE	µg/L		0.1 J	0.1 U	0.1 J	0.1 U	0.1 U	0.1 U	0.2 J
Phenanthrene	50	NE	µg/L		0.1 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	2
Pyrene	50	NE	µg/L		0.1 J	0.1 J	0.1 U	0.2 J	2	0.1 U	0.1 J
Total PAHs	NE	NE	µg/L		0.4	0.1	0.1	0.7	5	ND	5.8

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

Constituent	Class GA Groundwater Criteria		Units	Loc ID	Date	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D
	TOGS 1.1.1	NYS Part 703				5/23/2012	5/24/2012	5/25/2012	5/25/2012	5/24/2012	5/26/2012
Guidance	Standard										
<b>Volatile Organic Compounds</b>											
<b>BTEX</b>											
Benzene	NE	1	µg/L			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	NE	5	µg/L			0.7 U	0.7 U	0.7 U	0.7 U	0.7 U	0.7 U
Ethylbenzene	NE	5	µg/L			0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
m&p-Xylenes	NE	5	µg/L			0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
o-Xylene	NE	5	µg/L			0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Xylenes, Total	NE	NE	µg/L			0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U
Total BTEX	NE	NE	µg/L			ND	ND	ND	ND	ND	ND
<b>Other VOCs</b>											
Methyl Tertiary Butyl Ether	10	NE	µg/L			0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
<b>Semi-Volatile Organic Compounds (SVOCs)</b>											
<b>Polycyclic Aromatic Hydrocarbons (PAHs)</b>											
Acenaphthene	20	NE	µg/L			0.1 U	0.1 U	0.7	0.1 U	3	0.1 U
Acenaphthylene	NE	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.5	0.1 J
Anthracene	50	NE	µg/L			0.1 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Benzo(a)anthracene	0.002	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.2 J	0.1 J
Benzo(a)pyrene	NE	0	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.2 J	0.2 J
Benzo(b)fluoranthene	0.002	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.2 J	0.3 J
Benzo(g,h,i)perylene	NE	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.1 J	0.2 J
Benzo(k)fluoranthene	0.002	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.1 J	0.2 J
Chrysene	0.002	NE	µg/L			0.1 U	0.1 J	0.1 U	0.1 U	0.2 J	0.2 J
Dibenzo(a,h)anthracene	NE	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Fluoranthene	50	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.5	0.3 J
Fluorene	50	NE	µg/L			0.1 U	0.1 U	0.1 J	0.1 U	0.3 J	0.1 J
Indeno(1,2,3-cd)pyrene	0.002	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.2 J

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

Constituent	Class GA Groundwater Criteria			Loc ID	Date	MW-7S	MW-7D	MW-8S	MW-8D	MW-9S	MW-9D
	TOGS 1.1.1	NYS Part 703	Units			5/23/2012	5/24/2012	5/25/2012	5/25/2012	5/24/2012	5/26/2012
	Guidance	Standard									
Naphthalene	10	NE	µg/L			0.1 U	0.1 U	0.2 J	0.1 U	0.2 J	0.1 J
Phenanthrene	50	NE	µg/L			0.1 U	0.1 U	0.1 U	0.1 U	0.1 J	0.3 J
Pyrene	50	NE	µg/L			0.1 U	0.2 J	0.1 U	0.1 U	0.7	0.5
Total PAHs	NE	NE	µg/L			0.1	0.3	1	ND	6	2.8

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 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)													
	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
Mar-08	0	0	0	0	3.4	0	1016	57	NS	NS	NS	NS	NS	NS
Jul-08	NS	0	0	0	0	0	678	0	0	0	0	0	0	0
Mar-09	0	0	0	0	0	0	975	0	0	1	0	0	0	0
Sep-09	0	0	0	0	0	0	1257	1	0	0	0	0	0	0
Mar-10	0	0	0	0	0	0	637	2	0	9	0	0	0	0
Sep-10	0	0	0	0	0	0	NS	0	0	0	0	0	27	0
Jan-11	1.7	0	0	0	0	0	NS	NS	0	0	0	0	1	0
Apr-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Aug-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Nov-11	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Feb-12	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
May-12	0	0	0	0	0	0	NS	NS	0	0	0	0	0	0
Min	0	0	0	0	0	0	637	0	0	0	0	0	0	0
Max	1.7	0	0	0	3.4	0	1257	57	0	9	0	0	27	0
Mean	0.2	0	0	0	0.3	0	913	10	0	0.9	0	0	2.5	0

**Notes:**

BTEX - Benzene, toluene, ethylbenzene and xylene isomers

µg/L - micrograms per liter

NS - Not sampled.

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

Sampling Date	Total PAH Concentrations (µg/L)													
	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
Mar-08	0	0	0	0.76	0.6	4.3	1774	214	NS	NS	NS	NS	NS	NS
Jul-08	NS	0.7	0	0	8.0	0	1799	154	0	0.47	0	0	12.0	0
Mar-09	0	0	0	0	0	0	2730	0	0	0	0	0	0	0
Sep-09	0	0	0	0	0	0	3373	1	0	0	0	0	0	0
Mar-10	0	0	0	0	0	39	2390	17	0	0	22	0	2	0
Sep-10	0	0	0	128	0	6	NS	14	0	0	11	0	396	0
Jan-11	22	0	0	17	0	12	NS	NS	0	0	6	0	42	5
Apr-11	0	0	0	6	0	20	NS	NS	0	0	0	0	9	0
Aug-11	0	0	0.1	14	0.1	0	NS	NS	0	0	0.4	0	16	1.2
Nov-11	0	0	0.2	10	0.4	0	NS	NS	0	0	0.8	0.2	8	3.4
Feb-12	0.2	0	0	6	0.6	4	NS	NS	0.1	0	0.6	0	5	2.9
May-12	0.4	0.1	0.6	5	0	5.8	NS	NS	0.1	0.3	1	0	6	2.8
Min	0	0	0	0	0	0	1774	0	0	0	0	0	0	0
Max	22	0.7	0.6	128	8.0	39	3373	214	0.1	0.5	22	0.2	396	5
Mean	2.1	0.1	0	16	0.8	7.6	2413	67	0	0	3.8	0	45	1.4

**Notes:**

PAH - Polycyclic aromatic hydrocarbons

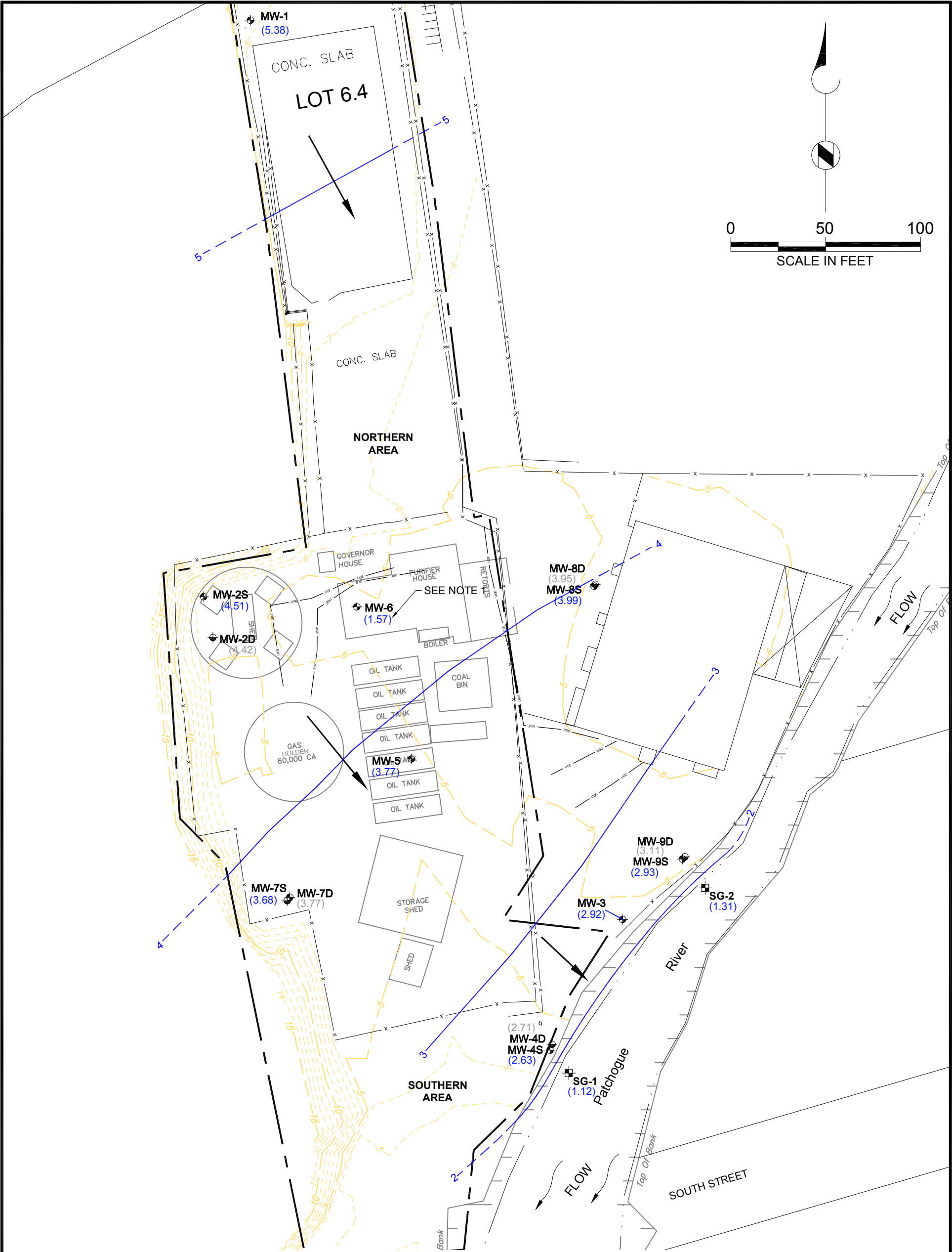
µg/L - micrograms per liter

NS - Not sampled.

## Figures

---





- LEGEND:**
- SHALLOW MONITORING WELL LOCATION
  - DEEP MONITORING WELL LOCATION
  - STAFF GAUGE
  - PROPERTY LINE
  - FENCE
  - TOPOGRAPHIC CONTOUR (FT., NAVD)
  - UNDERGROUND ELECTRIC
  - WATER TABLE CONTOUR (FT., NAVD)  
DASHED WHERE INFERRED
  - GENERALIZED DIRECTION OF GROUNDWATER FLOW
  - WATER ELEVATION (FT., NAVD) FOR SHALLOW MONITORING WELL OR STAFF GAUGE
  - GROUNDWATER HEAD ELEVATION (FT., NAVD) FOR WELLS SCREENED BELOW WATER TABLE (FROM DEEP MONITORING WELL)

NOTE:  
1. WATER LEVEL MEASUREMENT AT MW-6 IS ANOMALOUSLY LOW BASED ON PRIOR AND SUBSEQUENT MEASUREMENTS. THIS VALUE WAS NOT USED IN CONTOURING.

FIGURE 1  
WATER TABLE CONTOUR MAP  
MAY 23, 2012

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

DATE  
8/12

PROJECT NUMBER  
142128

**Brown AND Caldwell**  
ASSOCIATES  
ALLENDALE, NEW JERSEY

## Appendix A: Field Sampling Sheets

---

# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-75

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Paterson MGP

Personnel: BFT G-6

Date: 5/24/12 Time: 16/25

Weather: Cloudy Air Temp.: 75°

### 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: 1.78 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: \_\_\_\_\_ ☒ 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: 225 ml/min Elapsed Time: 30 min Volume Pumped: ~2.5 gallons

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: pH: 6.45 Meter Model: Hanna U-22 Meter S/N: \_\_\_\_\_

Temperature: 15.72 Spec. Cond.: 0.516 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_

ORP: -1612 DO: 1.70 Turbidity: 0.0

DUP: ☒ No ☐ Yes Name: \_\_\_\_\_

MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_

Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_

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

Signature: [Signature] Date: 5/24/12



# LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: MW-95  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-45

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Potomac mab  
Personnel: BFT 6-6

Date: 5/24/12 Time: 1418  
Weather: cloudy Air Temp.: 70°

### WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: \_\_\_\_\_  
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock  
DEPTH TO: Static Water Level: 5.11 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: \_\_\_\_\_ ☒ 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: 350 ml/min Elapsed Time: 30 min Volume Pumped: ~3.5 gal  
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: \_\_\_\_\_  
PURGING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned

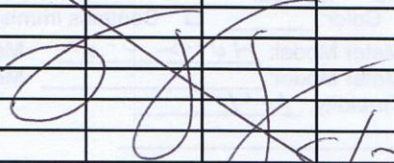
### SAMPLING DATA:

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 ☐ PVC ☐ Other: \_\_\_\_\_  
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: pH: 5.29 Meter Model: HORIBU-02 Meter S/N: \_\_\_\_\_  
Temperature: 14.4/2 Spec. Cond.: 0.356 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
ORP: 153 DO: 1.96 Turbidity: 1.4  
DUP: ☒ No ☐ Yes Name: \_\_\_\_\_  
MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_  
Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_  
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.  
Signature: [Signature] Date: 5/24/12



## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: 48  
Sample ID: 48

Actual Time	pH	Temp (°C)	ORP (mV)	Cond ( )	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1418	5.91	16.28	129	0.452	4.79	185.1	5.11	350	
1421	5.94	15.20	134	0.447	2.78	172.0			
1424	5.95	14.76	143	0.377	2.49	250			
1427	5.96	14.57	149	0.370	2.29	12.7			
1430	5.96	14.54	152	0.369	2.24	6.6	5.30		
1433	5.96	14.41	156	0.368	2.07	0.0			
1436	5.97	14.40	158	0.359	2.12	0.7			
1439	5.98	14.33	158	0.361	2.03	2.6			
1442	5.98	14.40	155	0.361	1.94	10.0			
1445	5.99	14.42	153	0.356	1.96	1.4	5.20		
1450									
Sample Collected									
									
05/24/12									



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-41D

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Potomac MCB

Personnel: BPT 66

Date: 5/24/12 Time: 1320

Weather: Cloudy Air Temp.: 70°

### WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: \_\_\_\_\_

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 4.76 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: \_\_\_\_\_ ☐ 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: 30 rpm Elapsed Time: 4.50 min Volume Pumped: ~5 gallons

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 ☐ 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: pH: 5.67 Meter Model: Horiz 022 Meter S/N: \_\_\_\_\_

Temperature: 14.68 Spec. Cond.: 0.6 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_

ORP: 247 DO: 5.35 Turbidity: 0.0

DUP: ☒ No ☐ Yes Name: \_\_\_\_\_

MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_

Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_

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

Signature: \_\_\_\_\_ Date: 5/24/12

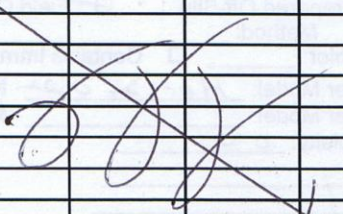


## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number:

Well ID: MW-9D

Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond ( )	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1320	5.74	14.98	263	1.96	8.28	79.6	4.96	450	
1324	5.78	14.86	255	2.22	7.93	45.0	" "	450	
1327	5.70	14.83	252	1.02	7.74	24.1			
1330	5.67	14.75	249	0.8	7.46	9.1			
1333	5.67	14.70	249	0.7	7.18	6.6			
1336	5.66	14.72	250	0.6	6.66	0.0			
1339	5.66	14.70	249	0.6	6.35	0.7			
1342	5.66	14.69	249	0.6	6.19	0.0			
1345	5.66	14.68	247	0.6	5.73	0.0			
1348	5.67	14.70	247	0.6	5.48	0.0	4.26		
1351	5.67	14.68	247	0.6	5.35	0.0			
1354									
Sample Collected									
									
5/24/12									



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-3

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Pentagon MGP  
Personnel: BFT 66

Date: 5/24/12 Time: 15:37  
Weather: Cloudy Air Temp.: 76°

### 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: 2.54 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: \_\_\_\_\_ ☒ Bladder Pump ☐ 2" Submersible Pump ☐ 4" Submersible Pump  
☐ Centrifugal Pump ☐ Peristaltic Pump ☐ Inertial Lift Pump ☐ Other: \_\_\_\_\_  
MATERIALS: Pump/Bailer: ☐ Teflon® ☒ Stainless Steel Tubing/Rope: ☒ Teflon®  
☐ PVC ☐ Polyethylene  
☐ Other: \_\_\_\_\_ ☐ Polypropylene  
☐ Other: \_\_\_\_\_  
Pumping Rate: 300 ml/min Elapsed Time: 30 min Volume Pumped: ~3 gallons  
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: pH: 6.38 Meter Model: Horiba U-22 Meter S/N: \_\_\_\_\_  
Temperature: 15.18 Spec. Cond.: 0.227 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
ORP: -21 DO: 6.74 Turbidity: 0.0  
DUP: ☒ No ☐ Yes Name: \_\_\_\_\_  
MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_  
Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_  
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.  
Signature: [Signature] Date: 5/24/12



## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: MW-3  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-1

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Patchogue MGP

Personnel: BFT

Date: 5/23/12 Time: 1336

Weather: cloudy Air Temp.: 75°

### WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: \_\_\_\_\_

Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock

DEPTH TO: Static Water Level: 5.86 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: \_\_\_\_\_ ☒ 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: 400 ml/min Elapsed Time: 30 min Volume Pumped: ~1 gallon

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 ☐ PVC ☐ Other: \_\_\_\_\_  
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: pH: 6.415 Meter Model: Hanatec U-22 Meter S/N: \_\_\_\_\_

Temperature: 15.01 Spec. Cond.: 1.26 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_

ORP: -108 DO: 2.01 Turbidity: 15.3

DUP: ☐ No ☒ Yes Name: DUP-052312

MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_

Field Lab Results: N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_

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

Signature: [Signature] Date: 5/23/12



## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number:

Well ID: MU-1

Sample ID:

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-2D

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Part 4000 map  
Personnel: BFT G G

Date: 5/24/12 Time: 1042  
Weather: Cloudy Air Temp.: 70°

### WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: \_\_\_\_\_  
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock  
DEPTH TO: Static Water Level: 3.86 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: \_\_\_\_\_ ☒ 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: 200 ml/min Elapsed Time: 30 min Volume Pumped: ~2 gallons  
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 ☐ PVC ☐ Other: \_\_\_\_\_  
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: pH: 5.27 Meter Model: Hanlon 022 Meter S/N: \_\_\_\_\_  
Temperature: 15.65 Spec. Cond.: 0.571 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
ORP: 279 DO: 2.37 Turbidity: 46.6  
DUP: ☒ No ☐ Yes Name: \_\_\_\_\_  
MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_  
Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_  
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.  
Signature: [Signature] Date: 5/24/12



# LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: MW-2D  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: mw-25

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Pittsford, NY MGP

Personnel: BFT

Date: 5/24/12 Time: 0900  
Weather: cloudy Air Temp.: 65°

### WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: \_\_\_\_\_  
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock  
DEPTH TO: Static Water Level: 4.52 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: \_\_\_\_\_ ☒ 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: 350 ml/min Elapsed Time: 30 min Volume Pumped: ~3.5 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 ☐ PVC ☐ Other: \_\_\_\_\_  
Tubing/Rope: ☒ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other: \_\_\_\_\_  
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned  
Metals samples field filtered? ☐ Yes ☒ No Method: \_\_\_\_\_  
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: \_\_\_\_\_ ☐ Contains Immiscible Liquid  
FIELD DETERMINATIONS: pH: 6.13 Meter Model: Horiba U-22 Meter S/N: \_\_\_\_\_  
Temperature: 14.55 Spec. Cond.: 0.382 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
ORP: 172 DO: 6.40 Turbidity: 0.0  
DUP: ☒ No ☐ Yes Name: \_\_\_\_\_  
MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_  
Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_  
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.  
Signature: [Signature] Date: 5/24/12



# LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue MGP  
Personnel: BFT  
Purge/Sample Depth: 12'

Project Number: \_\_\_\_\_  
Well ID: MW-25  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-7 D

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: P-42456 M&P  
Personnel: \_\_\_\_\_

Date: 5/24/12 Time: 0803  
Weather: Cloudy Air Temp.: 65°

### WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: \_\_\_\_\_  
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock  
DEPTH TO: Static Water Level: 4.41 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: \_\_\_\_\_ ☒ 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: 350 ml/min Elapsed Time: 30 min Volume Pumped: ~3.5 gallon  
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 ☐ PVC ☐ Other: \_\_\_\_\_  
Tubing/Rope: ☒ Teflon® ☐ Polyethylene ☐ Polypropylene ☐ Other: \_\_\_\_\_  
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned  
Metals samples field filtered? ☐ Yes ☒ No Method: \_\_\_\_\_  
APPEARANCE: ☐ Clear ☒ Turbid ☐ Color: \_\_\_\_\_ ☐ Contains Immiscible Liquid  
FIELD DETERMINATIONS: pH: 6.21 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
Temperature: 16.40 Spec. Cond.: 0.402 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
ORP: 59 DO: 2.43 Turbidity: 94.7  
DUP: ☒ No ☐ Yes Name: \_\_\_\_\_  
MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_  
Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_  
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.  
Signature: \_\_\_\_\_ Date: 5/24/12



# LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: MW-7D  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-75

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Portuguese MGP

Personnel: BFT NB

Date: 5/23/12 Time: 1527  
Weather: cloudy Air Temp.: 70°

### WELL DATA:

Casing Diameter: 4" ☐ Stainless Steel ☒ Steel ☐ PVC ☐ Teflon® ☐ Other: \_\_\_\_\_  
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock  
DEPTH TO: Static Water Level: 41.51 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: \_\_\_\_\_ ☒ 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: 300 ml/min Elapsed Time: 36 min Volume Pumped: 3 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 ☐ PVC ☐ Other: \_\_\_\_\_  
Tubing/Rope: ☒ Teflon® ☐ Polyethylene ☐ Other: \_\_\_\_\_  
SAMPLING EQUIPMENT: ☐ Dedicated ☐ Prepared Off-Site ☒ Field Cleaned  
Metals samples field filtered? ☐ Yes ☒ No Method: \_\_\_\_\_  
APPEARANCE: ☒ Clear ☐ Turbid ☐ Color: \_\_\_\_\_ ☐ Contains Immiscible Liquid  
FIELD DETERMINATIONS: pH: 6.54 Meter Model: Horiba U-22 Meter S/N: \_\_\_\_\_  
Temperature: 13.32 Spec. Cond.: 0.387 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
ORP: -88 DO: 5.76 Turbidity: 18.1  
DUP: ☒ No ☐ Yes Name: \_\_\_\_\_  
MS/MSD: ☐ No ☒ Yes Name: MW-75 MS/MSD  
Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_  
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.  
Signature: [Signature] Date: 5/23/12



## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: mw-75  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-8D

Sample I.D.:

(if different from well no.)

Project: Perthogen MGP

Personnel: BFT GL

Date: 5/25/12 Time: 0813

Weather: cloudy/mist Air Temp.: 60°

### 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: 0.9 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: \_\_\_\_\_ ☒ 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: 400 ml/min

Elapsed Time: 45 min

Volume Pumped: ~ 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: pH: 5.77 Meter Model: Horiba U-22 Meter S/N: \_\_\_\_\_

Temperature: 15.36 Spec. Cond.: 0.386 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_

ORP: 111 DO: 8.93 Turbidity: 167.0

DUP: ☒ No ☐ Yes Name: \_\_\_\_\_

MS/MSD: ☐ No ☐ Yes Name: \_\_\_\_\_

Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_

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

Signature: \_\_\_\_\_

Date: 5/25/12

P:\Office\Field\_Lab\Field\_Data\_Sheets\Well\_Info\_Sheet.doc



## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: MW-81  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-85

Sample I.D.: \_\_\_\_\_ (if different from well no.)

Project: Penthouse map

Personnel: BFT GL

Date: 5/28/12 Time: 0913  
Weather: Cloudy / Mist Air Temp.: 65°

### 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: 0.8 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: \_\_\_\_\_ ☒ 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: 200 ml/min Elapsed Time: 35 min Volume Pumped: ~2 gal (101)  
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 ☐ PVC ☐ Other: \_\_\_\_\_  
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: pH: 6.15 Meter Model: Horiba U-22 Meter S/N: \_\_\_\_\_  
Temperature: 16.79 Spec. Cond.: 0.512 Meter Model: \_\_\_\_\_ Meter S/N: \_\_\_\_\_  
ORP: -75 DO: 7.64 Turbidity: 90.0  
DUP: ☒ No ☐ Yes Name: \_\_\_\_\_  
MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_  
Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_

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

Signature: [Signature] Date: 5/28/12

P:\Office\Field\_Lab\Field\_Data\_Sheets\Wells\Info\_Sheet.doc



## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: MW-85  
Sample ID: \_\_\_\_\_

[illegible]



# BROWN AND CALDWELL

Allendale, NJ Office

## LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-30

Sample I.D.:

(if different from well no.)

Project: Port Jervis NY MAP

Personnel: BFT CC

Date: 4/11/12 Time: 1111

Weather: Cloudy / Drizzle Air Temp.: 70°

### 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: 1.56 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: \_\_\_\_\_ ☒ 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: 350 ml/min

Elapsed Time: 30 min

Volume Pumped: 3.5 gal/min

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:

pH: 5.31

Meter Model: Horiba U-22

Meter S/N: \_\_\_\_\_

Temperature: 15.62

Spec. Cond.: 0.302

Meter Model: \_\_\_\_\_

Meter S/N: \_\_\_\_\_

ORP: 142

DO: 7.53

Turbidity: 60.6

DUP: ☒ No ☐ Yes Name: \_\_\_\_\_

MS/MSD: ☒ No ☐ Yes Name: \_\_\_\_\_

Field Lab Results: ☒ N/A pH: \_\_\_\_\_ DO: \_\_\_\_\_ Temperature: \_\_\_\_\_

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

Signature: \_\_\_\_\_

Date: 5/25/12

P:\Office\Field Lab\Field Data Sheets\Well Info Sheet.doc



## LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Number: \_\_\_\_\_  
Well ID: MW-90  
Sample ID: \_\_\_\_\_

[illegible]



North  
East  
Hond

70°

5/23/12 Patagonia MRP

Quarter 2 GW Sampling

0800 BFT and NB on site

0845 AOT on site for drilling with NB

0900 BFT and NB Setting up air monitoring

Station

1000 Begin water level

1200 OFF site for lunch

1245 on site from lunch

1300 Set up on MW-1

1336 MW-1 DTW 8.56 S. 86'

Rate =

1412 Sample MW-1 collected

and DUP-052312 collected

1500 Set up on MW-75

1527 MW-75 DTW 9.51'

Rate = 300 ml/min

1603 MW-75 collected ms for SD

1630 Decan Pump

1700 BFT and NB off site

1715 BFT picked up Decan water

5/23/12

Patagonia

5/23/12

5/23/12



5/23/12

P-technique

Well ID	DTW	Depth to NAL	TD	Time
8D	0.82	—	25.20	1002
8S	0.87	—	9.91	1008
9D	1.55	—	22.95	1017
9S	1.54	—	10.21	1018
3	2.47	—	10.50	1025
4D	4.86	—	26.50	1028
4S	5.11	—	12.4	1031
SG-2	3.85	—	—	1045
SG-1	7.11	—	—	1048
MW-7	5.85	—	15.17	1106
MW-7S	4.53	—	12.4	1114
MW-7D	4.32	—	27.9	1117
MW-2D	3.81	—	26.5	1126
MW-2S	4.46	—	14.2	1133
MW-5	4.16	—	16.55	1149
MW-6	6.51	—	22.8	1140

~~005/23/12~~

5/23/12

P-technique

Remarks
Sediment in well ~ 21.7 - 25.20'
@ 6.4 Sediment
@ 21.11 Sediment
@ 8.41 Sediment; fast tonlike odor on probe.
@ 7.96 Sediment
overgrown. Soft bottom.
overgrown
@ 8.66 Sediment - Soft bottom
@ 9.8' Sediment - Soft bottom

@ 10.5 Sediment; soft bottom

few blebs brownish-black NAL up to 1.0' on rock.

Black NAL blebs on bottom 0.15' of rock

stray odor.

~~5/23/12~~



5/24/12

Patagonia 2nd Quack Spring

closed  
Hiring  
6.5

0730 BFT and GB on site

0745 Set up on MW-7D

0803 MW-7D DTW 4.41

Rate 350 m/min

0839 Sample collected MW-7D ← 0845 Collected Holes

0852 Set up on MW-2S

0900 MW-2S DTW 4.52

Rate 300 m/min

0936 MW-2S Collected

1000 Decon pump

1015 EBS-052412 Collected

1033 Set up on MW-2D

1042 MW-2D DTW 3.86

Rate 200 m/min

1118 MW-2D Collected

1200 OP F site for core

1246 on site

Set up Peripump on MW-4D

1317 Begin MW-4D

DTW = 4.90

Rate = 450 m/min

1354 MW-4D Sample Collected

1415 Begin MW-4S

DTW = 5.11

Rate = 350

5/24/12

1450 MW-4S Sample

1510 Decon Pump

1520 Set up on MW-3

1537 Begin MW-3 DTW = 2.58

Rate = 300 m/min

1610 MW-3 Sample

1624 Set up on MW-9S

DTW = 1.78

Rate = 225

1701 MW-9S Collected

1715 BFT and GB off site

~~Handwritten signature and date 5/24/12~~



cloud  
mist 60°

5/25/12 P-technique quartered Sampling

0745 BFT and 6-6 on site

Calibrate Horiba

0800 Set up on MW-8D

0813 Begin MW-8D

DTU = 0.9'

Rate = 400 ml/min

0901 MW-8D Collector

0913 Begin MW-8D

DTU = 0.8'

Rate = 200 ml/min

0951 Sample collected MW-8D

1015 Waiting for Access to MW-9D

1111 Begin MW-9D

DTU = 1.56

Rate = 350 ml/min

1144 Sample MW-9D Collector

1200 cleaning up

1300 Packing coolers with ice

1345 OFF Site to FedEx

1430 Done with FedEx off site for day

~~5/25/12~~

~~5/20/12~~

## Appendix B: Laboratory Reports (CD-ROM)

---

## Appendix C: Data Usability Summary Report

---



**DATA USABILITY SUMMARY REPORT  
PATCHOGUE, NEW YORK**

Client: Brown and Caldwell, Allendale, New Jersey  
SDG: PCH11  
Laboratory: Lancaster Laboratories, Lancaster, Pennsylvania  
Site: Patchogue, New York  
Date: July 25, 2012

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	MW-1	6669303	Water
2	DUP-052312	6669304	Water
3	MW-7S	6669305	Water
3MS	MW-7SMS	6669306MS	Water
3MSD	MW-7SMSD	6669307MSD	Water
4	MW-7D	6669308	Water
5	MW-2S	6669309	Water
6	MW-2D	6669310	Water
7	EB-052412	6669311	Water
8	MW-4D	6669312	Water
9	MW-4S	6669313	Water
10	MW-9S	6669314	Water
11	MW-3	6669315	Water
12	MW-8D	6669316	Water
13	MW-8S	6669317	Water
14	MW-9D	6669318	Water
15*	TRIP BLANK	6669319	Water

\* - VOC only

A Data Usability Summary Review was performed on the analytical data for thirteen water samples, one aqueous field blank sample, and one aqueous trip blank sample collected May 23-24, 2012 by Brown and Caldwell at the 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

VOC (BTEX and MTBE)  
SVOC (PAH)

Method References

USEPA SW-846 Method 8260B  
USEPA SW-846 Method 8270C

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 2, August 2008: Validating Volatile Organic Compounds by SW-846 Method 8260B;
- 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 Spectroscopy (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. There were no qualifications.

### **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 and MTBE)**

#### **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).

### **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	Action Level ug/L	Qualifier	Affected Samples
EB-052412	None- ND	-	-	-	-
TRIP BLANK	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-1 ug/L	DUP-052312 ug/L	RPD	Qualifier
None	ND	ND	-	-



## **Semivolatile Organics Compounds (PAH)**

### **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 MS/MSD sample exhibited acceptable percent recoveries (%R) and/or relative percent differences (RPD).

### **Laboratory Control Samples**

- The LCS sample 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
EB-052412	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.

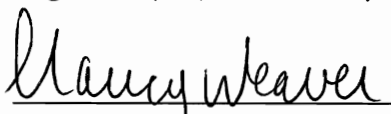
### Field Duplicate Sample Precision

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

PAH				
Compound	MW-1 ug/L	DUP-052312 ug/L	RPD	Qualifier
Fluoranthene	0.1	ND	NC	None
Naphthalene	0.1	ND	NC	
Phenanthrene	0.1	ND	NC	
Pyrene	0.1	0.1	0%	

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

Signed:

  
Nancy Weaver  
Senior Chemist

Dated:

7/27/12



### **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.





Sample Description: MW-1 Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669303  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/23/2012 14:12 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PATM1 SDG#: PCH11-01

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
07805	Acenaphthene	83-32-9	N.D.	0.1	1
07805	Acenaphthylene	208-96-8	N.D.	0.1	1
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	0.1 J	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	0.1 J	0.1	1
07805	Phenanthrene	85-01-8	0.1 J	0.1	1
07805	Pyrene	129-00-0	0.1 J	0.1	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 14:28	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 14:28	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/30/2012 23:07	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 0613

2

Page 1 of 1

Sample Description: DUP-052312 Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669304  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/23/2012 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PATFD SDG#: PCH11-02FD

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles</b>		<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC/MS Semivolatiles</b>		<b>SW-846 8270C</b>	<b>ug/l</b>	<b>ug/l</b>	
07805	Acenaphthene	83-32-9	N.D.	0.1	1
07805	Acenaphthylene	208-96-8	N.D.	0.1	1
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	0.1 J	0.1	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 14:49	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 14:49	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/30/2012 23:31	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 8260B

NW 7/25/12



Sample Description: MW-7S Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669305  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/23/2012 16:03 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT7S SDG#: PCH11-03BKG

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>					
10903	Benzene	71-43-2	N.D.	0.5 ug/l	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC/MS Semivolatiles SW-846 8270C</b>					
07805	Acenaphthene	83-32-9	N.D.	0.1 ug/l	1
07805	Acenaphthylene	208-96-8	N.D.	0.1	1
07805	Anthracene	120-12-7	0.1 J	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 11:28	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 11:28	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/30/2012 21:53	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 03BKG

4

Page 1 of 1

Sample Description: MW-7D Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669308  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 08:39 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT7D SDG#: PCH11-04

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
07805	Acenaphthene	83-32-9	N.D.	0.09	1
07805	Acenaphthylene	208-96-8	N.D.	0.09	1
07805	Anthracene	120-12-7	N.D.	0.09	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.09	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.09	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.09	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.09	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.09	1
07805	Chrysene	218-01-9	0.1 J	0.09	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.09	1
07805	Fluoranthene	206-44-0	N.D.	0.09	1
07805	Fluorene	86-73-7	N.D.	0.09	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.09	1
07805	Naphthalene	91-20-3	N.D.	0.09	1
07805	Phenanthrene	85-01-8	N.D.	0.09	1
07805	Pyrene	129-00-0	0.2 J	0.09	1

### General Sample Comments

State of New York Certification No. 10670

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 15:09	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 15:09	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/30/2012 23:55	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

RECEIVED

hw 7/25/12



5

Page 1 of 1

Sample Description: MW-2S Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669309  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 09:36 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT2S SDG#: PCH11-05

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles</b>		<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC/MS Semivolatiles</b>		<b>SW-846 8270C</b>	<b>ug/l</b>	<b>ug/l</b>	
07805	Acenaphthene	83-32-9	N.D.	0.09	1
07805	Acenaphthylene	208-96-8	N.D.	0.09	1
07805	Anthracene	120-12-7	N.D.	0.09	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.09	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.09	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.09	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.09	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.09	1
07805	Chrysene	218-01-9	N.D.	0.09	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.09	1
07805	Fluoranthene	206-44-0	N.D.	0.09	1
07805	Fluorene	86-73-7	N.D.	0.09	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.09	1
07805	Naphthalene	91-20-3	0.1 J	0.09	1
07805	Phenanthrene	85-01-8	N.D.	0.09	1
07805	Pyrene	129-00-0	N.D.	0.09	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 15:29	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 15:29	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 00:19	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 0612

NW 7/25/12

6

Page 1 of 1

Sample Description: MW-2D Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669310  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 11:18 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT2D SDG#: PCH11-06

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
07805	Acenaphthene	83-32-9	N.D.	0.09	1
07805	Acenaphthylene	208-96-8	N.D.	0.09	1
07805	Anthracene	120-12-7	N.D.	0.09	1
07805	Benzo(a)anthracene	56-55-3	0.1 J	0.09	1
07805	Benzo(a)pyrene	50-32-8	0.1 J	0.09	1
07805	Benzo(b)fluoranthene	205-99-2	0.1 J	0.09	1
07805	Benzo(g,h,i)perylene	191-24-2	0.1 J	0.09	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.09	1
07805	Chrysene	218-01-9	0.1 J	0.09	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.09	1
07805	Fluoranthene	206-44-0	N.D.	0.09	1
07805	Fluorene	86-73-7	N.D.	0.09	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.09	1
07805	Naphthalene	91-20-3	N.D.	0.09	1
07805	Phenanthrene	85-01-8	N.D.	0.09	1
07805	Pyrene	129-00-0	0.2 J	0.09	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 15:49	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 15:49	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 00:43	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

WW 7/25/12



7

Page 1 of 1

Sample Description: EB-052412 Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669311  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 10:15 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PATEB SDG#: PCH11-07EB

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>					
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC/MS Semivolatiles SW-846 8270C</b>					
07805	Acenaphthene	83-32-9	N.D.	0.1	1
07805	Acenaphthylene	208-96-8	N.D.	0.1	1
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1

### General Sample Comments

State of New York Certification No. 10670

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 12:28	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 12:28	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 01:08	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 09286

WW 7/25/12

8

Page 1 of 1

Sample Description: MW-4D Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669312  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 13:54 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT4D SDG#: PCH11-08

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.3 J	0.09	1
07805	Acenaphthylene	208-96-8	2	0.09	1
07805	Anthracene	120-12-7	0.2 J	0.09	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.09	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.09	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.09	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.09	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.09	1
07805	Chrysene	218-01-9	N.D.	0.09	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.09	1
07805	Fluoranthene	206-44-0	N.D.	0.09	1
07805	Fluorene	86-73-7	1	0.09	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.09	1
07805	Naphthalene	91-20-3	0.2 J	0.09	1
07805	Phenanthrene	85-01-8	2	0.09	1
07805	Pyrene	129-00-0	0.1 J	0.09	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 16:08	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 16:08	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 01:32	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

~~FILE 1 8822~~

UW 7/25/12

9

Page 1 of 1

Sample Description: MW-4S Grab Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669313  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 14:50 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT4S SDG#: PCH11-09

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>					
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC/MS Semivolatiles SW-846 8270C</b>					
07805	Acenaphthene	83-32-9	N.D.	0.1	1
07805	Acenaphthylene	208-96-8	N.D.	0.1	1
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1

### General Sample Comments

State of New York Certification No. 10670

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 16:28	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 16:28	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 01:56	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 09286

NW 7/25/12



10

Page 1 of 1

Sample Description: MW-9S Water  
COC: 306535  
Patchogue, NY

LLI Sample # WW 6669314  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 17:01 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT9S SDG#: PCH11-10

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles</b>		<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC/MS Semivolatiles</b>		<b>SW-846 8270C</b>	<b>ug/l</b>	<b>ug/l</b>	
07805	Acenaphthene	83-32-9	3	0.1	1
07805	Acenaphthylene	208-96-8	0.5	0.1	1
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	0.2 J	0.1	1
07805	Benzo(a)pyrene	50-32-8	0.2 J	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	0.2 J	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	0.1 J	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	0.1 J	0.1	1
07805	Chrysene	218-01-9	0.2 J	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	0.5	0.1	1
07805	Fluorene	86-73-7	0.3 J	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	0.2 J	0.1	1
07805	Phenanthrene	85-01-8	0.1 J	0.1	1
07805	Pyrene	129-00-0	0.7	0.1	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 16:47	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 16:47	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 02:20	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	<del>SPYDRAVE</del> Salvatori	<del>6669314</del>

NW 7/25/12

Sample Description: MW-3 Water  
COC: 306536  
Patchogue, NY

LLI Sample # WW 6669315  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/24/2012 16:10 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT-3 SDG#: PCH11-11

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles SW-846 8260B</b>					
10903	Benzene	71-43-2	N.D.	0.5 ug/l	1
10903	Ethylbenzene	100-41-4	N.D.	0.8 ug/l	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5 ug/l	1
10903	Toluene	108-88-3	N.D.	0.7 ug/l	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8 ug/l	1
10903	o-Xylene	95-47-6	N.D.	0.8 ug/l	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8 ug/l	1
<b>GC/MS Semivolatiles SW-846 8270C</b>					
07805	Acenaphthene	83-32-9	0.2 J	0.09 ug/l	1
07805	Acenaphthylene	208-96-8	0.3 J	0.09 ug/l	1
07805	Anthracene	120-12-7	0.4 J	0.09 ug/l	1
07805	Benzo(a)anthracene	56-55-3	0.1 J	0.09 ug/l	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.09 ug/l	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.09 ug/l	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.09 ug/l	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.09 ug/l	1
07805	Chrysene	218-01-9	N.D.	0.09 ug/l	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.09 ug/l	1
07805	Fluoranthene	206-44-0	2	0.09 ug/l	1
07805	Fluorene	86-73-7	N.D.	0.09 ug/l	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.09 ug/l	1
07805	Naphthalene	91-20-3	N.D.	0.09 ug/l	1
07805	Phenanthrene	85-01-8	N.D.	0.09 ug/l	1
07805	Pyrene	129-00-0	2	0.09 ug/l	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 17:07	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 17:07	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 02:44	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvareri	1

Page 1 of 1 2025

12

Page 1 of 1

Sample Description: MW-8D Grab Water  
COC: 306536  
Patchogue, NY

LLI Sample # WW 6669316  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/25/2012 09:01 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT8D SDG#: PCH11-12

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
<b>GC/MS Volatiles</b>		<b>SW-846 8260B</b>	<b>ug/l</b>	<b>ug/l</b>	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
<b>GC/MS Semivolatiles</b>		<b>SW-846 8270C</b>	<b>ug/l</b>	<b>ug/l</b>	
07805	Acenaphthene	83-32-9	N.D.	0.1	1
07805	Acenaphthylene	208-96-8	N.D.	0.1	1
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	N.D.	0.1	1
07805	Fluorene	86-73-7	N.D.	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	N.D.	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1

### General Sample Comments

State of New York Certification No. 10670

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

### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 17:26	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 17:26	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 03:09	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 09286

NW 7/25/12



13

Page 1 of 1

Sample Description: MW-8S Grab Water  
COC: 306536  
Patchogue, NY

LLI Sample # WW 6669317  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/25/2012 09:51 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT8S SDG#: PCH11-13

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
07805	Acenaphthene	83-32-9	0.7	0.1	1
07805	Acenaphthylene	208-96-8	N.D.	0.1	1
07805	Anthracene	120-12-7	N.D.	0.1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	0.1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	0.1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	0.1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	0.1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	0.1	1
07805	Chrysene	218-01-9	N.D.	0.1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.1	1
07805	Fluoranthene	206-44-0	N.D.	0.1	1
07805	Fluorene	86-73-7	0.1 J	0.1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	0.1	1
07805	Naphthalene	91-20-3	0.2 J	0.1	1
07805	Phenanthrene	85-01-8	N.D.	0.1	1
07805	Pyrene	129-00-0	N.D.	0.1	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 17:46	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 17:46	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 03:33	Holly Berry	1
07807	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J Salvatori	1

PCH11 8227

NW 7/25/12

Sample Description: MW-9D Grab Water  
COC: 306536  
Patchogue, NY

LLI Sample # WW 6669318  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/25/2012 11:44 by BFT

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PAT9D SDG#: PCH11-14

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1
GC/MS	Semivolatiles	SW-846 8270C	ug/l	ug/l	
07805	Acenaphthene	83-32-9	N.D.	0.09	1
07805	Acenaphthylene	208-96-8	N.D.	0.09	1
07805	Anthracene	120-12-7	N.D.	0.09	1
07805	Benzo(a)anthracene	56-55-3	0.1 J	0.09	1
07805	Benzo(a)pyrene	50-32-8	0.2 J	0.09	1
07805	Benzo(b)fluoranthene	205-99-2	0.3 J	0.09	1
07805	Benzo(g,h,i)perylene	191-24-2	0.2 J	0.09	1
07805	Benzo(k)fluoranthene	207-08-9	0.2 J	0.09	1
07805	Chrysene	218-01-9	0.2 J	0.09	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	0.09	1
07805	Fluoranthene	206-44-0	0.3 J	0.09	1
07805	Fluorene	86-73-7	N.D.	0.09	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	0.2 J	0.09	1
07805	Naphthalene	91-20-3	0.1 J	0.09	1
07805	Phenanthrene	85-01-8	0.3 J	0.09	1
07805	Pyrene	129-00-0	0.5	0.09	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 18:05	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 18:05	Jason M Long	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	12150WAE026	05/31/2012 03:57	Holly Berry	1
07597	BNA Water Extraction	SW-846 3510C	1	12150WAE026	05/30/2012 09:45	Cynthia J. Salvatori	1

15

Page 1 of 1

Sample Description: Trip Blank Water  
COC:  
Patchogue, NY

LLI Sample # WW 6669319  
LLI Group # 1311918  
Account # 09286

Project Name: Patchogue, NY

Collected: 05/23/2012

Brown & Caldwell  
110 Commerce Drive  
Allendale NJ 07401

Submitted: 05/26/2012 09:45

Reported: 06/05/2012 19:51

PATTB SDG#: PCH11-15TB\*

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
10903	Benzene	71-43-2	N.D.	0.5	1
10903	Ethylbenzene	100-41-4	N.D.	0.8	1
10903	Methyl Tertiary Butyl Ether	1634-04-4	N.D.	0.5	1
10903	Toluene	108-88-3	N.D.	0.7	1
10903	m+p-Xylene	179601-23-1	N.D.	0.8	1
10903	o-Xylene	95-47-6	N.D.	0.8	1
10903	Xylene (Total)	1330-20-7	N.D.	0.8	1

#### General Sample Comments

State of New York Certification No. 10670

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

#### Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10903	UST VOCs 8260 (Water)	SW-846 8260B	1	E121571AA	06/05/2012 12:48	Jason M Long	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	E121571AA	06/05/2012 12:48	Jason M Long	1

PCH11 8260B

NW 7/25/12



## Appendix D: Electronic Data Deliverable (CD-ROM)

---