Second Quarter 2011
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

July 2011

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National Grid USA
175 East Old Country Road
Hicksville, New York 11801

July 2011

Project Number: 138893.316.020

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Table of Contents

Appendices

List of Tables

List of Figures

Section 1

Introduction

Brown and Caldwell Associates (BC) is pleased to submit this report containing the data deliverables related to the Second Quarter 2011 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 represents the second quarterly monitoring event for 2011 (Second Quarter 2011). This report has been prepared for submittal to the New York State Department of Environmental Conservation (NYSDEC) and includes the following:

- Brief description of the scope of the field activities;
- 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);
- Tables summarizing the analytical results of 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);
- Brief discussion of the groundwater quality data;
- Potentiometric surface map depicting generalized direction of groundwater flow based on water level data from shallow wells and deep wells (Figure 1);
- Field Sampling Data Sheets (Appendix A);
- Laboratory Data Report (Appendix B); and
- Data Usability Summary Report (Appendix C).
- Electronic Data Deliverable (Appendix D).

1.1 Background

A total of eight groundwater monitoring events have been conducted at the Site since March 2008. These eight events include two monitoring events conducted as part of the Remedial Investigation (RI) in March 2008 and July 2008, four semi-annual monitoring events from March 2009 through September 2010, and two quarterly monitoring events in January 2011 and April 2011. The April 2011 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 found to be present in a limited area near the center of the Site. These 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 across the river from the Site being conducted at the wastewater treatment facility (WWTF). 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 assess this, National Grid increased the frequency of the groundwater monitoring from semi-annually to quarterly. The April 2011 monitoring event, descried herein, is the second quarterly monitoring event.

Section 2

Scope of Work

Field activities for the groundwater monitoring event were conducted by BC on April 7 and 8, 2011. On April 7, 2011, prior to conducting groundwater sampling, depth-to-water measurements and NAPL gauging were conducted on the 14 monitoring wells associated with the Site. Locations of the 14 monitoring wells are depicted on Figure 1.

Groundwater samples were collected from 12 monitoring wells on April 7 and 8, 2011. Wells MW-5 and MW-6 were not sampled this quarter due to presence of NAPL in these wells as observed during the NAPL gauging activities. The standard protocol is that if NAPL is observed in a well during gauging or sampling, groundwater samples are not submitted for laboratory analyses. Groundwater sampling was conducted using low-flow purging and sampling techniques in accordance with USEPA (July 1996, Revised January 2010) protocol. Samples were submitted 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 to Lancaster Laboratories, Inc. (Lancaster) located in Lancaster, Pennsylvania for analysis. 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 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 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 April 7, 2011 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). The water level (hydraulic head) values for the wells screened in deeper intervals are posted on Figure 1. However, only the values from the shallow wells were used in developing the contour lines because these values more accurately represent water table elevations. 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. The upward vertical hydraulic gradient, measured at the two well clusters adjacent to the river (MW-4S and D, and MW-9S and D), indicate that groundwater is discharging to the Patchogue River. In 2010, staff gauges SG-1 and SG-2 were installed in the Patchogue River and comparisons of the groundwater levels in the site monitoring wells to the river elevation as measured at the staff gauge locations indicated the groundwater elevations are higher than the river level thus providing further support to the conclusion that the groundwater discharges to the river. The general configuration of the water table contours (as shown on Figure 1), developed using the April 7, 2011 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. 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 April 2011 quarterly groundwater sampling event. NAPL was identified in the following wells during the gauging activities:

- **MW-5:** NAPL/tar was observed adhering to oil/water interface probe tape and sheen was observed on probe. Strong tar-like odor was associated with the observed NAPL.
- **MW-6:** NAPL/tar was observed adhering to oil/water interface probe. Strong tar-like odor was associated with the observed NAPL.

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 2011 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). Tables that compare total BTEX and total PAH concentrations from this sampling event to previous sampling events are provided as Tables 5 and 6, 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. Therefore, these two wells were not sampled. Groundwater samples were collected from the remaining 12 monitoring wells and submitted for analysis. BTEX compounds, MTBE and PAH compounds were either not detected or detected at concentrations below the Class GA groundwater quality criteria in the 12 monitoring wells sampled during the Second Quarter 2011 (April 2011) event.

Section 4

Conclusions

NAPL was identified in two of the 14 monitoring wells, MW-5 and MW-6, 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. BTEX compounds, MTBE and PAH compounds were either not detected or detected at concentrations below the Class GA groundwater quality criteria in groundwater samples from the remaining 12 monitoring wells which were sampled during the April 2011 event, indicating there are no dissolved-phase impacts in groundwater extending from the area where NAPL has been identified.

During the second quarter 2011, and the previous quarter (first quarter 2011), 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 concentrations of chemical constituents in groundwater have decreased and have nearly re-equilibrated with the steady-state groundwater flow conditions that existed prior to the operation of the large-scale temporary construction dewatering system that affected the results of the March and September 2010 monitoring events, as anticipated. Quarterly monitoring will continue to confirm these conditions.

References

Brown and Caldwell. First Quarter 2011 Groundwater Monitoring Report, Patchogue Former MGP Site – Site ID No. 1-52-182, Patchogue, New York.

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
APRIL 2011
PATCHOGUE FORMER MGP SITE
PATCHOGUE, NEW YORK

Well ID	Top of Casing Elevation (ft., NAVD)	Screened Interval (ft., BGS)	4/7/2011 Depth to Water (ft., BTOC)	Water Elevation (ft., NAVD)	Depth to NAPL (ft., BTOC)	Total Depth of Well (ft., BGS)	Remarks
MW-1	11.23	7-12	5.91	5.32	ND	16.2	
MW-2S	8.97	5-10	4.55	4.42	ND	14.05	
MW-2D	8.23	20-25	3.88	4.35	ND	26.2	
MW-3	5.39	5-10	2.51	2.88	ND	10.48	
MW-4S	7.74	5-10	5.07	2.67	ND	12.1	
MW-4D	7.57	20-25	4.88	2.69	ND	26.5	
MW-5	7.93	5-15	4.17	3.76	(1)	16.65	NAPL/tar was observed adhering to oil/water interface probe tape and sheen was observed on probe; strong tar-like odor was associated with the observed NAPL.
MW-6	8.08	5-20	3.82	4.26	(1)	21.8	NAPL/tar was observed adhering to oil/water interface probe; strong tar-like odor was associated with the observed NAPL.
MW-7S	8.21	4-9	4.54	3.67	ND	12.4	
MW-7D	8.09	20-25	4.40	3.69	ND	27.9	
MW-8S	4.86	4-9	0.99	3.87	ND	9.8	
MW-8D	4.77	20-25	0.85	3.92	ND	25.1	
MW-9S	4.47	4-9	1.54	2.93	ND	10.23	
MW-9D	4.66	20-25	1.56	3.10	ND	23.15	
SG-1	5.23	NA	NM	--	--	NA	
SG-2	5.16	NA	NM	--	--	NA	

Notes:
NAVD - North American Vertical Datum
BGS - Below Ground Surface
BTOC - Below Top of Casing
NAPL - Non-aqueous phase liquid
NA - Not applicable
NM - Not measured
(1) - - NAPL was not detected with oil/water interface probe, however, upon removal of the probe, NAPL blebs with a tar-like odor were observed on the end of the probe or on measuring tape.

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-2S	MW-2D	MW-3	MW-4S	MW-4D	MW-7S
Constituent	Guidance	Standard	Units	Date	4/7/2011	4/8/2011	4/8/2011	4/7/2011	4/8/2011	4/8/2011	4/8/2011
Volitile 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		1 U	1 U	1 U	4 J	1 U	1 J	1 U
Acenaphthylene	NE	NE	µg/L		1 U	1 U	1 U	1 J	1 U	9 J	1 U
Anthracene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(a)anthracene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(a)pyrene	NE	0	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene	NE	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzo(k)fluoranthene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chrysene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dibenzo(a,h)anthracene	NE	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U
Fluorene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	4 J	1 U
Indeno(1,2,3-cd)pyrene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U	1 U

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-2S	MW-2D	MW-3	MW-4S	MW-4D	MW-7S
Constituent	Guidance	Standard	Units	Date	4/7/2011	4/8/2011	4/8/2011	4/7/2011	4/8/2011	4/8/2011	4/8/2011
Naphthalene	10	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 J	1 U
Phenanthrene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	5 J	1 U
Pyrene	50	NE	µg/L		1 U	1 U	1 U	1 J	1 U	1 U	1 U
Total PAHs	NE	NE	µg/L		ND	ND	ND	6	ND	20	ND

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-7D	MW-8S	MW-8D	MW-8S DUP	MW-9S	MW-9D
Constituent	Guidance	Standard	Units	Date	4/8/2011	4/7/2011	4/7/2011	4/7/2011	4/7/2011	4/7/2011
Volitile 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
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
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
Semi-Volatile Organic Compounds (SVOCs)										
Polycyclic Aromatic Hydrocarbons (PAHs)										
Acenaphthene	20	NE	µg/L		1 U	1 U	1 U	1 U	4 J	1 U
Acenaphthylene	NE	NE	µg/L		1 U	1 U	1 U	1 U	3 J	1 U
Anthracene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Benzo(a)anthracene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Benzo(a)pyrene	NE	0	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Benzo(b)fluoranthene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Benzo(g,h,i)perylene	NE	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Benzo(k)fluoranthene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Chrysene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Dibenzo(a,h)anthracene	NE	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Fluoranthene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Fluorene	50	NE	µg/L		1 U	1 U	1 U	1 U	2 J	1 U
Indeno(1,2,3-cd)pyrene	0.002	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U

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-7D	MW-8S	MW-8D	MW-8S DUP	MW-9S	MW-9D
Constituent	Guidance	Standard	Units	Date	4/8/2011	4/7/2011	4/7/2011	4/7/2011	4/7/2011	4/7/2011
Naphthalene	10	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Phenanthrene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Pyrene	50	NE	µg/L		1 U	1 U	1 U	1 U	1 U	1 U
Total PAHs	NE	NE	µg/L		ND	ND	ND	ND	9	ND

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 Standards or Guidance values.

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

		Total BTEX Concentrations (µg/L)										
		Sampling Date										
	Total Depth	2008		2009		2010		2011				
Well ID	(ft., bgs)	March	July	March	September	March	September	January	April	Min	Max	Mean
MW-1	16.2	0	NS	0	0	0	0	1.7	0	0	1.7	0.24
MW-2S	14.05	0	0	0	0	0	0	0	0	0	0	0
MW-2D	26.2	0	0	0	0	0	0	0	0	0	0	0
MW-3	10.48	0	0	0	0	0	0	0	0	0	0	0
MW-4S	12.1	3.4	0	0	0	0	0	0	0	0	3.4	0.43
MW-4D	26.5	0	0	0	0	0	0	0	0	0	0	0
MW-5	16.65	1016	678	975	1257	637	NS	NS	NS	637	1257	913
MW-6	21.8	57.3	0	0	1	2	0	NS	NS	0	57.3	10
MW-7S	12.4	NS	0	0	0	0	0	0	0	0	0	0
MW-7D	27.9	NS	0	1	0	9	0	0	0	0	9	1.4
MW-8S	9.8	NS	0	0	0	0	0	0	0	0	0	0
MW-8D	25.1	NS	0	0	0	0	0	0	0	0	0	0
MW-9S	10.23	NS	0	0	0	0	27	1	0	0	27	4
MW-9D	23.15	NS	0	0	0	0	0	0	0	0	0	0

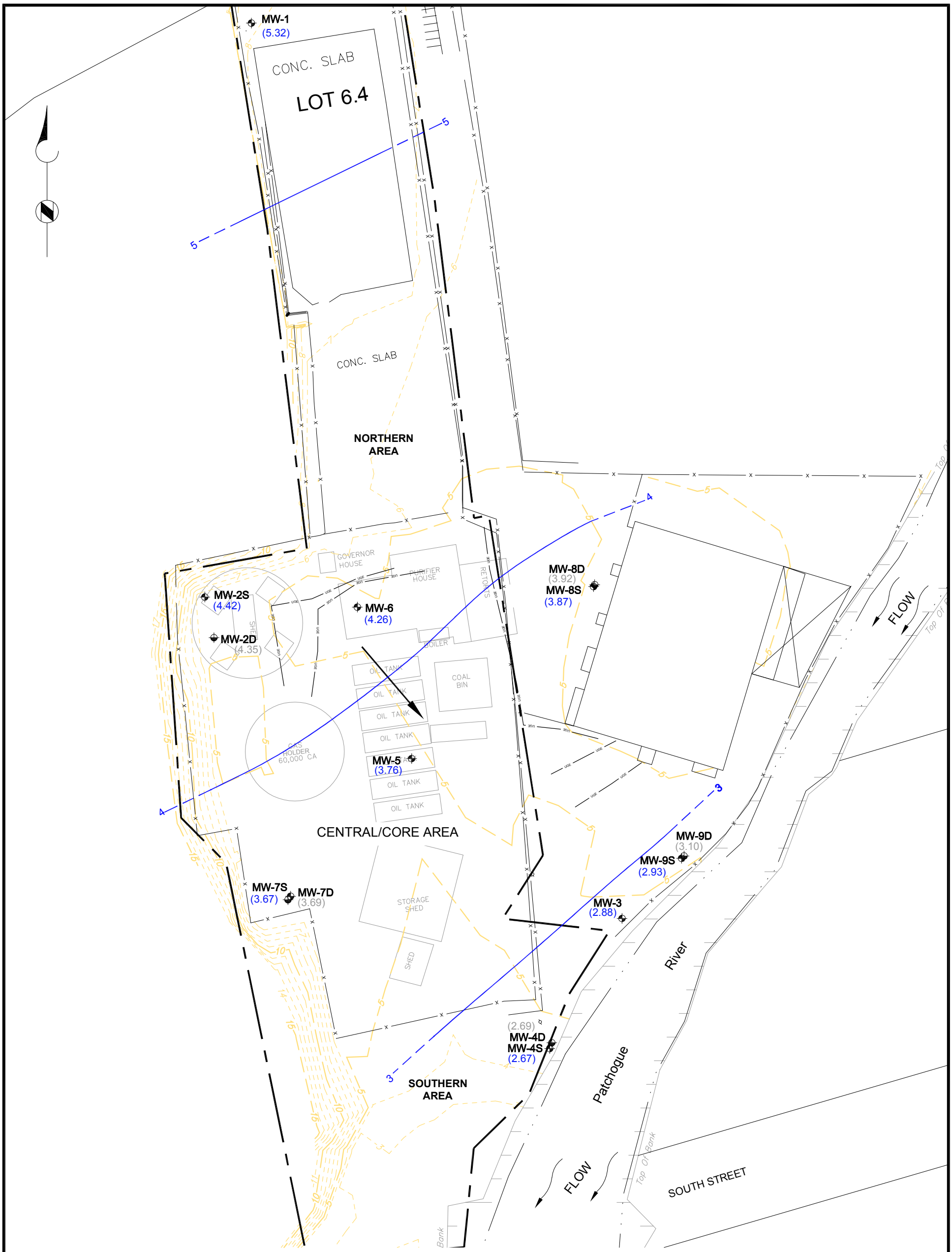
Notes:
BTEX - Benzene, toluene, ethylbenzene and xylene isomers
µg/L - micrograms per liter
NS - Not sampled.

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

		Total PAH Concentrations (µg/L)										
		Sampling Date										
	Total Depth	2008		2009		2010		2011				
Well ID	(ft., bgs)	March	July	March	September	March	September	January	April	Min	Max	Mean
MW-1	16.2	0	NS	0	0	0	0	22	0	0	22	3.1
MW-2S	14.05	0	0.7	0	0	0	0	0	0	0	0.7	0.09
MW-2D	26.2	0	0	0	0	0	0	0	0	0	0	0
MW-3	10.48	0.76	0	0	0	0	128	17	6	0	128	19
MW-4S	12.1	0.6	7.96	0	0	0	0	0	0	0	8	1.1
MW-4D	26.5	4.28	0	0	0	39	6	12	20	0	39	10
MW-5	16.65	1773.9	1798.7	2730	3373	2390	NS	NS	NS	1774	3373	2413
MW-6	21.8	214.18	154.2	0	1	17	14	NS	NS	0	214.18	67
MW-7S	12.4	NS	0	0	0	0	0	0	0	0	0	0
MW-7D	27.9	NS	0.47	0	0	0	0	0	0	0	0.5	0.07
MW-8S	9.8	NS	0	0	0	22	11	6	0	0	22	5.6
MW-8D	25.1	NS	0	0	0	0	0	0	0	0	0	0
MW-9S	10.23	NS	12.01	0	0	2	396	42	9	0	396	66
MW-9D	23.15	NS	0	0	0	0	0	5	0	0	5	0.71

Notes:
PAH - Polycyclic aromatic hydrocarbons
µg/L - micrograms per liter
NS - Not sampled.

Figures



LEGEND:

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

FIGURE 1

WATER TABLE CONTOUR MAP
APRIL 7, 2011

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

DATE	PROJECT NUMBER
6/11	138893

Brown AND Caldwell
ASSOCIATES
ALLENDALE, NEW JERSEY

P:\DRAFTING\NATIONAL_GRID\PATCHOGUE\2-SHEETS\B-GEOTECHNICAL\FIGURE-1 (APRIL 7, 2011).DWG 06/23/2011 01:30:48PM By:rjames XREFS: Rev_Basemap_1-12-11 Layout: Layout1

Appendix A: Field Sampling Data Sheets

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: Passaic gas
Personnel: [illegible]

Date: 4/8/11 Time: 905
Weather: Sun Air Temp.: 30°

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: 3.89 ft Bottom of Well: 25 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: NA To be purged: NA

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: 700 ml/min Elapsed Time: 30 min Volume Pumped: 2 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
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: 5.06 Meter Model: Horiba Meter S/N: [illegible]
Temperature: 14.04 Spec. Cond.: 0.642 Meter Model: Horiba Meter S/N: [illegible]
ORP: 162 DO: 1.07 Turbidity: 0
DUP : ☑ No ☐ Yes Name: ____
MS/MSD : ☐ No ☐ Yes Name: ____
Field Lab Results: ☑ N/A pH: ____ DO: ____ Temperature: ____

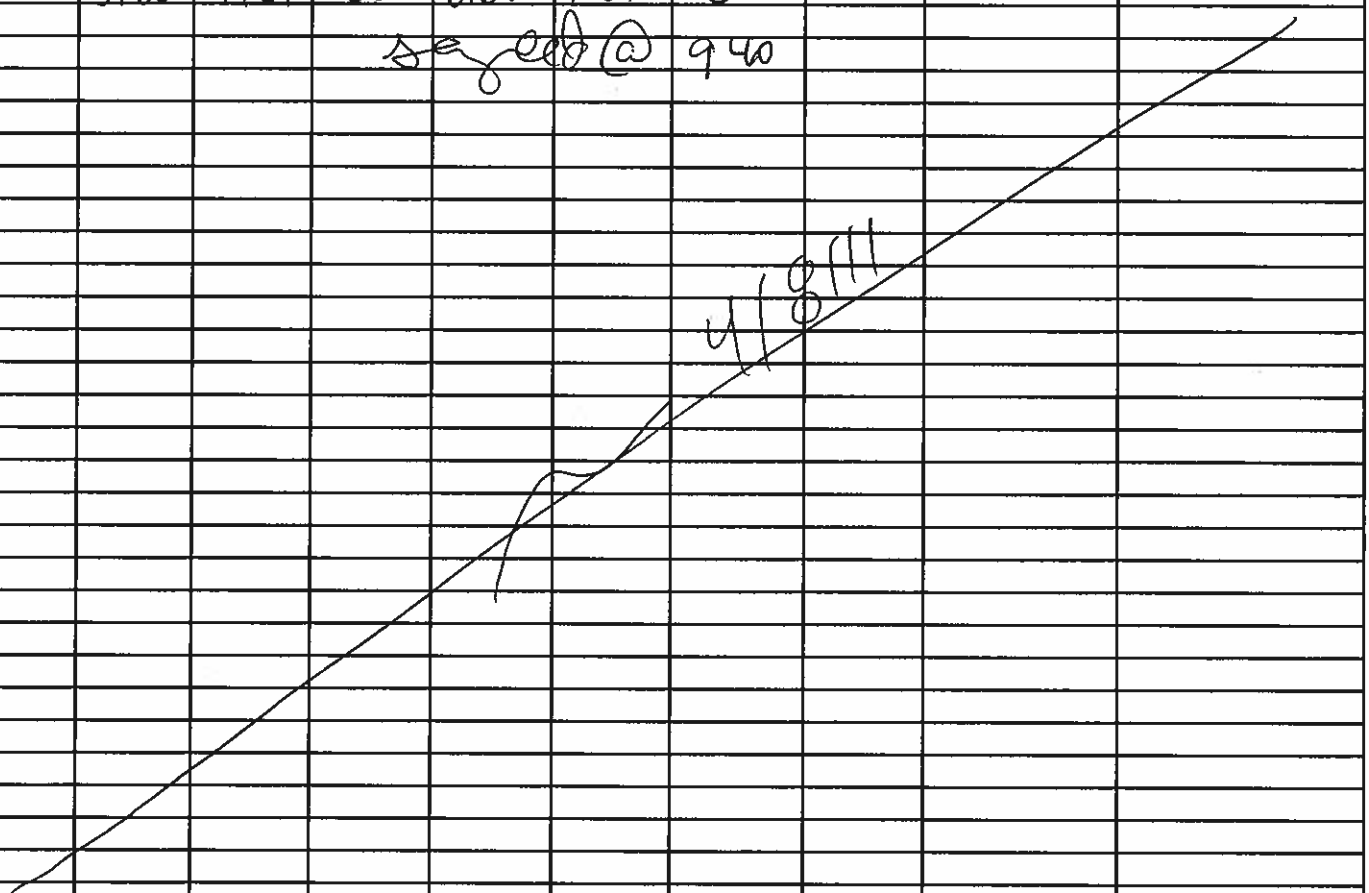
I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: [signature] Date: 4/8/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: [illegible]
Purge/Sample Depth: ~20
Project Number:
Well ID: MW-2D
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
905	5.03	12.77	174	0.636	0.00	0			
908	5.01	13.79	172	0.640	0.00	0	3.97	200	
911	5.02	13.75	170	0.639	0.00	0			
914	5.04	13.75	169	0.638	1.43	0			
917	5.05	13.76	166	0.638	2.85	0			
920	5.05	13.83	165	0.639	3.57	0		200	
923	5.05	13.91	166	0.639	2.33	0			
926	5.05	13.98	164	0.639	1.79	0	4.01		
929	5.05	14.01	163	0.640	1.52	0			
932	5.05	14.02	163	0.641	1.23	0		200	
935	5.06	14.09	162	0.642	1.07	0			
				Sampled @		940			



BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

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

Project: Patchogue
Personnel: [illegible]

Date: 4/8/11 Time: 813
Weather: Cloud Air Temp.: 20°

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: 4.43 ft Bottom of Well: 27 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: NA To be purged: NA

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 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: NA
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: 5.69 Meter Model: Horiba Meter S/N: U-22
Temperature: 11.82 Spec. Cond.: 0.353 Meter Model: Horiba Meter S/N: U-22
ORP: 76 DO: 0.00 Turbidity: 73.9
DUP : ☒ No ☐ Yes Name: _____
MS/MSD : ☒ No ☐ Yes Name: _____
Field Lab Results: ☐ NA pH: _____ DO: _____ Temperature: _____

I certify that this sample was collected and handled in accordance with applicable regulatory and project protocols.
Signature: _____ Date: 4/8/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: [illegible] & Cam
Purge/Sample Depth: ~24
Project Number:
Well ID: MW-7D
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
812	5.92	10.34	12	0.376	9.31	141			
815	5.84	10.50	41	0.355	0.00	142			
818	5.69	11.17	58	0.357	0.00	258	4.45		
821	5.68	11.33	61	0.358	0.00	277		200	
824	5.68	11.43	63	0.358	0.00	221			
827	5.71	11.53	65	0.359	0.00	179			
830	5.71	11.65	66	0.359	0.00	161			
833	5.72	11.73	68	0.360	0.00	149		200	
836	5.70	11.109	71	0.362	0.00	124			
839	5.69	11.75	74	0.361	0.00	84.7			
842	5.69	11.82	76	0.359	0.00	73.9			
			Sampled @ 845						

9/8/11

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

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

Project: Patchogue
Personnel: MD CGM

Date: 4/8/11 Time: 7:29
Weather: Sunny Air Temp.: 40°

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: 4.56 ft Bottom of Well: 12 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: NA To be purged: NA

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: 100 mL/min Elapsed Time: 30 min Volume Pumped: 1 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
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: 6.32 Meter Model: _____ Meter S/N: _____
Temperature: 9.50 Spec. Cond.: 0.743 Meter Model: Horiba Meter S/N: U-22
ORP: -57 DO: 0.00 Turbidity: 111
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: 4/8/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Pastelogue Project Number: ______
Personnel: WT CM Well ID: MW-7S
Purge/Sample Depth: ~10 Sample ID: ______

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
7 29	5.47	7.80	146	0.770	11.00	826		200	
7 32	5.63	8.01	133	0.777	9.50	813			
7 35	6.01	8.11	93	0.775	7.31	891	4.59		
7 38	6.11	8.25	14	0.774	5.66	932			emptied tb [illegible]
7 41	6.24	8.07	-22	0.748	0.00	219		100	
7 44	6.27	8.15	-29	0.757	0.00	217			
7 47	6.30	8.17	-39	0.757	0.00	200	4.60		
7 50	6.33	8.30	-49	0.750	0.00	175			
7 53	6.35	8.39	-52	0.748	0.00	151		100	
7 56	6.36	8.44	-55	0.745	0.00	132			
7 59	6.37	8.50	-57	0.743	0.00	101			

Sampled @ 8:00

4/8/11

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-95
Sample I.D.: (if different from well no.)

Project: Patchogue
Personnel: [illegible]
Date: 4/7/11 Time: 1629
Weather: Clear Air Temp.: 30°

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: 1.54 ft Bottom of Well: 10 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: NA To be purged: NA

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 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
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: 5.97 Meter Model: Horiba Meter S/N: ______
Temperature: 12.1 Spec. Cond.: 0.087 Meter Model: Horiba Meter S/N: U-22
ORP: -97 DO: 0.00 Turbidity: 98.7
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: [signature] Date: 4/7/11

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BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: MT, CM
Purge/Sample Depth: ~9
Project Number: _____
Well ID: _____
Sample ID: MW-9S

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1629	5.32	11.95	-7	0.732	0.06	-5.0			
1632	5.57	11.98	-11	0.708	0.00	-5.0		200	
1635	5.68	12.10	-44	0.649	0.00	-5.0	1.58		
1638	5.73	12.05	-53	0.656	0.00	-5.0			emptied well
1641	5.67	11.23	-58	0.579	0.00	710			
1644	5.71	11.41	-61	0.581	0.00	603	1.59		
1647	5.78	11.62	-69	0.590	0.00	333		200	
1650	5.83	11.87	-73	0.631	0.00	251			
1653	5.87	11.93	-89	0.682	0.00	130			
1656	5.90	12.05	-94	0.687	0.00	113			
1659	5.92	12.11	-97	0.697	0.00	98.7			
					Sampled @		1700		

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

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

Project: Paterson
Personnel: MT CON

Date: 4/7/11 Time: 1546
Weather: Sun Air Temp.: 30°

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: _____ ft Bottom of Well: 25 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: NA To be purged: NA

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 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
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: 4.97 Meter Model: H Meter S/N: 6-22
Temperature: 14.61 Spec. Cond.: 0.396 Meter Model: Horiba Meter S/N: _____
ORP: 113 DO: 0.00 Turbidity: 95
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: 4/7/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: [illegible] Com
Purge/Sample Depth: ~22

Project Number:
Well ID: MW-9D
Sample ID:

Actual Time	pH	Temp (ºC)	ORP (mV)	Cond (~S/L)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1546	4.64	13.72	143	0.355	0.55	179			
1549	4.64	13.81	142	0.395	0.61	181		200	
1552	4.65	13.95	141	0.394	0.74	203	1.64		
1555	4.71	14.09	135	0.399	0.63	301			
1558	4.75	14.41	124	0.400	0.51	444			
1601	4.73	14.57	119	0.399	0.00	393			
1604	4.72	14.56	116	0.398	0.00	341			
1607	4.74	14.73	114	0.396	0.00	231	1.66	200	
1610	4.75	14.74	112	0.396	0.00	198			
1613	4.77	14.75	113	0.396	0.00	101			
1616	4.77	14.61	113	0.396	0.00	95			

Sampled @ 1620

[illegible] 9/7/11

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

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

Project: Patchogue GW Sampling
Personnel: COM/NL

Date: 4/7/11 Time: 14:38
Weather: Cloudy Air Temp.: 40s

WELL DATA:

Casing Diameter: 2" ☐ Stainless Steel ☐ Steel ☑ PVC ☐ Teflon® ☐ Other: ____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☑ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 2.51 ft Bottom of Well: 10 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: NA To be purged: NA

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 Elapsed Time: 30 min Volume Pumped: ~3 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: NA
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: 12.11 Spec. Cond.: 0.522 Meter Model: Horiba U-22 Meter S/N: ____
ORP: 17. DO: 0.00 Turbidity: 4.0
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: 4/7/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue GW Sampling
Project Number: 138813
Personnel: CJM | NLL
Well ID: MW-3
Purge/Sample Depth: 9' BGS
Sample ID: MW-3

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
14:46	5.44	11.76	9	0.505	1.37	34.2	2.62	250mL/m	—
14:51	5.13	11.70	17	0.510	0.00	35.7	—	—	—
14:54	5.14	11.70	18	0.510	0.00	28.5	—	—	—
14:57	5.14	11.78	19	0.509	0.00	24.3	2.62	300mL/m	—
15:00	5.10	11.93	20	0.518	0.00	9.7	—	—	—
15:03	5.18	11.94	19	0.518	0.00	5.9	—	—	—
15:06	5.23	11.99	18	0.520	0.00	39.0	—	—	—
15:09	5.26	12.03	19	0.521	0.00	21.3	—	—	—
15:12	5.29	12.07	18	0.522	0.00	11.6	—	270mL	—
15:15	5.30	12.09	18	0.522	0.00	4.10	2.64	—	—
15:18	5.31	12.11	17	0.522	0.00	4.0	—	—	—
				Sampled @			15:25		

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-25
Sample I.D.: MW-25 (if different from well no.)

Project: Patchogue GW Sampling
Personnel: CAM/NLL

Date: 4/8/11 Time: 9:48
Weather: Pt Cloudy Air Temp.: 40s

WELL DATA:

Casing Diameter: 2" ☐ Stainless Steel ☐ Steel ☐ PVC ☐ Teflon® ☐ Other:
Intake Diameter: 2 ☐ Stainless Steel ☐ Galv. Steel ☐ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 4.57 ft Bottom of Well: 14 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: NA To be purged: NA

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/m Elapsed Time: 30m Volume Pumped: 2.5 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: NA
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: 12.07 Spec. Cond.: 0.556 Meter Model: Horiba U-22 Meter S/N: -
ORP: 152 DO: 0.00 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: 4/8/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue GW Sampling
Personnel: CM/NL
Purge/Sample Depth: 11'BGS

Project Number: 138893
Well ID: MW-25
Sample ID: MW-25

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
9:48	5.17	12.19	164	0.608	2.83	0.0	4.57	200mL/m	—
9:51	5.18	12.54	160	0.600	0.86	0.0	—	—	—
9:54	5.17	12.59	159	0.593	0.74	0.0	—	—	—
9:57	5.22	12.69	154	0.566	0.00	0.0	4.71	—	—
10:00	5.24	12.68	154	0.564	0.00	0.0	—	—	—
10:03	5.25	12.67	153	0.559	0.00	0.0	—	—	—
10:06	5.26	12.74	152	0.558	0.00	0.0	—	200mL/m	—
10:09	5.27	12.80	152	0.558	0.00	0.0	—	—	—
10:12	5.30	12.82	152	0.555	0.00	0.0	—	—	—
10:15	5.30	12.86	153	0.557	0.00	0.0	4.75	—	—
10:18	5.31	12.87	152	0.556	0.00	0.0	—	—	—
10:20	Sample		MW-25		Collected				

CM 4/18/11

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: Patchogue
Personnel: MS GM

Date: 4/7/11 Time: 1044
Weather: Cloudy Air Temp.: 40°

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: 0.99 ft Bottom of Well: 10 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: NA To be purged: NA

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 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
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: 5.28 Meter Model: _____ Meter S/N: _____
Temperature: 11.65 Spec. Cond.: 0.612 Meter Model: Horiba Meter S/N: U-22
ORP: -12 DO: 4.10 Turbidity: 90
DUP : ☐ No ☑ Yes Name: DUP040711
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: 4/7/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Project Number:
Personnel: [illegible]
Well ID: MW-8S
Purge/Sample Depth: ~6
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1044	4.95	11.31	136	0.606	9.60	197			
1047	4.98	11.28	124	0.606	9.33	167		200	
1050	5.00	11.26	83	0.601	8.37	128			
1053	5.01	11.29	58	0.604	7.69	128	1.21		
1056	5.08	11.35	41	0.605	6.92	142			
1059	5.11	11.43	20	0.606	6.50	150			
1102	5.16	11.53	10	0.604	6.00	132		200	
1105	5.21	11.60	-1	0.606	5.00	119	1.22		
1108	5.21	11.62	-4	0.611	4.77	106			
1111	5.24	11.65	-7	0.614	4.42	98			
1114	5.28	11.65	-12	0.612	4.10	90			

Sampled @ 1115
DUP 040711 taken here

[illegible] 4/7/11

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: Parsippany
Personnel: MH + CM

Date: 4/7/11 Time: 1132
Weather: Cloud Air Temp.: 40°

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: 0.89 ft Bottom of Well: 25 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: NA To be purged: NA

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 gal
Was well Evacuated? ☐ Yes ☑ No Number of Well Volumes Removed: NA
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: 4.86 Meter Model: Horiba Meter S/N: U-22
Temperature: 13.86 Spec. Cond.: 0.539 Meter Model: Horiba Meter S/N: U-22
ORP: 88 DO: 0.00 Turbidity: 81.5
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: 4/7/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: [illegible]
Purge/Sample Depth: ~23

Project Number:
Well ID: MW-8D
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1132	5.45	12.12	67	0.538	2.09	280			
1135	5.23	12.60	72	0.544	0.00	340			
1138	4.99	12.99	73	0.543	0.00	290	1.18	200	
1141	4.93	13.36	75	0.547	0.00	256			
1144	4.93	13.54	77	0.547	0.00	194			
1147	4.93	13.61	79	0.547	0.00	152			
1150	4.90	13.72	82	0.545	0.00	125			
1153	4.89	13.80	83	0.543	0.00	108	1.19	200	
1156	4.86	13.82	86	0.541	0.00	97.7			
1159	4.86	13.85	87	0.540	0.00	88.3			
1202	4.86	13.86	88	0.539	0.00	81.5			

Sampled @ 1205

4/7/11

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

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

Project: Patchogue GW sampling
Personnel: COM/NIL

Date: 4/7/11 Time: 13:57
Weather: cloudy Air Temp.: 40s

WELL DATA:

Casing Diameter: 2" ☐ Stainless Steel ☐ Steel ☒ PVC ☐ Teflon® ☐ Other: _____
Intake Diameter: 2" ☐ Stainless Steel ☐ Galv. Steel ☒ PVC ☐ Teflon® ☐ Open rock
DEPTH TO : Static Water Level: 5.91 ft Bottom of Well: 16 ft
DATUM: ☐ Top of Protective Casing ☒ Top of Well Casing ☐ Other:
CONDITION: Is Well clearly labeled? ☒ Yes ☐ No Is well clean to bottom? ☒ Yes ☐ No
Is Prot. Casing/Surface Mount in Good Cond.? (not bent or corroded) ☒ Yes ☐ No
Does Weep Hole adequately drain well head? ☒ Yes ☐ No
Is Concrete Pad Intact? (not cracked or frost heaved) ☒ Yes ☐ No
Is Padlock Functional? ☒ Yes ☐ No ☐ NA Is Inner Casing Intact? ☒ Yes ☐ No
Is Inner Casing Properly Capped and Vented? ☒ Yes ☐ No
VOLUME OF WATER: Standing in well: NA To be purged: NA

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: 100ml/m Elapsed Time: 30 m Volume Pumped: 1.5 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: NA
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: 5.92 Meter Model: Horiba U-22 Meter S/N: -
Temperature: 9.97 Spec. Cond.: 1.71 Meter Model: Horiba U-22 Meter S/N: -
ORP: -57 DO: 0.00 Turbidity: 920
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: 4/7/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue GW Sampling
Project Number: 138893
Personnel: CONT/NRL
Well ID: MW-1
Purge/Sample Depth: 13'
Sample ID: MW-1

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
13:57	5.55	10.46	82	1.42	0.80	437.0	6.30	100mL/m	—
14:00	5.77	10.07	17	1.59	0.00	490.0	—	—	—
14:03	5.76	9.98	-12	1.58	0.00	270.0	—	—	—
14:06	5.69	9.93	-23	1.61	0.00	320.0	—	—	—
14:09	5.72	9.81	-37	1.68	0.00	297.0	6.32	150mL/m	—
14:12	5.74	9.83	-39	1.68	0.00	274.0	—	—	—
14:15	5.73	9.90	-42	1.69	0.00	261.0	—	—	—
14:18	5.74	9.93	-48	1.70	0.00	172.0	6.35	200mL/m	—
14:21	5.84	9.97	-53	1.70	0.00	159.0	—	—	—
14:24	5.82	9.97	-55	1.70	0.00	109.0	—	—	—
14:27	5.82	9.97	-57	1.71	0.00	92.0	—	—	—
14:30	Sample Collected								

BROWN AND CALDWELL

Allendale, NJ Office

LOW-FLOW GROUNDWATER SAMPLING FIELD DATA

Well Number: MW-4S
Sample I.D.: (if different from well no.)

Project: Patchogue
Personnel: [illegible] & Con

Date: 4/8/11 Time: 11:16
Weather: Cloudy Air Temp.: 40°

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: 5.08 ft Bottom of Well: 12 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: NA To be purged: NA

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~~ NO ☐ Other:
(Tubing)/Rope: ☐ Teflon® ☒ Polyethylene ☐ Polypropylene ☐ Other:

Pumping Rate: 200 ml/min Elapsed Time: 50 min Volume Pumped: 4 gal
Was well Evacuated? ☐ Yes ☒ No Number of Well Volumes Removed: NA
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: 6.07 Meter Model: Horiba U-22 Meter S/N:
Temperature: 11.18 Spec. Cond.: 0.349 Meter Model: Meter S/N:
ORP: 81 DO: 0.00 Turbidity: 91.3
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: 4/8/11

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue Project Number:
Personnel: [illegible] Well ID: MW-4S
Purge/Sample Depth: ~10 Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
1116	5.40	10.85	189	0.411	9.53	-5.0			
1119	5.50	10.79	183	0.419	0.00	-5.0			
1122	5.50	11.08	178	0.420	0.00	-5.0		200	emptied tubing
1125	5.57	10.88	168	0.418	5.94	888			" "
11 28	5.58	10.92	155	0.417	3.11	801			
11 31	5.61	10.98	149	0.413	0.00	737			
11 34	5.66	11.00	145	0.411	0.00	668		200	
11 37	5.70	11.39	142	0.401	8.00	688			
11 40	5.71	11.35	137	0.403	2.11	593			
11 43	5.79	11.33	130	0.401	4.36	529			
11 46	5.83	11.31	111	0.402	0.00	411			
11 49	5.94	11.29	103	0.403	0.00	330			
11 52	5.95	11.28	101	0.403	0.00	312			
11 55	5.94	11.29	100	0.402	0.00	309			
11 58	5.94	11.28	97	0.402	0.00	281			
1201	5.97	11.62	101	0.416	0.00	250			
1204	6.01	11.32	91	0.411	0.00	152			
1207	6.04	11.25	83	0.401	0.00	119			
1210	6.07	11.18	81	0.399	0.00	91.3			

Sampled @ 1215

BROWN AND CALDWELL

LOW-FLOW GROUNDWATER FIELD DATA SHEET

Project Name: Patchogue
Personnel: M + CM
Purge/Sample Depth: ~20
Project Number:
Well ID: MW-4D
Sample ID:

Actual Time	pH	Temp (°C)	ORP (mV)	Cond (mS/cm)	DO (mg/L)	Turbidity (NTU)	DTW (ft)	Pumping Rate (mL/min)	Comments
Initial	5.47	13.44	187	0.452	0.00	79.2			
1st	5.56	13.55	182	0.491	5.74	0.0			
2nd	5.50	13.90	156	0.515	4.79	0.0			
3rd	5.62	13.95	112	0.511	0.00	0.0			
Final	5.86	14.07	103	0.519	0.48	18.8			

Appendix B: Laboratory Reports (CD-ROM)

Appendix C: Data Usability Summary Report

ENVIRONMENTAL
Data Services, Inc.

DATA USABILITY SUMMARY REPORT
PATCHOGUE, NEY YORK

Client: Brown and Caldwell, Allendale, New Jersey
SDG: PCH07
Laboratory: Lancaster Laboratories, Lancaster, Pennsylvania
Site: Patchogue, New York
Date: June 7, 2011

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	MW-8S GRAB WATER	6254493	Water
2	DUP040711 GRAB WATER	6254494	Water
3	MW-8D GRAB WATER	6254495	Water
4	FB040711 GRAB WATER	6254496	Water
5	MW-1 GRAB WATER	6254497	Water
6	MW-3 GRAB WATER	6254498	Water
6MS	MW-3 GRAB WATERMS	6254499MS	Water
6MSD	MW-3 GRAB WATERMSD	6254500MSD	Water
7	MW-9D GRAB WATER	6254501	Water
8	MW-9S GRAB WATER	6254502	Water
9	MW-7S GRAB WATER	6254503	Water
10	MW-7D GRAB WATER	6254504	Water
11	MW-2D GRAB WATER	6254505	Water
12	MW-2S GRAB WATER	6254506	Water
13	MW-4S GRAB WATER	6254507	Water
14	MW-4D GRAB WATER	6254508	Water
15	TB040811 WATER	6254509	Water

A Data Usability Summary Review was performed on the analytical data for thirteen water samples, one aqueous trip blank sample, and one aqueous field blank sample collected April 7-8, 2011 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	*Method References*
VOC (BTEX)	USEPA SW-846 Method 8260B
SVOC (PAH)	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.

Organics

The following items/criteria were reviewed:

- Data Completeness
- Holding times and sample preservation
- Surrogate Spike recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) recoveries
- Laboratory Control Sample/Duplicate (LCS/LCSD) 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. Data were qualified for the following deficiencies.

- Five PAH compounds were qualified as estimated in one sample due to a high surrogate recovery.

Please note that any results qualified (U) due to blank contamination may be then qualified (J) due to another action. Therefore, the results may be qualified (UJ) due to the culmination of the blank contaminations and actions from other exceedences of QC criteria.

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)

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 samples 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
FB040711	None- ND	-	-	-	-
TB040811	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-8S ug/L	DUP040711 ug/L	RPD	Qualifier
None	ND	ND	-	-

Polynuclear Aromatic Hydrocarbons (PAH)

Holding Times

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

Surrogate Spike Recoveries

- The following table presents surrogate percent recoveries (%R) outside the QC limits. A low %R may indicate a potential low bias while a high %R may indicate a potential high bias. For a low %R, positive results are considered estimated and qualified (J) while non-detects are estimated and qualified (UJ). For a high %R, positive results are considered estimated and qualified (J).

Sample ID	Surrogate	%R	Qualifier
14	Nitrobenzene-d5	116%	J

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

- The MS/MSD samples 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
FB040711	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.

PAH				
Compound	MW-8S ug/L	DUP040711 ug/L	RPD	Qualifier
None	ND	ND	-	-

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

Signed: Nancy Weaver Dated: 6/8/11

Nancy Weaver
Senior Chemist

Data Qualifiers

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

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

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

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

Analysis Report

Lancaster Laboratories

Sample Description: MW-8S Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254493
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 11:15 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

8S--- SDG#: PCH07-01

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111034AA	04/13/2011 23:09	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111034AA	04/13/2011 23:09	Kevin A Sposito	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 09:22	Brian K Graham	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 8811

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

MW 6/7/11

Analysis Report

Lancaster Laboratories

2

Sample Description: DUP040711 Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254494
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

FD407 SDG#: PCH07-02FD

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111034AA	04/13/2011 23:37	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111034AA	04/13/2011 23:37	Kevin A Sposito	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 09:47	Brian K Graham	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0812

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Lancaster, PA 17605-2425
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NW
6/7/11

Analysis Report

Lancaster Laboratories

3

Sample Description: MW-8D Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254495
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 12:05 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

8D--- SDG#: PCH07-03

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111034AA	04/14/2011 00:04	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111034AA	04/14/2011 00:04	Kevin A Sposito	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 10:12	Brian K Graham	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0813

Lancaster Laboratories, Inc.
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Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

NW 6/7/11

Analysis Report

Lancaster Laboratories

4

Sample Description: FB040711 Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254496
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 14:10 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

FB407 SDG#: PCH07-04FB

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111034AA	04/14/2011 00:32	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111034AA	04/14/2011 00:32	Kevin A Sposito	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 10:36	Brian K Graham	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0814

MW
6/7/11

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Lancaster, PA 17605-2425
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Analysis Report

Lancaster Laboratories

5

Sample Description: MW-1 Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254497
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 14:30 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---1- SDG#: PCH07-05

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111052AA	04/15/2011 12:17	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 12:17	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 11:22	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0015

Lancaster Laboratories, Inc.
2425 New Holland Pike
PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

MW 6/7/11

Analysis Report

Lancaster Laboratories

6

Sample Description: MW-3 Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254498
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 15:25 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---3- SDG#: PCH07-06BKG

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	**4**	**J**	1	1
07805	**Acenaphthylene**	208-96-8	**1**	**J**	1	1
07805	Anthracene	120-12-7	N.D.		1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.		1	1
07805	Chrysene	218-01-9	N.D.		1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.		1	1
07805	Fluoranthene	206-44-0	N.D.		1	1
07805	Fluorene	86-73-7	N.D.		1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		1	1
07805	Naphthalene	91-20-3	N.D.		1	1
07805	Phenanthrene	85-01-8	N.D.		1	1
07805	**Pyrene**	129-00-0	**1**	**J**	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	P111034AA	04/14/2011 01:27	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111034AA	04/14/2011 01:27	Kevin A Sposito	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 08:07	Brian K Graham	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 8816

Lancaster Laboratories, Inc.
2425 New Holland Pike
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717-656-2300 Fax: 717-656-2681

MW 6/7/11

Analysis Report

Lancaster Laboratories

7

Sample Description: MW-9D Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254501
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 16:20 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---9D SDG#: PCH07-07

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111034AA	04/14/2011 02:51	Kevin A Sposito	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111034AA	04/14/2011 02:51	Kevin A Sposito	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 11:46	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 8819

6/7/11

Lancaster Laboratories, Inc.
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717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

8

Sample Description: MW-9S Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254502
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/07/2011 17:00 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---9S SDG#: PCH07-08

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	**4**	**J**	1	1
07805	**Acenaphthylene**	208-96-8	**3**	**J**	1	1
07805	Anthracene	120-12-7	N.D.		1	1
07805	Benzo(a)anthracene	56-55-3	N.D.		1	1
07805	Benzo(a)pyrene	50-32-8	N.D.		1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.		1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.		1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.		1	1
07805	Chrysene	218-01-9	N.D.		1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.		1	1
07805	Fluoranthene	206-44-0	N.D.		1	1
07805	**Fluorene**	86-73-7	**2**	**J**	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.		1	1
07805	Naphthalene	91-20-3	N.D.		1	1
07805	Phenanthrene	85-01-8	N.D.		1	1
07805	Pyrene	129-00-0	N.D.		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	P111052AA	04/15/2011 12:45	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 12:45	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 12:11	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 8020

lw 6/7/11

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Analysis Report

Lancaster Laboratories

9

Sample Description: MW-7S Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254503
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/08/2011 08:00 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---7S SDG#: PCH07-09

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111052AA	04/15/2011 13:13	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 13:13	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 12:36	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH87 8821

6/7/11

Lancaster Laboratories, Inc.
2425 New Holland Pike
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Analysis Report

Lancaster Laboratories

10

Sample Description: MW-7D Grab Water
COC# 259281
Patchogue, NY

LLI Sample # WW 6254504
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/08/2011 08:45 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---7D SDG#: PCH07-10

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111052AA	04/15/2011 13:40	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 13:40	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 13:01	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0022

LW
6/7/11

Lancaster Laboratories, Inc.
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Analysis Report

Lancaster Laboratories

11

Sample Description: MW-2D Grab Water
COC# 259282
Patchogue, NY

LLI Sample # WW 6254505
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/08/2011 09:40 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---2D SDG#: PCH07-11

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111052AA	04/15/2011 14:08	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 14:08	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 13:26	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0823

6/7/11

Lancaster Laboratories, Inc.
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Analysis Report

Lancaster Laboratories

12

Sample Description: MW-2S Grab Water
COC# 259282
Patchogue, NY

LLI Sample # WW 6254506
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/08/2011 10:20 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---2S SDG#: PCH07-12

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.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111052AA	04/15/2011 14:36	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 14:36	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 13:51	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0024

MW 6/7/11

Lancaster Laboratories, Inc.
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Analysis Report

Lancaster Laboratories

13

Sample Description: MW-4S Grab Water
COC# 259282
Patchogue, NY

LLI Sample # WW 6254507
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/08/2011 12:15 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---4S SDG#: PCH07-13

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	N.D.	1	1
07805	Acenaphthylene	208-96-8	N.D.	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	Fluorene	86-73-7	N.D.	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	Naphthalene	91-20-3	N.D.	1	1
07805	Phenanthrene	85-01-8	N.D.	1	1
07805	Pyrene	129-00-0	N.D.	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	P111052AA	04/15/2011 15:04	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 15:04	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 14:15	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 0825

MW 6/7/11

Lancaster Laboratories, Inc.
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PO Box 12425
Lancaster, PA 17605-2425
717-656-2300 Fax: 717-656-2681

Analysis Report

Lancaster Laboratories

14

Sample Description: MW-4D Grab Water
COC# 259282
Patchogue, NY

LLI Sample # WW 6254508
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/08/2011 12:00 by CJM

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---4D SDG#: PCH07-14

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	1 J	1	1
07805	**Acenaphthylene**	208-96-8	9 J	1	1
07805	Anthracene	120-12-7	N.D.	1	1
07805	Benzo(a)anthracene	56-55-3	N.D.	1	1
07805	Benzo(a)pyrene	50-32-8	N.D.	1	1
07805	Benzo(b)fluoranthene	205-99-2	N.D.	1	1
07805	Benzo(g,h,i)perylene	191-24-2	N.D.	1	1
07805	Benzo(k)fluoranthene	207-08-9	N.D.	1	1
07805	Chrysene	218-01-9	N.D.	1	1
07805	Dibenz(a,h)anthracene	53-70-3	N.D.	1	1
07805	Fluoranthene	206-44-0	N.D.	1	1
07805	**Fluorene**	86-73-7	4 J	1	1
07805	Indeno(1,2,3-cd)pyrene	193-39-5	N.D.	1	1
07805	**Naphthalene**	91-20-3	1 J	1	1
07805	**Phenanthrene**	85-01-8	5 J	1	1
07805	Pyrene	129-00-0	N.D.	1	1

Surrogate recoveries are outside of QC limits for the initial GC/MS semivolatile analysis. The analysis was repeated outside of the required hold time and the surrogate recoveries are within the limits. The data reported is from the initial extraction of the sample.

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	P111052AA	04/15/2011 15:32	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 15:32	Emily R Styer	1
07805	PAHs in Water by GC/MS	SW-846 8270C	1	11103WAL026	04/15/2011 14:40	Chad A Moline	1
07807	BNA Water Extraction	SW-846 3510C	1	11103WAL026	04/14/2011 08:00	Kerrie A Freeburn	1

PCH07 8826

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DW
6/7/11

Analysis Report

Lancaster Laboratories

15

Sample Description: TB040811 Water
COC# 259282
Patchogue, NY

LLI Sample # WW 6254509
LLI Group # 1241414
Account # 09286

Project Name: Patchogue, NY

Collected: 04/08/2011

Submitted: 04/09/2011 09:30
Reported: 04/21/2011 09:52

Brown & Caldwell
110 Commerce Drive
Allendale NJ 07401

---TB SDG#: PCH07-15TB*

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	P111052AA	04/15/2011 15:59	Emily R Styer	1
01163	GC/MS VOA Water Prep	SW-846 5030B	1	P111052AA	04/15/2011 15:59	Emily R Styer	1

PCH07 0027

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MW 6/7/11

Appendix D: Electronic Data Deliverable (CD-ROM)