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ANALYTICAL DATA ASSESSMENT AND VALIDATION
HOOKER-RUCO BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HICKSVILLE, NEW YORK
APRIL 2011

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TABLE OF CONTENTS

Page

1.0 INTRODUCTION 1

2.0 SAMPLE HOLDING TIMES 1

3.0 INSTRUMENT CALIBRATION 2
- 3.1 GC/MS CALIBRATION – VOCS 2
- 3.1.1 TUNING AND MASS CALIBRATION 2
- 3.1.2 INITIAL CALIBRATION 2
- 3.1.3 CONTINUING CALIBRATION 2
- 3.2 INSTRUMENTAL CALIBRATION – GENERAL CHEMISTRY 3
- 3.2.1 INITIAL CALIBRATION 3
- 3.2.2 CONTINUING CALIBRATION 3

4.0 SURROGATE COMPOUND ANALYSES - VOCS 4

5.0 INTERNAL STANDARD (IS) RECOVERIES - VOCS 4

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES VOCS 4

7.0 MATRIX SPIKE (MS) AND DUPLICATE ANALYSES - GENERAL CHEMISTRY 5

8.0 LABORATORY CONTROL SAMPLE (LCS) ANALYSES 5

9.0 METHOD BLANK ANALYSES 6

10.0 TENTATIVELY IDENTIFIED COMPOUNDS (TICS) – GROUNDWATER 6

11.0 FIELD QA/QC SAMPLES 6

12.0 CONCLUSION 7

LIST OF TABLES
(Following Text)

TABLE 1	SAMPLING AND ANALYSIS SUMMARY
TABLE 2A	ANALYTICAL RESULTS SUMMARY – SOIL VAPOR
TABLE 2B	ANALYTICAL RESULTS SUMMARY – GROUNDWATER
TABLE 3	QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS
TABLE 4	QUALIFIED SAMPLE RESULTS DUE TO OUTLYING SURROGATE RECOVERIES
TABLE 5	QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
TABLE 6	QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
TABLE 7	QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
TABLE 8	TENTATIVELY IDENTIFIED COMPOUNDS (TICS) - GROUNDWATER
TABLE 9	QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANK

1.0 INTRODUCTION

Groundwater and soil vapor samples were collected at the former Hooker Ruco Site in Hicksville, New York (Site), in support of the biosparge system performance monitoring program. Analytical services were performed by Mitkem Laboratories, in Warwick, Rhode Island (Mitkem). A summary of the sampling and analysis scheme is presented in Table 1.

A summary of the analytical data is presented in Tables 2A and 2B. The groundwater samples were analyzed for volatile organic compounds (VOCs), total organic carbon (TOC), nitrite, nitrate, phosphorus, and ammonia. The soil vapor samples were analyzed for VOCs and methane.

The quality assurance/quality control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods. Additional validation guidelines were referenced from the following documents:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-94-012, February 1994

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

Full raw data deliverables were provided by the laboratory. The data quality assessment and validation presented in the following subsections were performed based on the sample results and supporting QA/QC provided.

2.0 SAMPLE HOLDING TIMES

The method-specific holding time criteria are summarized in Table 5.1 of the Quality Assurance Project Plan (QAPP). All sample extractions and/or analyses were performed within the specified holding times.

All samples were properly preserved and cooled to 4°C (±2°C) after collection. All samples were received by the laboratory in good condition.

3.0 INSTRUMENT CALIBRATION

3.1 GC/MS CALIBRATION – VOCs

3.1.1 TUNING AND MASS CALIBRATION

Prior to analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, the VOC method requires the analysis of the specific tuning compounds BFB. The resulting spectra must meet the criteria cited in the method before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Instrument tuning data were reviewed. Tuning compounds were analyzed at the required frequency throughout the VOC analysis period. All tuning criteria were met for the analyses, indicating proper optimization of the instrumentation.

3.1.2 INITIAL CALIBRATION

To quantify compounds of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

i) All relative response factors (RRFs) must be greater than or equal to 0.05.

ii) When average response factors are employed, percent relative standard deviation (%RSD) values must not exceed 30 percent.

The initial calibration data for VOCs were reviewed and met the above criteria for linearity and sensitivity for all compounds of interest.

3.1.3 CONTINUING CALIBRATION

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

i) All RRF values must be greater than or equal to 0.05.

ii) Percent difference (%D) values must not exceed 25 percent.

Calibration standards were analyzed at the required frequency and the results met the above criteria for instrument sensitivity and linearity of response with the exception of various VOCs. Associated sample results have been qualified as estimated (see Table 3).

3.2 INSTRUMENTAL CALIBRATION – GENERAL CHEMISTRY

3.2.1 INITIAL CALIBRATION

Initial calibration of the instruments ensures that they are capable of producing satisfactory quantitative data at the beginning of a series of analyses. For general chemistry, calibration is performed based on the analysis of at least three standards and a blank. Resulting correlation coefficients for curves must be at least 0.995.

After calibration, an initial calibration verification (ICV) standard must be analyzed to verify the analytical accuracy of the calibration curves. All analyte recoveries from the analyses of the ICVs must be within control limits of 85 to 115 percent.

Upon review of the data, it was determined that all inorganic calibration curves and ICVs were analyzed at the proper frequencies and that all of the above-specified criteria were met. The laboratory effectively demonstrated that instrumentation used for these analyses were properly calibrated prior to sample analyses.

3.2.2 CONTINUING CALIBRATION

To ensure that instrument calibration is acceptable throughout the sample analysis period, continuing calibration verification (CCV) standards are analyzed on a regular basis. Each CCV is deemed acceptable if all analyte recoveries are within the control limits specified above for the ICVs. If some of the CCV analyte recoveries are outside the control limits, samples analyzed before and after the CCV, up until the previous and proceeding CCV analyses, are affected.

For this study, CCVs were analyzed at the proper frequency. All analyte recoveries reported for the CCVs were within the specified limits.

4.0 SURROGATE COMPOUND ANALYSES - VOCs

In accordance with the methods employed, all samples, blanks, and standards analyzed for VOCs are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of individual sample matrices on analytical efficiency and are assessed against method control limits.

Surrogates were added to all samples, blanks, and QC samples prior to analysis. Surrogate recoveries met the acceptance criteria for all samples demonstrating acceptable analytical accuracy in this sample matrix with the exception of some high VOC recoveries. Associated positive sample results have been qualified as estimated to reflect the implied high bias (see Table 4).

5.0 INTERNAL STANDARD (IS) RECOVERIES - VOCs

To ensure that changes in GC/MS response and sensitivity do not affect sample analysis results, IS compounds are added to all samples, blanks, and spike samples prior to VOC analysis. All results are calculated as a ratio of the IS response. The criteria by which the IS results are assessed are as follows:

i) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard.

ii) The retention time of the IS must not vary more than ±30 seconds from the associated calibration standard.

The sample IS recoveries met the above criteria and were used to calculate all positive sample results.

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) ANALYSES VOCs

To evaluate the effects of sample matrices on the measurement procedures, and accuracy of a particular analysis, samples are spiked in duplicate with a known concentration of the analytes of concern and analyzed as MS/MSD samples. Spike recoveries are not assessed for samples having original concentrations significantly greater than the spike concentration (>four times).

Analytical precision is evaluated based on the relative percent difference (RPD) between the MS and MSD.

MS/MSDs were performed at the required frequency for VOCs. The results showed acceptable accuracy and precision on this sample matrix with the exception of trichloroethene which showed some variability in recovery (see Table 5).

7.0 MATRIX SPIKE (MS) AND DUPLICATE ANALYSES - GENERAL CHEMISTRY

To evaluate the effects of sample matrices on the measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS samples. The established control limits for inorganic matrix spike recoveries are 75 to 125 percent. Spike recoveries are not assessed for samples having original concentrations significantly greater than the spike concentration (>four times).

Analytical precision is evaluated based on the analysis of duplicate samples. Laboratory duplicate results are assessed against a maximum RPD of 20 percent.

MS and duplicate analyses were performed at the required frequency for all general chemistry parameters. The results showed acceptable accuracy and precision on this sample matrix with the exception of ammonia (see Table 5).

8.0 LABORATORY CONTROL SAMPLE (LCS) ANALYSES

The LCS serves as a monitor of the overall performance of all steps in the analysis, including the sample preparation. LCSs are analyzed using the same sample preparation, analytical methods, and QA/QC procedures employed for the investigative samples.

LCSs were prepared and analyzed for all general chemistry and VOC parameters. All LCS results were within acceptable limits showing good overall analytical accuracy with the exception of a low recovery for 1,1-dichloroethene. Associated sample results have been qualified as estimated to reflect the implied low bias (see Table 6).

9.0 METHOD BLANK ANALYSES

Method blanks are prepared from deionized water and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the procedures. Additionally, continuing calibration blanks (CCBs) are routinely analyzed after each CCV for the inorganic parameters.

For this study, method blanks were analyzed at a minimum frequency of one per analytical batch and CCBs were analyzed for inorganic parameters after each CCV. The data were non-detect for the analytes of interest with the exception of a low concentration of tetrachloroethene. Associated sample results with concentrations similar to that found in the method blank were qualified as non-detect (see Table 7). Sample results that were either non-detect or significantly greater than the concentration found in the blank were not impacted and no qualification of the data was necessary.

10.0 TENTATIVELY IDENTIFIED COMPOUNDS (TICs) – GROUNDWATER

Chromatographic peaks for VOC analyses, which are not target compounds, surrogates, or internal standards, are potential TICs. The ten largest TICs for the VOC analysis with areas greater than 10 percent of the area of the nearest IS are tentatively identified and quantitated.

A summary of the groundwater TICs reported is presented in Table 8. TICs, which were present in laboratory blanks or were identified as aldol condensation products, were disregarded and are not included on the table.

11.0 FIELD QA/QC SAMPLES

The field QA/QC consisted of three trip blanks, five rinse blanks, and two field duplicate sample sets.

The trip blanks and rinse blank were non-detect for the compounds of interest with the exception of a low level of phosphorous in the rinse blanks. Associated sample results with concentrations similar to that found in the rinse blank were qualified as non-detect (see Table 9). Sample results that were either non-detect or significantly greater than the concentration found in the blank would not have been impacted.

The field duplicate samples were collected as summarized in Table 1 and submitted "blind" to the laboratory for analysis. All sample results outside estimated ranges of detection showed acceptable sampling and analytical precision.

12.0 CONCLUSION

Based on the preceding assessment, the data summarized in Tables 2A and 2B are acceptable with the specific qualifications noted herein.

TABLES

TABLE 1

SAMPLING AND ANALYSIS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

				Analysis/Parameters					
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs + TICs*	*NO2, NO3, NH3*	*TOC, Phosphorous*	*Methane*	*TO-15*	*Comments*
GW4511RA001	Field blank (PDB's)	04/05/11	9:50:00 AM	X	X	X			Field Blank
GW4711VW002	MW-83D1	04/07/11	9:45:00 AM	X	X	X			MS/MSD
GW4711VW004	MW-83D2	04/07/11	10:35:00 AM	X	X	X			
GW4711VW005	MW-81D2	04/07/11	12:10:00 PM	X	X	X			
GW4711VW006	MW-81D1	04/07/11	1:15:00 PM	X	X	X			
GW4711VW007	MW-61D2	04/07/11	2:20:00 PM	X	X	X			
GW4711VW008	MW-61D2	04/07/11	2:20:00 PM	X	X	X			Field duplicate of sample MW-61D2
GW4711VW009	Field Blank	04/07/11	2:30:00 PM	X	X	X			Field Blank
GW4811VW010	MW-76i	04/08/11	10:20:00 AM	X	X	X			
GW4811VW011	MW-76s	04/08/11	11:35:00 AM	X	X	X			
GW4811VW012	MW-76D2	04/08/11	1:20:00 PM	X	X	X			
GW4811VW013	Field Blank	04/08/11	1:45:00 PM	X	X	X			Field Blank
GW41111VW014	MW-76D1	04/11/11	11:00:00 AM	X	X	X			
GW41111VW015	MW-70D1	04/11/11	12:45:00 PM	X	X	X			
GW41111VW016	MW-70D2	04/11/11	1:50:00 PM	X	X	X			
GW41211VW017	MW-72D1	04/12/11	10:25:00 AM	X	X	X			
GW41211VW018	MW-92D1	04/12/11	1:55:00 PM	X	X	X			
GW41311VW019	MW-72D2	04/13/11	12:30:00 PM	X	X	X			
GW41311VW020	MW-90D1	04/13/11	2:20:00 PM	X	X	X			
GW41411VW021	MW-77D2	04/14/11	11:15:00 AM	X	X	X			
GW41411VW022	MW-77D1	04/14/11	12:15:00 PM	X	X	X			
GW41411VW023	MW-90D2	04/14/11	2:15:00 PM	X	X	X			
GW41511VW024	MW-88D1	04/15/11	9:35:00 AM	X	X	X			

TABLE 1

SAMPLING AND ANALYSIS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

				Analysis/Parameters					
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs + TICs*	*NO2, NO3, NH3*	*TOC, Phosphorous*	*Methane*	*TO-15*	*Comments*
GW41511VW025	MW-84D2	04/15/11	10:10:00 AM	X	X	X			
GW41811VW026	MW-86D1	04/18/11	10:20:00 AM	X	X	X			
GW41811VW027	MW-86D2	04/18/11	11:55:00 AM	X	X	X			
GW41811VW028	MW-87D2	04/18/11	2:30:00 PM	X	X	X			
GW41911VW029	MW-87D1	04/19/11	10:15:00 AM	X	X	X			
GW41911VW030	MW-61i	04/19/11	12:50:00 PM	X	X	X			
GW41911VW031	MW-61D1	04/19/11	10:40:00 AM	X	X	X			
GW41911VW032	MW-88D2	04/19/11	12:30:00 PM	X	X	X			
GW41911RA033	MW-87D1 pdb	04/19/11	8:40:00 AM	X	X	X			
GW41911RA034	MW-61i pdb	04/19/11	9:30:00 AM	X	X	X			
GW41911RA035	MW-61D1 pdb	04/19/11	9:50:00 AM	X	X	X			
GW41911RA036	MW-88D2 pdb	04/19/11	10:40:00 AM	X	X	X			
GW41911RA037	MW-88D2 pdb	04/19/11	10:40:00 AM	X	X	X			Field duplicate of sample MW-88D2 pdb
GW41911VW038	Field Blank	04/19/11	1:00:00 PM	X	X	X			Field Blank
GW42011VW039	MW-85s	04/19/11	9:30:00 AM	X	X	X			
GW42011VW040	MW-85i	04/20/11	11:25:00 AM	X	X	X			MS/MSD
GW42011VW042	MW-85D2	04/20/11	1:00:00 PM	X	X	X			
GW42011VW043	MW-85D1	04/20/11	1:45:00 PM	X	X	X			
GW42011VW044	MW-85D1	04/20/11	1:45:00 PM	X	X	X			Field duplicate of sample MW-85D1
GW42111VW045	MW-89D2	04/21/11	11:45:00 AM	X	X	X			
GW42111VW046	MW-89D1	04/21/11	12:45:00 PM	X	X	X			
GW42511MY047	MW-73D1	04/25/11	10:15:00 AM	X	X	X			
GW42511MY048	MW-73D2	04/25/11	10:50:00 AM	X	X	X			

TABLE 1

SAMPLING AND ANALYSIS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

				Analysis/Parameters					
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs + TICs*	*NO2, NO3, NH3*	*TOC, Phosphorous*	*Methane*	*TO-15*	*Comments*
GW42511MY049	MW-92D2	04/25/11	1:50:00 PM	X	X	X			
GW42611VW050	MW-93D2	04/26/11	11:10:00 AM	X	X	X			
GW42611VW051	MW-93D1	04/26/11	11:50:00 AM	X	X	X			
GW42711VW052	MW-82D2	04/27/11	10:50:00 AM	X	X	X			
GW42711VW053	MW-84D1	04/27/11	12:35:00 PM	X	X	X			
GW42711VW054	MW-84D1	04/27/11	12:35:00 PM	X	X	X			Field duplicate of sample MW-84D1
GW42711VW055	Field Blank	04/27/11	1:15:00 PM	X	X	X			Field Blank
GW51911MY057	MW-82D1	05/19/11	10:50:00 AM	X	X	X			
GW51911MY056	MW-82D1	05/19/11	10:50:00 AM	X	X	X			Field duplicate of sample MW-82D1
TB 1 4/18	-	04/18/11	-	X					Trip Blank
TB 2 4/19	-	04/19/11	-	X					Trip Blank
TB 3 4/20	-	04/20/11	-	X					Trip Blank
TB 1 4/11	-	04/11/11	-	X					Trip Blank
TB 2 4/12	-	04/12/11	-	X					Trip Blank
TB 3 4/14	-	04/14/11	-	X					Trip Blank
TB 4 4/15	-	04/15/11	-	X					Trip Blank
TB 1 4/21	-	04/21/11	-	X					Trip Blank
TB 24/25	-	04/25/11	-	X					Trip Blank
TB 3 4/26	-	04/26/11	-	X					Trip Blank
TB 4 4/27	-	04/27/11	-	X					Trip Blank
TRIP BLANK 1 4/7	-	04/07/11	-	X					Trip Blank
TRIP BLANK 2 4/8	-	04/08/11	-	X					Trip Blank
VZ421111VW001	VZ-17D	04/21/11	11:00:00 AM				X	X	

TABLE 1

SAMPLING AND ANALYSIS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

				Analysis/Parameters					
Sample ID	*Location ID*	*Collection Date (mm/dd/yy)*	*Collection Time (hr:min)*	*VOCs + TICs*	*NO2, NO3, NH3*	*TOC, Phosphorous*	*Methane*	*TO-15*	*Comments*
VZ421111VW004	VZ-12S	04/21/11	12:30:00 PM				X	X	
VZ42111VW002	VZ-17S	04/21/11	11:30:00 AM				X	X	
VZ42111VW003	VZ-12D	04/21/11	12:00:00 PM				X	X	
VZ42611VW005	VZ-5D	04/26/11	2:00:00 PM				X	X	
VZ42611VW006	VZ-5S	04/26/11	2:30:00 PM				X	X	
VZ42711VW007	VZ-6S	04/27/11	10:10:00 AM				X	X	
VZ42711VW008	VZ-16 (S)	04/27/11	10:30:00 AM				X	X	
VZ42811VW009	VZ-2D	04/28/11	7:30:00 AM				X	X	
VZ42811VW010	VZ-2S	04/28/11	8:00:00 AM				X	X	

Notes:

- Not analyzed.
MS Matrix Spike.
MSD Matrix Spike Duplicate.
NH_3 Total Ammonia.
NO_2 Nitrate.
NO_3 Nitrite.
TICs Tentatively Identified Compounds.
TOC Total Organic Carbon.
VOCs Volatile Organic Compounds.

TABLE 2A

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - SOIL VAPOR
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*VZ-16 (S)*	*VZ-2D*	*VZ-2S*	*VZ-5D*	*VZ-5S*	*VZ-6S*
	Sample ID:	*VZ42711VW008*	*VZ42811VW009*	*VZ42811VW010*	*VZ42611VW005*	*VZ42611VW006*	*VZ42711VW007*
	Sample Date:	*4/27/2011*	*4/28/2011*	*4/28/2011*	*4/26/2011*	*4/26/2011*	*4/27/2011*
Parameters	*Units*						
Volatile Organic Compounds							
1,1,1,2-Tetrachloroethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,1,1-Trichloroethane	ppbv	0.270 J	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,1,2-Trichloroethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,1-Dichloroethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,1-Dichloroethene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,2,4-Trimethylbenzene	ppbv	1.22	3.56	0.100 J	4.06 J	0.350 J	0.500 U
1,2-Dibromoethane (Ethylene dibromide)	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,2-Dichlorobenzene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,2-Dichloroethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,2-Dichloropropane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.270 J	0.500 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,3,5-Trimethylbenzene	ppbv	0.250 J	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,3-Butadiene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,3-Dichlorobenzene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,4-Dichlorobenzene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
1,4-Dioxane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
2-Butanone (Methyl ethyl ketone) (MEK)	ppbv	1.67	1.96 J	0.520	8.41 J	0.990	0.380 J
2-Hexanone	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
2-Phenylbutane (sec-Butylbenzene)	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
4-Ethyl toluene	ppbv	0.660	1.32 J	0.500 U	14.5 U	0.500 U	0.500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppbv	1.11	2.00 U	0.500 U	6.09 J	0.500 U	0.500 U
Acetone	ppbv	10.7	2.00 U	4.41	2640	7.69	1.33
Acrylonitrile	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Benzene	ppbv	3.72	2.16	0.160 J	6.67 J	0.180 J	0.120 J
Benzyl chloride	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Bromodichloromethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U

TABLE 2A

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - SOIL VAPOR
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*VZ-16 (S)*	*VZ-2D*	*VZ-2S*	*VZ-5D*	*VZ-5S*	*VZ-6S*
Sample ID:		*VZ42711VW008*	*VZ42811VW009*	*VZ42811VW010*	*VZ42611VW005*	*VZ42611VW006*	*VZ42711VW007*
Sample Date:		*4/27/2011*	*4/28/2011*	*4/28/2011*	*4/26/2011*	*4/26/2011*	*4/27/2011*
Parameters	***Units***						
Volatile Organic Compounds (Cont'd.)							
Bromoform	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Bromomethane (Methyl bromide)	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Carbon disulfide	ppbv	14.4	3.88	0.500 U	21.2	0.230 J	0.500 U
Carbon tetrachloride	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Chlorobenzene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Chloroethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Chloroform (Trichloromethane)	ppbv	1.23	2.00 U	0.500 U	14.5 U	1.50	0.480 J
Chloromethane (Methyl chloride)	ppbv	5.27	3.60	0.500 U	14.5 U	0.500 U	0.500 U
cis-1,2-Dichloroethene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
cis-1,3-Dichloropropene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Cyclohexane	ppbv	0.110 J	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Cymene (p-Isopropyltoluene)	ppbv	0.450 J	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Dibromochloromethane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Dichlorodifluoromethane (CFC-12)	ppbv	0.840	0.800 J	0.630	14.5 U	0.630	0.600
Ethanol	ppbv	16.3	4.32	2.59	48.1	2.60	2.03
Ethyl acetate	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Ethylbenzene	ppbv	3.32	3.08	0.500 U	4.35 J	0.150 J	0.500 U
Hexachlorobutadiene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Hexane	ppbv	1.24	5.12	1.99	18.6	1.39	1.47
Isopropyl alcohol	ppbv	0.650	2.00 U	0.360 J	106	0.450 J	0.500 U
Isopropyl benzene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
m&p-Xylenes	ppbv	11.4	13.3	0.500 U	21.8	0.620	0.240 J
Methyl tert butyl ether (MTBE)	ppbv	0.650	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Methylene chloride	ppbv	0.500 U	2.00 U	0.130 J	14.5 U	1.01	0.500 U
Naphthalene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
N-Butylbenzene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
N-Heptane	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
o-Xylene	ppbv	2.56	3.08	0.500 U	4.35 J	0.150 J	0.500 U

TABLE 2A

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - SOIL VAPOR
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*VZ-16 (S)*	*VZ-2D*	*VZ-2S*	*VZ-5D*	*VZ-5S*	*VZ-6S*
	Sample ID:	*VZ42711VW008*	*VZ42811VW009*	*VZ42811VW010*	*VZ42611VW005*	*VZ42611VW006*	*VZ42711VW007*
	Sample Date:	*4/27/2011*	*4/28/2011*	*4/28/2011*	*4/26/2011*	*4/26/2011*	*4/27/2011*
Parameters	*Units*						
Volatile Organic Compounds (Cont'd.)							
Propylene (propene)	ppbv	0.500 U	185	0.500 U	14.5 U	0.500 U	0.500 U
Styrene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Tetrachloroethene	ppbv	4.81	1.76 J	0.330 J	14.5 U	0.990	0.560
Tetrahydrofuran	ppbv	0.880	1.96 J	0.380 J	14.5 U	1.00	0.350 J
Toluene	ppbv	28.4	18.2	0.850	37.7	0.340 J	0.200 J
trans-1,2-Dichloroethene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Trichloroethene	ppbv	0.130 J	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
Trichlorofluoromethane (CFC-11)	ppbv	1.58	2.40	0.900	22.0	2.91	0.800
Trifluorotrichloroethane (Freon 113)	ppbv	2.30	1.00 J	0.500 U	14.5 U	0.500 U	0.500 U
Vinyl chloride	ppbv	0.500 U	2.00 U	0.500 U	14.5 U	0.500 U	0.500 U
General Chemistry							
Methane	ppmv	10.0 U	10.0 U	10.0 U	11.6 U	10.0 U	10.0 U

TABLE 2A

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - SOIL VAPOR
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*VZ-12D*	*VZ-12S*	*VZ-17D*	*VZ-17S*
Sample ID:		*VZ42111VW003*	*VZ421111VW004*	*VZ421111VW001*	*VZ42111VW002*
Sample Date:		*4/21/2011*	*4/21/2011*	*4/21/2011*	*4/21/2011*
Parameters	*Units*				
Volatile Organic Compounds					
1,1,1,2-Tetrachloroethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,1,1-Trichloroethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2,2-Tetrachloroethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,1,2-Trichloroethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,1-Dichloroethene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trichlorobenzene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,2,4-Trimethylbenzene	ppbv	0.110 J	0.500 U	0.320 J	0.190 J
1,2-Dibromoethane (Ethylene dibromide)	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorobenzene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloroethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichloropropane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,2-Dichlorotetrafluoroethane (CFC 114)	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,3,5-Trimethylbenzene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Butadiene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,3-Dichlorobenzene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dichlorobenzene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
1,4-Dioxane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
2-Butanone (Methyl ethyl ketone) (MEK)	ppbv	1.61	1.51	6.91	1.43
2-Hexanone	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
2-Phenylbutane (sec-Butylbenzene)	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
4-Ethyl toluene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ppbv	0.500 U	0.500 U	0.210 J	0.500 U
Acetone	ppbv	3.18	4.61	16.1	3.66
Acrylonitrile	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Benzene	ppbv	0.210 J	0.140 J	0.260 J	0.160 J
Benzyl chloride	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Bromodichloromethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U

TABLE 2A

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - SOIL VAPOR
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*VZ-12D*	*VZ-12S*	*VZ-17D*	*VZ-17S*
Sample ID:		*VZ42111VW003*	*VZ421111VW004*	*VZ421111VW001*	*VZ42111VW002*
Sample Date:		*4/21/2011*	*4/21/2011*	*4/21/2011*	*4/21/2011*
Parameters	***Units***				
Volatile Organic Compounds (Cont'd.)					
Bromoform	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Bromomethane (Methyl bromide)	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Carbon disulfide	ppbv	1.66	0.190 J	1.53	0.520
Carbon tetrachloride	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Chlorobenzene	ppbv	0.500 U	0.500 U	0.500 U	5.97
Chloroethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Chloroform (Trichloromethane)	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Chloromethane (Methyl chloride)	ppbv	0.560	0.500 U	0.600	0.560
cis-1,2-Dichloroethene	ppbv	0.500 U	0.200 J	0.500 U	0.500 U
cis-1,3-Dichloropropene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Cyclohexane	ppbv	0.500 U	0.500 U	0.120 J	0.150 J
Cymene (p-Isopropyltoluene)	ppbv	0.500 U	0.500 U	0.500 U	0.300 J
Dibromochloromethane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Dichlorodifluoromethane (CFC-12)	ppbv	0.930	0.970	0.930	0.690
Ethanol	ppbv	1.30	1.70	8.91	4.82
Ethyl acetate	ppbv	0.500 U	0.500 U	0.530	1.24
Ethylbenzene	ppbv	0.500 U	0.500 U	0.130 J	0.500 U
Hexachlorobutadiene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Hexane	ppbv	0.410 J	1.72	1.56	4.54
Isopropyl alcohol	ppbv	0.220 J	0.500 U	1.66	0.350 J
Isopropyl benzene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
m&p-Xylenes	ppbv	0.500 U	0.500 U	0.520	0.250 J
Methyl tert butyl ether (MTBE)	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Methylene chloride	ppbv	0.500 U	0.500 U	0.500 U	0.210 J
Naphthalene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
N-Butylbenzene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
N-Heptane	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
o-Xylene	ppbv	0.500 U	0.500 U	0.180 J	0.500 U

TABLE 2A

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - SOIL VAPOR
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*VZ-12D*	*VZ-12S*	*VZ-17D*	*VZ-17S*
	Sample ID:	*VZ42111VW003*	*VZ421111VW004*	*VZ421111VW001*	*VZ42111VW002*
	Sample Date:	*4/21/2011*	*4/21/2011*	*4/21/2011*	*4/21/2011*
Parameters	*Units*				
Volatile Organic Compounds (Cont'd.)					
Propylene (propene)	ppbv	0.500 U	1.53	0.500 U	7.33
Styrene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Tetrachloroethene	ppbv	19.4	22.0	15.8	10.3
Tetrahydrofuran	ppbv	3.90	4.11	8.53	3.17
Toluene	ppbv	0.230 J	0.500 U	0.710	0.250 J
trans-1,2-Dichloroethene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
trans-1,3-Dichloropropene	ppbv	0.500 U	0.500 U	0.500 U	0.500 U
Trichloroethene	ppbv	0.210 J	1.61	0.230 J	0.500 U
Trichlorofluoromethane (CFC-11)	ppbv	0.880	0.960	0.800	0.500
Trifluorotrichloroethane (Freon 113)	ppbv	1.78	2.11	2.44	1.13
Vinyl chloride	ppbv	0.500 U	1.53	0.370 J	0.500 U
General Chemistry					
Methane	ppmv	10.0 U	10.0 U	10.0 U	10.0 U

Notes:

J - Estimated concentration.
U - Not present at or above the associated value.

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*MW-61D1*	*MW-61D1*	*MW-61D2*	*MW-61D2*	*MW-61I*	*MW-61I*
Sample ID:		*GW41911RA035*	*GW41911VW031*	*GW4711VW007*	*GW4711VW008*	*GW41911RA034*	*GW41911VW030*
Sample Date:		*4/19/2011*	*4/19/2011*	*4/7/2011*	*4/7/2011 (Duplicate)*	*4/19/2011*	*4/19/2011*
Parameters	***Units***						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	2.2 J	10 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Acetone	µg/L	2.3 J	5.0 U	5.0 U	10 U	3.8 J	5.0 UJ
Benzene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 UJ	10 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	14	9.7 J	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*MW-61D1*	*MW-61D1*	*MW-61D2*	*MW-61D2*	*MW-61I*	*MW-61I*
	Sample ID:	*GW41911RA035*	*GW41911VW031*	*GW4711VW007*	*GW4711VW008*	*GW41911RA034*	*GW41911VW030*
	Sample Date:	*4/19/2011*	*4/19/2011*	*4/7/2011*	*4/7/2011 (Duplicate)*	*4/19/2011*	*4/19/2011*
Parameters	*Units*						
Volatile Organic Compounds (Cont'd.)							
Tetrachloroethene	µg/L	3.8 J	3.8 J	110	70	4.6 J	4.6 J
Toluene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	1.0 J	10 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
Trichloroethene	µg/L	3.0 J	3.1 J	240	240	3.8 J	4.0 J
Vinyl chloride	µg/L	5.0 U	5.0 U	18 J	10 J	5.0 U	1.2 J
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	10 U	5.0 U	5.0 U
General Chemistry							
Ammonia-N	mg/L	0.100 U	0.100 U	0.867	0.780	0.100 U	0.089 J
Nitrate (as N)	mg/L	1.11	1.11	3.31	3.37	1.11	1.08
Nitrite (as N)	mg/L	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Phosphorus	mg/L	0.17 U	0.91	0.030 U	0.030 U	0.23 U	0.14 U
Total organic carbon (TOC)	mg/L	2.4 J	10 U	10 U	10 U	10 U	10 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:	*MW-81D1*	*MW-81D2*	*MW-82D1*	*MW-82D1*	*MW-82D2*	*MW-83D1*
Sample ID:	*GW4711VW006*	*GW4711VW005*	*GW51911MY056*	*GW51911MY057*	*GW42711VW052*	*GW4711VW002*
Sample Date:	*4/7/2011*	*4/7/2011*	*5/19/2011*	*5/19/2011 (Duplicate)*	*4/27/2011*	*4/7/2011*
Parameters	***Units***					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	25 U	4.6 J	4.9 J	1.4 J	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	1.4 J
1,2-Dichloroethane	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	25 U	5.0 UJ	5.0 UJ	5.0 U	5.0 U
Acetone	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Benzene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	21	25 U	5.0 U	5.0 U	5.0 U	1.3 J
Chloroform (Trichloromethane)	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	16	44	5.9	6.8	3.3 J	11 J
cis-1,3-Dichloropropene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*MW-81D1*	*MW-81D2*	*MW-82D1*	*MW-82D1*	*MW-82D2*	*MW-83D1*
Sample ID:		*GW4711VW006*	*GW4711VW005*	*GW51911MY056*	*GW51911MY057*	*GW42711VW052*	*GW4711VW002*
Sample Date:		*4/7/2011*	*4/7/2011*	*5/19/2011*	*5/19/2011 (Duplicate)*	*4/27/2011*	*4/7/2011*
Parameters	***Units***						
Volatile Organic Compounds (Cont'd.)							
Tetrachloroethene	µg/L	20	67	33	32	90	52 J
Toluene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	73	470	48	49	58	180 J
Vinyl chloride	µg/L	190	25 U	72	76	5.0 U	30 J
Xylenes (total)	µg/L	5.0 U	25 U	5.0 U	5.0 U	5.0 U	5.0 U
General Chemistry							
Ammonia-N	mg/L	0.602	0.200 U	0.400 U	0.400 U	0.255	0.100 U
Nitrate (as N)	mg/L	0.0544	12.3	0.0100 U	0.00711 J	5.92	2.46
Nitrite (as N)	mg/L	0.00654 J	0.00857 J	0.0100 U	0.0100 U	0.210	0.0279
Phosphorus	mg/L	0.11 U	0.32	0.069	0.11	0.051 U	0.077 U
Total organic carbon (TOC)	mg/L	2.3 J	10 U	10 U	10 U	10 U	3.5 J

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*MW-83D1*	*MW-83D2*	*MW-84D1*	*MW-84D1*	*MW-84D2*	*MW-87D1*
Sample ID:		*GW4711VW003*	*GW4711VW004*	*GW42711VW053*	*GW42711VW054*	*GW41511VW025*	*GW41911RA033*
Sample Date:		*4/7/2011*	*4/7/2011*	*4/27/2011*	*4/27/2011 (Duplicate)*	*4/15/2011*	*4/19/2011*
Parameters	***Units***						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	2.2 J	5.0 U	5.0 U	5.0 U	5.0 U	2.2 J
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ	2.6 J
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	1.7 J	5.0 U	5.0 U	5.0 U	5.0 U	7.5
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.1 J
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	13 J	8.4	5.0 U	5.0 U	1.0 J	96
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*MW-83D1*	*MW-83D2*	*MW-84D1*	*MW-84D1*	*MW-84D2*	*MW-87D1*
Sample ID:		*GW4711VW003*	*GW4711VW004*	*GW42711VW053*	*GW42711VW054*	*GW41511VW025*	*GW41911RA033*
Sample Date:		*4/7/2011*	*4/7/2011*	*4/27/2011*	*4/27/2011 (Duplicate)*	*4/15/2011*	*4/19/2011*
Parameters	***Units***						
Volatile Organic Compounds (Cont'd.)							
Tetrachloroethene	µg/L	63 J	17	27	33	1.0 J	150
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	120 J	96	8.5	10	9.4	420
Vinyl chloride	µg/L	38 J	5.0 U	5.0 U	5.0 U	5.0 U	250
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
General Chemistry							
Ammonia-N	mg/L	-	0.100 U	0.100 U	0.100 U	0.702	0.471
Nitrate (as N)	mg/L	-	5.53	4.37	4.26	2.25	2.98
Nitrite (as N)	mg/L	-	0.0100 U	0.0100 U	0.0100 U	0.0256	0.0731
Phosphorus	mg/L	-	0.080 U	0.045 U	0.035 U	0.030 U	0.11 U
Total organic carbon (TOC)	mg/L	-	10 U	10 U	10 U	10 U	10 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:	*MW-87D1*	*MW-87D2*	*MW-88D1*	*MW-88D2*	*MW-88D2*	*MW-88D2*
Sample ID:	*GW41911VW029*	*GW41811VW028*	*GW41511VW024*	*GW41911RA036*	*GW41911RA037*	*GW41911VW032*
Sample Date:	*4/19/2011*	*4/18/2011*	*4/15/2011*	*4/19/2011*	*4/19/2011*	*4/19/2011*
Parameters	***Units***					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	1.1 J	1.7 J	5.0 U	1.8 J	1.7 J	1.9 J
1,1-Dichloroethene	µg/L	2.4 J	1.6 J	1.3 J	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 UJ	5.0 UJ	3.1 J	3.5 J	2.3 J
Benzene	µg/L	5.0 U	5.0 U	1.0 J	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	1.8 J	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	6.4	5.0 U	18	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	1.1 J	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	80	5.8	17	22	21	15
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*MW-87D1*	*MW-87D2*	*MW-88D1*	*MW-88D2*	*MW-88D2*	*MW-88D2*
	Sample ID:	*GW41911VW029*	*GW41811VW028*	*GW41511VW024*	*GW41911RA036*	*GW41911RA037*	*GW41911VW032*
	Sample Date:	*4/19/2011*	*4/18/2011*	*4/15/2011*	*4/19/2011*	*4/19/2011*	*4/19/2011*
Parameters	***Units***						
Volatile Organic Compounds (Cont'd.)							
Tetrachloroethene	µg/L	120	22	19	27	23	71
Toluene	µg/L	5.0 U	5.0 U	5.0 U	7.9	8.0	3.3 J
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	370	75	19	10	8.5	35
Vinyl chloride	µg/L	160	5.0 U	160	170	160	65
Xylenes (total)	µg/L	5.0 U	5.0 U	2.2 J	5.0 U	5.0 U	5.0 U
General Chemistry							
Ammonia-N	mg/L	0.673	0.100 U	0.100 U	0.413	-	0.400 U
Nitrate (as N)	mg/L	2.84	5.40	0.0100 U	0.0100 U	-	0.573
Nitrite (as N)	mg/L	0.0315	0.0100 U	0.0100 U	0.0100 U	-	0.0333
Phosphorus	mg/L	0.25 U	0.10 U	0.030 U	0.31 U	-	0.89
Total organic carbon (TOC)	mg/L	10 U	10 U	10 U	7.8 J	-	3.7 J

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:	*MW-90D1*	*MW-90D2*	*MW-70D1*	*MW-70D2*	*MW-72D1*	*MW-72D2*
Sample ID:	*GW41311VW020*	*GW41411VW023*	*GW41111VW015*	*GW41111VW016*	*GW41211VW017*	*GW41311VW019*
Sample Date:	*4/13/2011*	*4/14/2011*	*4/11/2011*	*4/11/2011*	*4/12/2011*	*4/13/2011*
Parameters	***Units***					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 UJ	5.0 UJ	5.0 U	5.0 U	5.0 UJ	5.0 UJ
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	34	5.0 U	5.0 U	7.2	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	67	5.6	1.9 J	30	5.0 U	4.6 J
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:	*MW-90D1*	*MW-90D2*	*MW-70D1*	*MW-70D2*	*MW-72D1*	*MW-72D2*
Sample ID:	*GW41311VW020*	*GW41411VW023*	*GW41111VW015*	*GW41111VW016*	*GW41211VW017*	*GW41311VW019*
Sample Date:	*4/13/2011*	*4/14/2011*	*4/11/2011*	*4/11/2011*	*4/12/2011*	*4/13/2011*
Parameters	***Units***					
Volatile Organic Compounds (Cont'd.)						
Tetrachloroethene	µg/L	29	33	13	47	13	330
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	12	51	2.0 J	56	1.9 J	5.3
Vinyl chloride	µg/L	4100	1.2 J	46	1000	21	5.0 U
Xylenes (total)	µg/L	3.5 J	5.0 U	5.0 U	5.0 U	2.3 J	5.0 U
General Chemistry						
Ammonia-N	mg/L	0.400 U	0.100 U	0.185	0.100 U	0.400 U	0.974
Nitrate (as N)	mg/L	0.0100 U	2.63	0.0100 U	0.0100 U	0.0100 U	0.747
Nitrite (as N)	mg/L	0.00835 J	0.0106	0.0100 U	0.0135	0.0100 U	0.0359
Phosphorus	mg/L	0.031	0.054	0.032	0.030	0.051	0.058
Total organic carbon (TOC)	mg/L	10 U	10 U	10 U	2.1 J	10 U	10 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:	*MW-73D1*	*MW-73D2*	*MW-76D1*	*MW-76D2*	*MW-76I*	*MW-76S*
Sample ID:	*GW42511MY047*	*GW42511MY048*	*GW41111VW014*	*GW4811VW012*	*GW4811VW010*	*GW4811VW011*
Sample Date:	*4/25/2011*	*4/25/2011*	*4/11/2011*	*4/8/2011*	*4/8/2011*	*4/8/2011*
Parameters	***Units***					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 UJ	5.0 UJ
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	1.6 J	1.4 J
Chloroethane	µg/L	5.0 U	37	1.3 J	23	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	11	1.7 J	30	140	2.1 J
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*MW-73D1*	*MW-73D2*	*MW-76D1*	*MW-76D2*	*MW-76I*	*MW-76S*
	Sample ID:	*GW42511MY047*	*GW42511MY048*	*GW41111VW014*	*GW4811VW012*	*GW4811VW010*	*GW4811VW011*
	Sample Date:	*4/25/2011*	*4/25/2011*	*4/11/2011*	*4/8/2011*	*4/8/2011*	*4/8/2011*
Parameters	***Units***						
Volatile Organic Compounds (Cont'd.)							
Tetrachloroethene	µg/L	5.0 U	38	14	74	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	1.3 J	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	6.9	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	20	1.1 J	42	5.0 U	5.0 U
Vinyl chloride	µg/L	5.0 U	1400	52	1100	1000	2.4 J
Xylenes (total)	µg/L	5.0 U	1.2 J	5.0 U	2.1 J	4.7 J	5.0 U
General Chemistry							
Ammonia-N	mg/L	0.653	0.115	0.281	0.100 U	0.757	0.464 J
Nitrate (as N)	mg/L	0.0100 U	0.0845	0.0100 U	0.0141	0.0100 U	0.0218
Nitrite (as N)	mg/L	0.0100 U	0.0160	0.0100 U	0.0114	0.0163	0.0156
Phosphorus	mg/L	0.059 U	0.082 U	0.042	0.14 U	0.077 U	0.18 U
Total organic carbon (TOC)	mg/L	10 U	10 U	10 U	10 U	6.6 J	2.1 J

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*MW-77D1*	*MW-77D2*	*MW-85D1*	*MW-85D1*	*MW-85D2*	*MW-85I*
Sample ID:		*GW41411VW022*	*GW41411VW021*	*GW42011VW043*	*GW42011VW044*	*GW42011VW042*	*GW42011VW040*
Sample Date:		*4/14/2011*	*4/14/2011*	*4/20/2011*	*4/20/2011 (Duplicate)*	*4/20/2011*	*4/20/2011*
Parameters	***Units***						
Volatile Organic Compounds							
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	3.7 J	3.4 J	3.5 J	5.0 U
1,1-Dichloroethene	µg/L	5.0 UJ	5.0 UJ	5.0 U	5.0 U	3.7 J	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 U	11 J	6.3 J	5.0 UJ	5.0 UJ
Benzene	µg/L	5.0 U	5.0 U	1.1 J	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	1.0 J	2.7 J	7.7	5.7	49	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	2.0 J	2.6 J	2.4 J	60	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*MW-77D1*	*MW-77D2*	*MW-85D1*	*MW-85D1*	*MW-85D2*	*MW-85I*
	Sample ID:	*GW41411VW022*	*GW41411VW021*	*GW42011VW043*	*GW42011VW044*	*GW42011VW042*	*GW42011VW040*
	Sample Date:	*4/14/2011*	*4/14/2011*	*4/20/2011*	*4/20/2011 (Duplicate)*	*4/20/2011*	*4/20/2011*
Parameters	***Units***						
Volatile Organic Compounds (Cont'd.)							
Tetrachloroethene	µg/L	1.6 J	20	34	31	170	5.2
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	1.7 J	28	10	9.9	160	5.0 U
Vinyl chloride	µg/L	6.2	140	70	70	1100	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	2.0 J	1.6 J	1.3 J	5.0 U
General Chemistry							
Ammonia-N	mg/L	0.400 U	0.304	0.100 U	0.100 U	0.100 U	0.100 U
Nitrate (as N)	mg/L	0.0100 U	0.141	0.0100 U	0.0100 U	0.313	0.435
Nitrite (as N)	mg/L	0.0100 U	0.0205	0.0100 U	0.0100 U	0.00720 J	0.0100 U
Phosphorus	mg/L	0.12	0.040	0.042 U	0.064 U	0.22 U	0.045 U
Total organic carbon (TOC)	mg/L	10 U	10 U	10 U	10 U	10 U	10 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:	*MW-85S*	*MW-86D1*	*MW-86D2*	*MW-89D1*	*MW-89D2*	*MW-92D1*
Sample ID:	*GW42011VW039*	*GW41811VW026*	*GW41811VW027*	*GW42111VW046*	*GW42111VW045*	*GW41211VW018*
Sample Date:	*4/20/2011*	*4/18/2011*	*4/18/2011*	*4/21/2011*	*4/21/2011*	*4/12/2011*
Parameters	***Units***					
Volatile Organic Compounds						
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	1.1 J	5.0 U	3.1 J	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	2.1 J	5.0 UJ	5.0 UJ	5.0 UJ
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 U	5.0 U	9.2
Benzene	µg/L	5.0 U	5.0 U	5.0 U	3.0 J	5.0 U	1.8 J
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.7	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	1.2 J	5.0 U	7.9	2.9 J	10
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	47	75	10	2.8 J
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample Location:		*MW-85S*	*MW-86D1*	*MW-86D2*	*MW-89D1*	*MW-89D2*	*MW-92D1*
Sample ID:		*GW42011VW039*	*GW41811VW026*	*GW41811VW027*	*GW42111VW046*	*GW42111VW045*	*GW41211VW018*
Sample Date:		*4/20/2011*	*4/18/2011*	*4/18/2011*	*4/21/2011*	*4/21/2011*	*4/12/2011*
Parameters	***Units***						
Volatile Organic Compounds (Cont'd.)							
Tetrachloroethene	µg/L	3.6 J	2.7 J	19	37	27	5.7
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	280	47	16	1.3 J
Vinyl chloride	µg/L	5.0 U	14	5.0 U	63	24	100
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.4	5.0 U	1.2 J
General Chemistry							
Ammonia-N	mg/L	0.354	0.798	0.993	0.100 U	0.180	0.632
Nitrate (as N)	mg/L	0.226	0.0100 U	1.73	0.0100 U	0.00679 J	0.0100 U
Nitrite (as N)	mg/L	0.0100 U	0.00699 J	0.0210	0.0100 U	0.00654 J	0.0100 U
Phosphorus	mg/L	0.35 U	0.030 U	0.063 U	0.12 U	0.18 U	0.030 U
Total organic carbon (TOC)	mg/L	10 U	10 U	10 U	9.9 J	12	14

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*MW-92D2*	*MW-93D1*	*MW-93D2*
	Sample ID:	*GW42511MY049*	*GW42611VW051*	*GW42611VW050*
	Sample Date:	*4/25/2011*	*4/26/2011*	*4/26/2011*
Parameters	***Units***			
Volatile Organic Compounds				
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	5.0 U	5.0 U	5.0 U
2-Hexanone	µg/L	5.0 U	5.0 U	5.0 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	5.0 U	5.0 U	5.0 U
Acetone	µg/L	5.0 U	5.0 U	5.0 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	8.1	3.3 J	3.3 J
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U

TABLE 2B

ANALYTICAL RESULTS SUMMARY
BIOSPARGE SYSTEM PERFORMANCE SAMPLING - GROUNDWATER
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

	Sample Location:	*MW-92D2*	*MW-93D1*	*MW-93D2*
	Sample ID:	*GW42511MY049*	*GW42611VW051*	*GW42611VW050*
	Sample Date:	*4/25/2011*	*4/26/2011*	*4/26/2011*
Parameters	***Units***			
Volatile Organic Compounds (Cont'd.)				
Tetrachloroethene	µg/L	690	21	110
Toluene	µg/L	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	12	3.7 J	15
Vinyl chloride	µg/L	5.0 U	190	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U
General Chemistry				
Ammonia-N	mg/L	0.508	0.342	0.694
Nitrate (as N)	mg/L	0.505	0.0100 U	0.187
Nitrite (as N)	mg/L	0.162	0.0100 U	0.0160
Phosphorus	mg/L	0.095 U	0.43	0.070 U
Total organic carbon (TOC)	mg/L	10 U	10 U	10 U

Notes:

J - Estimated concentration.
U - Not present at or above the associated value.
UJ - Estimated reporting limit.
- Not analyzed.

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Calibration Date*	*Compound*	*%D*	*Associated Sample ID*	*Qualified Sample Results*	*Units*
VOCs	04/14/11	Chloroethane	34	GW41111VW016	50 UJ	µg/L
VOCs	04/19/11	Acetone	44	GW41311VW019	20 UJ	µg/L
				GW41311VW020	200 UJ	µg/L
				GW41511VW024	5.0 UJ	µg/L
				GW41511VW025	5.0 UJ	µg/L
VOCs	04/25/11	Acetone	34	GW41811VW027	10 UJ	µg/L
				GW41811VW028	5.0 UJ	µg/L
				GW41911RA033	13 UJ	µg/L
				GW41911RA034	3.8 J	µg/L
				GW41911RA037	3.5 J	µg/L
				GW41911VW029	13 UJ	µg/L
				GW41911VW030	5.0 UJ	µg/L
				GW42011VW039	5.0 UJ	µg/L
				GW42011VW040	5.0 UJ	µg/L
				GW42011VW041	5.0 UJ	µg/L
				GW42011VW042	5.0 UJ	µg/L
VOCs	04/26/11	Acetone	30	GW42011VW042	80 UJ	µg/L
				GW42011VW043	11 J	µg/L
				GW42011VW044	6.3 J	µg/L
VOCs	04/25/11	1,1-Dichloroethene	36	GW42111VW045	5.0 UJ	µg/L
				GW42111VW046	5.0 UJ	µg/L

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Calibration Date*	*Compound*	*%D*	*Associated Sample ID*	*Qualified Sample Results*	*Units*
VOCs	04/28/11	Acetone	39	GW42511MY048	50 UJ	µg/L
				GW42511MY049	40 UJ	µg/L
				GW42711VW052	5.0 UJ	µg/L
				GW42711VW053	5.0 UJ	µg/L
				GW42711VW054	5.0 UJ	µg/L
VOCs	04/09/11	Chloromethane	36	GW4711VW007	5 UJ	µg/L
VOCs	04/09/11	Vinyl chloride	34	GW4711VW007	18 J	µg/L
VOCs	04/13/11	Bromomethane	27	GW4811VW010	5 UJ	µg/L
				GW4811VW011	5 UJ	µg/L
				GW4811VW012	5 UJ	µg/L
				GW4811VW013	5 UJ	µg/L
VOCs	04/14/11	Chloroethane	34	GW4811VW010	100 UJ	µg/L
				GW4811VW012	100 UJ	µg/L
VOCs	04/12/11	Acetone	45	GW4511RA001	5 UJ	µg/L
				GW4711VW002	5 UJ	µg/L
				GW4711VW003	5 UJ	µg/L
VOCs	05/24/11	4-Methyl-2-pentanone	40	GW51911MY056	5 UJ	µg/L
				GW51911MY057	5 UJ	µg/L
VOCs	05/02/11	Naphthalene	49	VZ421111VW001	2.62 UJ	µg/m3
				VZ421111VW004	2.62 UJ	µg/m3

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Calibration Date*	*Compound*	*%D*	*Associated Sample ID*	*Qualified Sample Results*	*Units*
VOCs	05/02/11	Naphthalene	49	VZ42111VW002	2.62 UJ	µg/m3
				VZ42111VW003	2.62 UJ	µg/m3
				VZ42611VW005	75.91 UJ	µg/m3
				VZ42611VW006	2.62 UJ	µg/m3
				VZ42711VW007	2.62 UJ	µg/m3
				VZ42711VW008	2.62 UJ	µg/m3
				VZ42811VW009	10.47 UJ	µg/m3
				VZ42811VW010	2.62 UJ	µg/m3
VOCs	05/02/11	1,2,4-Trichlorobenzene	39	VZ421111VW001	3.71 UJ	µg/m3
				VZ421111VW004	3.71 UJ	µg/m3
				VZ42111VW002	3.71 UJ	µg/m3
				VZ42111VW003	3.71 UJ	µg/m3
				VZ42611VW005	107.64 UJ	µg/m3
				VZ42611VW006	3.71 UJ	µg/m3
				VZ42711VW007	3.71 UJ	µg/m3
				VZ42711VW008	3.71 UJ	µg/m3
				VZ42811VW009	14.85 UJ	µg/m3
				VZ42811VW010	3.71 UJ	µg/m3
VOCs	05/02/11	Hexachlorobutadiene	37	VZ421111VW001	5.33 UJ	µg/m3
				VZ421111VW004	5.33 UJ	µg/m3
				VZ42111VW002	5.33 UJ	µg/m3
				VZ42111VW003	5.33 UJ	µg/m3
				VZ42611VW005	154.61 UJ	µg/m3
				VZ42611VW006	5.33 UJ	µg/m3
				VZ42711VW007	5.33 UJ	µg/m3

TABLE 3

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING CONTINUING CALIBRATION RESULTS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Calibration Date*	*Compound*	*%D*	*Associated Sample ID*	*Qualified Sample Results*	*Units*
VOCs	05/02/11	Hexachlorobutadiene	37	VZ42711VW008	5.33 UJ	µg/m3
				VZ42811VW009	21.33 UJ	µg/m3
				VZ42811VW010	5.33 UJ	µg/m3

Notes:

%D Percent Difference.
J Estimated.
UJ Not detected, estimated reporting limit.
VOCs Volatile Organic Compounds.

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING SURROGATE RECOVERIES
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Surrogate*	*Surrogate Recovery (percent)*	*Control Limits (percent)*	*Sample ID*	*Analytes*	*Qualified Sample Results*	*Units*
VOCs	Dibromoflouromethane	116	85 - 115	GW4711VW002	Tetrachloroethene	52 J	µg/L
					cis-1,2-Dichloroethene	11 J	µg/L
					Chloroethane	1.3 J	µg/L
					Vinyl chloride	30 J	µg/L
					1,1-Dichloroethene	1.4 J	µg/L
					Trichloroethene	180 J	µg/L
VOCs	Dibromoflouromethane	127	85 - 115	GW4711VW003	Tetrachloroethene	63 J	µg/L
					cis-1,2-Dichloroethene	13 J	µg/L
					Chloroethane	1.7 J	µg/L
					Vinyl chloride	38 J	µg/L
					1,1-Dichloroethene	2.2 J	µg/L
					Trichloroethene	120 J	µg/L

Notes:

J Estimated.
VOCs Volatile Organic Compounds.

TABLE 5

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERIES
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Associated Sample ID*	*Analyte*	*MS Recovery (percent)*	*MSD Recovery (percent)*	*RPD*	*Control Limits*		*Qualified Sample Result*	*Units*
						Recovery (percent)	*RPD (percent)*		
VOCs	GW4711VW003	Trichloroethene	186	74	86	70 - 125	40	63 J	µg/L
General Chemistry	GW4711VW003	Ammonia	0	0	0	80 - 120	20	R	mg/L
General Chemistry	GW4811VW011	Ammonia	0.2	-	-	80 - 120	-	0.464 J	mg/L

Notes:

MS Matrix Spike.
MSD Matrix Spike Duplicate.
J Estimated.
R Rejected.
VOCs Volatile Organic Compounds.

TABLE 6

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING LABORATORY CONTROL SAMPLE/LABORATORY CONTROL SAMPLE DUPLICATE RESULTS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Compound*	*LCS Date*	*Associated Sample ID*	*LCS %Rec*	*LCSD %Rec*	*RPD (percent)*	*Control Limits*		*Qualified Sample Results*	*Units*
							%Rec	*%RPD*		
VOCs	1,1-Dichloroethene	04/15/11	GW41211VW017	89	68	27	70 - 130	40	5.0 UJ	µg/L
			GW41211VW018						5.0 UJ	µg/L
			GW41311VW019						5.0 UJ	µg/L
			GW41311VW020						5.0 UJ	µg/L
			GW41411VW021						5.0 UJ	µg/L
			GW41411VW022						5.0 UJ	µg/L
			GW41411VW023						5.0 UJ	µg/L

Notes:

LCS Laboratory Control Sample.
LCSD Laboratory Control Sample Duplicate.
RPD Relative Percent Difference.
UJ Not detected, estimated reporting limit.
VOCs Volatile Organic Compounds.

TABLE 7

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE METHOD BLANKS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Analysis Date*	*Analyte*	*Blank Result*	*Sample ID*	*Qualified Sample Result*	*Units*
VOCs	4/13/2011	Tetrachloroethene	1.6J	GW4811VW010	5 U	µg/L
				GW4811VW011	5 U	µg/L

Notes:

U Not detected.
VOCs Volatile Organic Compounds.

TABLE 8

TENTATIVELY IDENTIFIED COMPOUNDS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample ID	*Volatile Organics*	*Estimated Concentration (ug/L)*	*Semi-Volatile Organics*	*Estimated Concentration (ug/L)*
GW41111VW016	Unknown	26J	-	-
GW41211VW018	Unknown	393J	-	-
GW41311VW020	Cyclohexene, 4-ethenyl-	11J	-	-
	Unknown	7.8J	-	-
GW41411VW022	Unknown	16J	-	-
GW42011VW042	Cyclohexene, 4-ethenyl-	5.8J	-	-
GW42011VW043	Unknown	16J	-	-
GW42011VW044	Unknown	12J	-	-
GW42111VW045	Unknown	35J	-	-
	Cyclohexene, 4-ethenyl-	10J	-	-
	n-Butyl ether	5.1J	-	-
GW42111VW046	Unknown	129J	-	-
	Cyclohexene, 4-ethenyl-	37J	-	-
	Methane, dimethoxy-	5.6J	-	-
	Benzene, (1-methylethyl)-	9.2J	-	-
GW42511MY048	1,5-Cyclooctadiene, (E,Z)-	7.1J	-	-
GW42611VW050	Unknown	45J	-	-
GW42611VW051	Unknown	7.4J	-	-
GW4511RA001	Unknown	33J	-	-
	Ethyl acetate	100J		
GW4711VW006	Unknown	8.4J	-	-
	Cyclohexene, 4-ethenyl-	5.6J	-	-
	n-Butyl ether	5.7J	-	-
GW4811VW010	Unknown	316J	-	-
	3-Ethyl-3-hexene	16J	-	-
	Isobutyl ether	34J	-	-

TABLE 8

TENTATIVELY IDENTIFIED COMPOUNDS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Sample ID	*Volatile Organics*	*Estimated Concentration (ug/L)*	*Semi-Volatile Organics*	*Estimated Concentration (ug/L)*
GW4811VW011	Unknown	43J	-	-
GW4811VW012	Unknown	22J	-	-
	Propanal, 2-methyl-	11J	-	-
	Cyclohexene, 4-ethenyl-	8.8J	-	-

Notes:

J Estimated.

TABLE 9

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANKS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Rinse Blank Date*	*Analyte*	*Blank Result*	*Sample ID*	*Qualified Sample Result*	*Units*
General Chemistry	04/19/11	Phosphorous	0.17J	GW41811VW027	0.063 U	mg/L
				GW41811VW028	0.10 U	mg/L
				GW41911RA033	0.11 U	mg/L
				GW41911RA034	0.23 U	mg/L
				GW41911RA035	0.17 U	mg/L
				GW41911RA036	0.31 U	mg/L
				GW41911VW029	0.25 U	mg/L
				GW41911VW030	0.14 U	mg/L
				GW41911VW038	0.17 U	mg/L
				GW42011VW039	0.35 U	mg/L
				GW42011VW040	0.045 U	mg/L
				GW42011VW041	0.095 U	mg/L
				GW42011VW042	0.22 U	mg/L
				GW42011VW043	0.042 U	mg/L
				GW42011VW044	0.064 U	mg/L
General Chemistry	04/27/11	Phosphorous	0.037J	GW42111VW045	0.18 U	mg/L
				GW42111VW046	0.12 U	mg/L
				GW42511MY047	0.059 U	mg/L
				GW42511MY048	0.082 U	mg/L
				GW42511MY049	0.095 U	mg/L
				GW42611VW050	0.070 U	mg/L
				GW42711VW052	0.051 U	mg/L
				GW42711VW053	0.045 U	mg/L
				GW42711VW054	0.035 U	mg/L

TABLE 9

QUALIFIED SAMPLE RESULTS DUE TO ANALYTE CONCENTRATIONS IN THE RINSE BLANKS
BIOSPARGE SYSTEM PERFORMANCE SAMPLING
GLENN SPRINGS HOLDINGS, INC.
HOOKER-RUCO SITE
HICKSVILLE, NEW YORK
APRIL 2011

Parameter	*Rinse Blank Date*	*Analyte*	*Blank Result*	*Sample ID*	*Qualified Sample Result*	*Units*
General Chemistry	04/07/11	Phosphorous	0.05J	GW4711VW002	0.077 U	mg/L
				GW4711VW003	0.064 U	mg/L
				GW4711VW004	0.080 U	mg/L
				GW4711VW006	0.11 U	mg/L
General Chemistry	04/08/11	Phosphorous	0.10J	GW4811VW010	0.077 U	mg/L
				GW4811VW011	0.18 U	mg/L
				GW4811VW012	0.14 U	mg/L

Notes:

J Estimated.
U Not detected.