

POST REMEDIAL ACTION ANNUAL REPORT

FOR

1101 LINWOOD STREET  
BROOKLYN, NEW YORK 11208  
KINGS COUNTY

SUBMITTED UNDER THE  
NEW YORK STATE DEPT. OF ENVIRONMENTAL CONSERVATION  
VOLUNTARY CLEANUP PROGRAM  
FOR  
SITE #V00582  
WITH  
VOLUNTARY CLEANUP AGREEMENT  
INDEX #D2-0001-02-08

**SHAPIRO ENGINEERING, P.C.  
CONSULTING ENGINEERS  
181 SOUTH FRANKLIN AVENUE, SUITE 305  
VALLEY STREAM, NEW YORK 11581  
516 791-2300  
FAX: 516 791-0782  
E-MAIL: shapiroengineers@worldnet.att.net**

FIELD SAMPLING:

LARRY ZEMAN, B.A.  
MILANA KONONENKO, M.S.

LABORATORY ANALYSIS:

ENVIRONMENTAL TESTING  
LABORATORIES, INC.

DATA ANALYSIS AND  
REPORT PREPARATION:

ROBERT A. LO PINTO, P.E.  
MILANA KONONENKO, M.S.

**RECAPITULATION**

Groundwater and soil testing was performed at 1101 Linwood Street, Brooklyn, New York on 1/9-10/07 and 12/21/06, respectively. A total of 3 groundwater samples were collected from one existing and two newly installed groundwater monitoring wells. A total of 4 soil samples were collected from two new Geo-Probe sample locations on Essex Street. In addition, one trip blank sample, one matrix spike sample, one matrix spike duplicate sample and one field blank sample were collected for groundwater sampling.

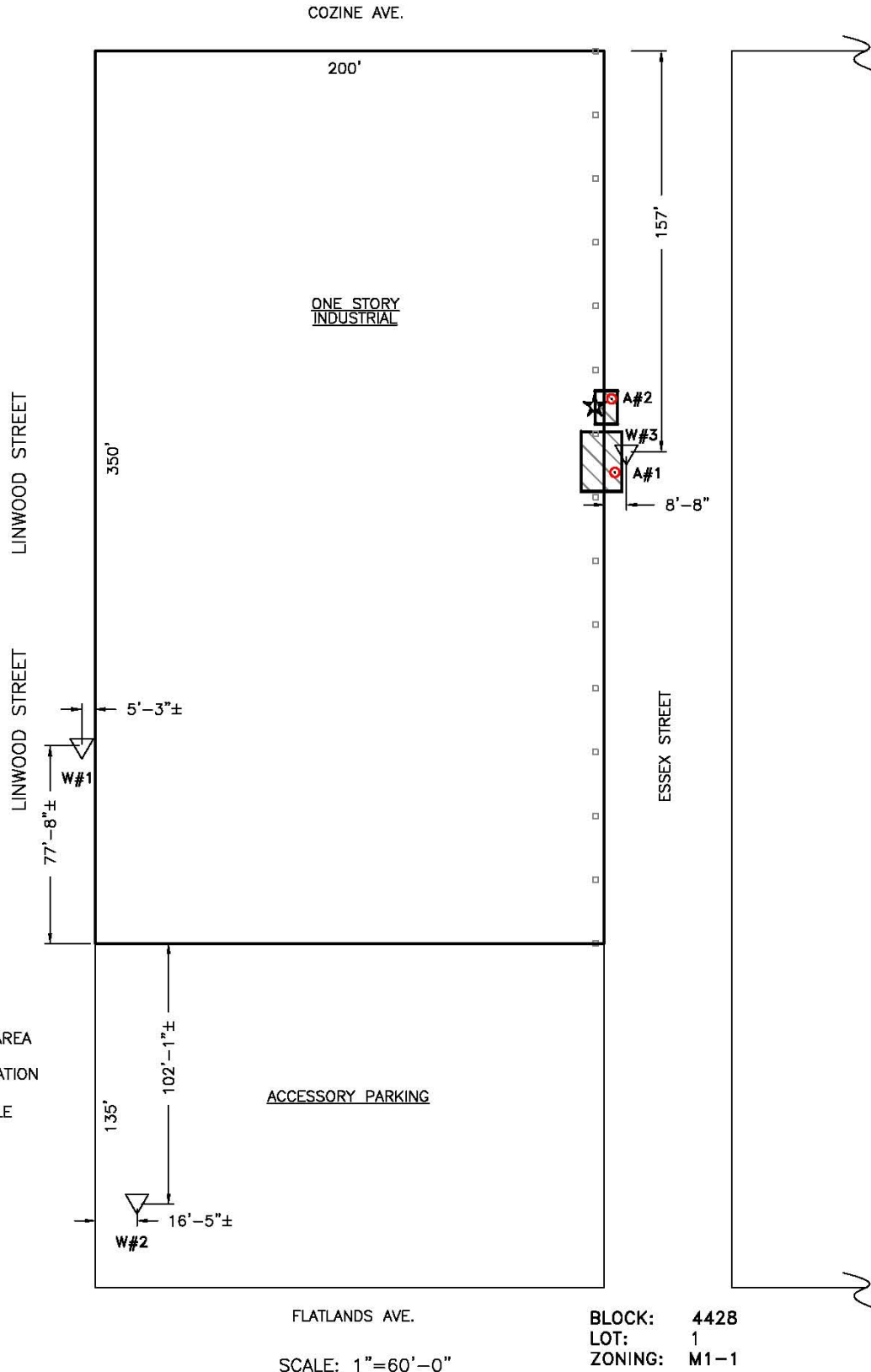
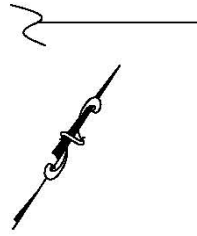
Three of the four soil sample analyses results indicated no presence of BTEX compounds, while the fourth sample showed slightly elevated levels of toluene, ethylbenzene, and xylene, which are below the NYSDEC restricted commercial use soil cleanup objectives delineated in 6NYCRR375-6.8(b). The groundwater samples indicated presence of the BTEX compounds in all three monitoring wells. However, well W1 was below the NYSDEC groundwater quality standards in 6NYCRR703.5 standards.

The groundwater flow direction will be reconfirmed during the next annual monitoring, after the wells are completely stabilized, which could not be achieved this year because of dramatic fluctuation of the groundwater level in the well W2.

MK:RAL:LDS

ROBERT A. LO PINTO, P.E.  
MARCH 8, 2007

L. Suchkova, SHAPIRO ENGINEERING, P.C. 3/6/2007 2:05 PM 01-44 SITE PLAN (3-6-07).dwg



- ▽ - MONITORING WELL
- ▨ - PRIOR EXCAVATED AREA
- ★ - SPILL SOURCE LOCATION
- ⊙ - BORING/SOIL SAMPLE

8.5 x 11

FLATLANDS AVE.

SCALE: 1"=60'-0"

BLOCK: 4428  
 LOT: 1  
 ZONING: M1-1

# SHAPIRO ENGINEERING, P.C.

CONSULTING ENGINEERS  
 181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101  
 (516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.atl.net

S & S X-RAY PRODUCTS, INC.  
 1101 LINWOOD STREET  
 BROOKLYN, NEW YORK 11208

SITE PLAN

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Date: 3/6/07
Scale: AS NOTED
Drawn by: ZS
Job: 01-44
DWG: 01-44 SITE PLAN
Sheet 1
of 1 Sheets

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**GENERAL DISCUSSION**

S&S X-Ray Products has entered into a Voluntary Cleanup Agreement (VCA) for the property at 1101 Linwood Street, Brooklyn, New York 11208 with the NYSDEC, which became effective on 9/22/02. After remedial activities approved and assisted by the New York State Department of Conservation were performed at the above mentioned location, the NYSDEC requested the installation of two (2) additional groundwater monitoring wells for annual monitoring of the groundwater conditions. Additionally, per the NYSDEC request, soil sampling was performed on 12/21/06 at two new locations within the prior excavation area, in order to confirm expected positive results of the RegenOx Complex injection in January 2006. Placing the OAC into the borings was designed to help in removing the contamination from the soil and groundwater.

Groundwater samples were taken on 1/9-10/07 from the existing permanent down gradient monitoring well that was installed on 01/18/06 on the Linwood Street sidewalk on the southwest side of the building and from two new monitoring wells installed on 12/20/06. The new monitoring wells were installed on the Essex Street sidewalk in the immediate proximity to the prior excavation and in the grassy area of the facility parking lot, located along Flatlands Avenue, which has always been an open area.

Sampling was performed by Shapiro Engineering, P.C. The monitoring wells' installation and soil borings drilling was performed by representatives from Unitech Services Group and Aquifer Drilling & Testing (ADT).

**GROUNDWATER SAMPLING AND ANALYSES OF ESTABLISHED WELLS**

On 1/9/07 and 1/10/07, groundwater samples were collected utilizing a Waterra WSP-12V-2 12 volt submersible pump equipped with a flow controller. It was performed using the low flow purging and sampling procedure employed by EPA Region II. One groundwater sample was taken at each of three locations, including the existing permanent down gradient monitoring well W1 on the Linwood Street sidewalk, the new monitoring well W2 in the grassy area of the facility parking lot along Flatlands Avenue, and the new monitoring well W3 on the Essex Street sidewalk (see Sampling Plan). The groundwater samples were collected at an approximately 16-foot depth.

In addition to groundwater sampling performed at the monitoring wells, one matrix spike, one matrix spike duplicate, one field blank, and one trip blank were also taken.

After all sampling activities were completed, samples were delivered to Environmental Testing Laboratories, Inc. 208 Route 109, Farmingdale, New York 11735, where they were analyzed for benzene, toluene, ethylbenzene, and xylene using analytical Method 8260B.

Prior to well sampling, the wells were purged until measurements of pH, conductivity, dissolved oxygen (DO), and turbidity were stable for 3 consecutive readings. The purpose of this low flow purging and sampling procedure is to collect groundwater samples from a monitoring well that are representative of groundwater conditions in the geological formation. Hence, the intake velocity of the sampling pump was set at a 200 ml/min flow rate at W1, 225 ml/min at W2, and 210 ml/min at W3, which would limit drawdown inside the well casing. The actual volume of groundwater in the monitoring

well casing was approximately 1.23 gallons in W1, 1.57 gallons in W2, and 1.56 gallons in W3. The actual volume of groundwater purged was 3.80 gallons, 8.62 gallons, and 2.77 gallons, respectively. Equilibrium was determined and purging terminated by testing the pumped water for pH, conductivity, DO and turbidity using a Horiba U22XD water quality monitoring system. Immediately after the well was purged, a groundwater sample was collected from each well and placed in 40 ml vials with HCL preservative.

The groundwater elevation was measured using a Solinst 122 Mini Interface Meter, to the nearest one hundredth of a foot (0.12 inches) relative to the top of the well casing. The Solinst 122 Mini Interface Meter was used to measure the free product thickness in the monitoring wells. A record of all measurements was maintained, including the linear measurement of groundwater in each well casing. No free product was detectable in the wells using the Solinst 122 Meter, which has a 0.01 foot detection limit (0.12 inches).

### **SOIL SAMPLING AND ANALYSIS**

In order to confirm expected positive results of the RegenOx Complex injection performed in January 2006, NYSDEC requested soil sampling under the demarcation line in the area of prior excavation and RegenOx Complex injection. On 12/21/06 soil samples were collected utilizing a portable Geo-Probe unit equipped with a Macrocore® soil sampler from two new sample locations placed in the area of the earlier excavations through the sidewalk outside the building (see Sampling Plan). One of them was made in the area of the southern excavation (Locations A#1). Another boring was placed in the area of the northern excavation (Location A#2). Two soil samples were collected



from each boring. The first of these two samples was collected just below the bottom of the original excavation, which is below the demarcation line of plastic sheeting approximately 12-foot deep. The second sample from each boring was taken from approximately 13-foot depth. All soil samples were delivered to ETL, Inc., which is a NYSDOH approved laboratory for individual BTEX compound analysis, using USEPA Method 8260B. The laboratory analytical results are included at Appendix "C".

### **RESULTS**

Sample results received from Environmental Testing Laboratories (ETL) present the concentrations of BTEX compounds detected in groundwater and soil samples conducted at 1101 Linwood Street, Brooklyn, New York 11208 in December 2006 - January 2007 (see Appendix "C").

Table #1 presents a summary of the groundwater sample locations and the concentration in ug/L (ppb) of each compound analyzed.

Table #2 presents a summary of the soil sample locations and the concentration in ug/kg (ppb) of each compound analyzed.

### **FINDINGS**

Concentrations of BTEX compounds in groundwater testing results from the existing and newly installed monitoring wells indicate the levels of contaminants detected in the groundwater samples as follows. Benzene was not detected in any of the three samples in the amounts above the Method Detection Limit (MDL), which is lower than the lowest calibration standard concentration for each contaminant. The concentrations of benzene

in all wells are below the 1 ppb level, referenced in the NYSDEC groundwater quality standards in 6NYCRR703.5.

The concentrations of toluene in wells W2 and W1 are below the NYSDEC groundwater quality standard of 5 ppb. In well W3, located in the immediate proximity to the prior excavation area, toluene was detected at a concentration of 38.1 ppb, which is below the lowest calibration standard concentration used in the analyses.

Ethylbenzene was not detected in well W1. The concentrations of ethylbenzene in wells W2 and W3 were found at levels of 1.97 ppb and 6,590 ppb, respectively. The level of ethylbenzene in W2 was below the NYSDEC groundwater quality standards.

The analyses results for all three samples indicated presence of xylene; however, the concentration of 3.45 ppb. in W1 was below the NYSDEC groundwater quality standards of 5 ppb. In the well W2, the concentration of 14.8 ppb was just slightly elevated compared to the standards. The sample taken from well W3 was diluted because of the elevated level of xylene, to obtain more accurate results that indicated 43,400 ppb (see Appendix "C").

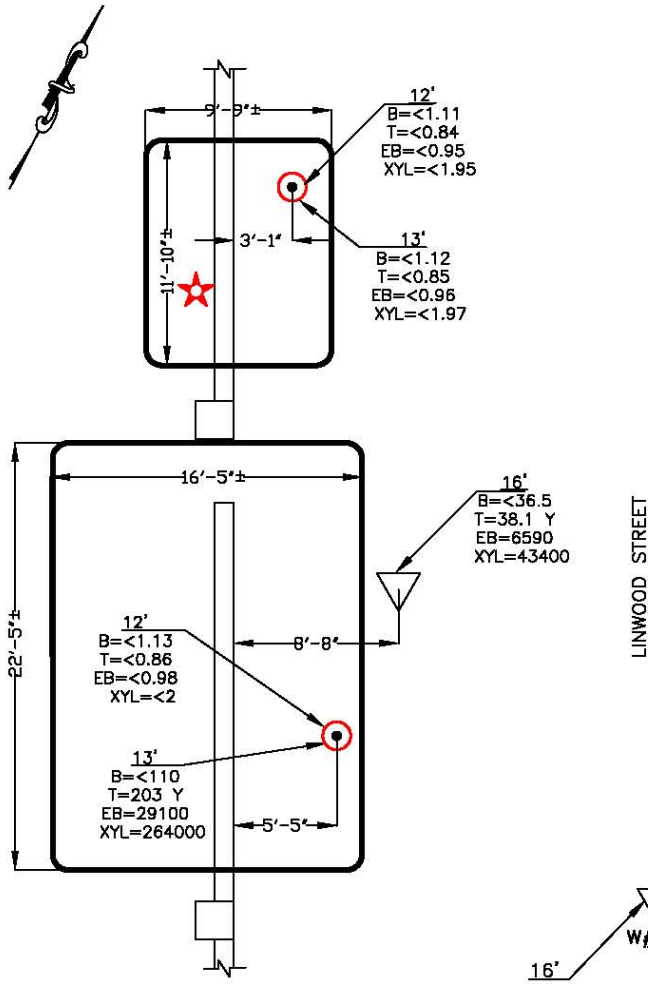
Analysis results of the soil samples, taken from the area of the prior excavation and ORC injection utilizing the Geo-Probe, showed undetectable levels of BTEX compounds in three soil samples and low levels of contamination in the fourth sample, after the sample was diluted for more accurate results. The concentration for toluene was 203 ppb ( $\leq$  500 ppm), for ethylbenzene - 29,100 ppb ( $\leq$  390 ppm), and for xylene - 264,000 ppb ( $<$  500 ppm). Therefore, all results are below the NYSDEC and NYSDOH soil

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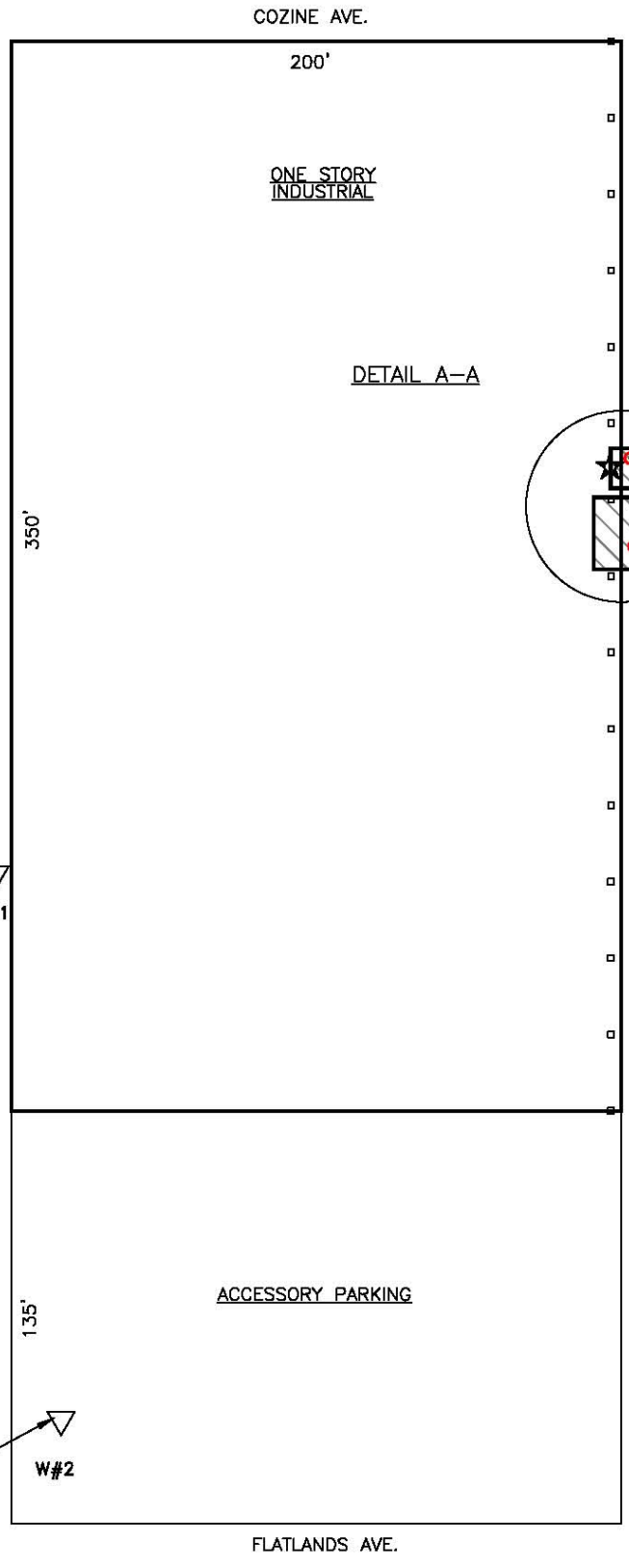
1101 LINWOOD STREET  
BROOKLYN, NEW YORK 11208

cleanup objectives for restricted commercial use presented in 6NYCRR375-6.8(b) (see Appendix "C").

L. SACHKOV, SHAPIRO ENGINEERING, P.C. 3/6/2007 2:03 PM 01-44 SMP.L. LOC & RESULTS (3-6-07).dwg



DETAIL A-A  
 SCALE: 1"=10'-0"



SCALE: 1"=60'-0"

- ⊙ - BORING/SOIL SAMPLE
- ★ - SPILL SOURCE
- ▽ - MONITORING WELL
- ▨ - PRIOR EXCAVATED AREA

**LEGEND:**

B = BENZENE, PPB  
 T = TOLUENE, PPB  
 XYL = XYLENE, PPB  
 EB = ETHYL BENZENE, PPB  
 Y = THE CONCENTRATION REPORTED WAS DETECTED BELOW THE LOWEST CALIBRATION STANDARD CONCENTRATION

**BLOCK: 4428**  
**LOT: 1**  
**ZONING: M1-1**

8.5 x 11

<p><b>SHAPIRO ENGINEERING, P.C.</b>                  CONSULTING ENGINEERS                  181 South Franklin Avenue, Suite 305, Valley Stream, N.Y. 11581-1101                  (516) 791-2300 FAX: (516) 791-0782 e-mail: shapiroengineers@worldnet.att.net</p>	<p>S &amp; S X-RAY PRODUCTS, INC.                  1101 LINWOOD STREET                  BROOKLYN, NEW YORK 11208</p>	<p>SAMPLING LOCATIONS &amp; RESULTS</p>	<p>COPYRIGHT DESIGN NOT TO BE LENT COPIED OR REPRODUCED IN WHOLE OR IN PART WITHOUT PRIOR WRITTEN CONSENT                  THIS OFFICE HEREBY DISCLAIMS ANY RESPONSIBILITY FOR DRAWINGS OR OTHER DOCUMENTS RELATED TO THIS PROJECT UNLESS THEY BEAR THE SIGNATURE AND SEAL OF A PROFESSIONAL ENGINEER OF THIS OFFICE. THE NEW YORK STATE EDUCATION LAW PROHIBITS ANY ALTERATIONS OR DELETIONS OF THIS DRAWING EXCEPT AS MAY BE MADE BY A LICENSED PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT WHO WILL BEAR THE RESPONSIBILITY FOR SUCH CHANGE OR ALTERATION.</p>
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Sheet 1	of 1	Sheets	DATE: 3/6/07		

**DISCUSSION**

Analyses of the groundwater obtained from the monitoring wells revealed that the samples contained detectable levels of BTEX compounds. All four soil samples collected at locations A#1 and A#2 contained no levels of BTEX compounds above the NYSDEC and NYSDOH soil cleanup objectives for restricted commercial use.

**CONCLUSION**

Results from the December 2006 soil testing indicate that the level of contamination, which occurred prior to the purchase of the building by S&S X-Ray in 1986, appears to be reduced to minimal or undetectable levels around the spill area as a result of the performed remedial actions and ORC injection. Results of the January 2007 groundwater testing indicate different levels of contaminants at the three monitoring wells, which vary depending on the well location.

Removal of the contaminated soil and RegenOx injection into the groundwater immediately under the excavation area did noticeably reduce the levels of BTEX contaminants in the soil, eliminating any potential adverse environmental impact. The groundwater monitoring will continue on an annual basis until the requirement is terminated by the Department. No additional remediation is recommended.

**SHAPIRO ENGINEERING, P.C.**

181 SOUTH FRANKLIN AVENUE, SUITE 305, VALLEY STREAM, N.Y. 11581

E-MAIL:shapiroengineers@worldnet.att.net

(516) 791-2300

FAX: (516) 791-0782

**TABLE #1  
SUMMARY OF GROUNDWATER SAMPLES  
IN MONITORING WELLS W1, W2, & W3**

CLIENT: SHSFLATLANDS LLC

JOB NO.: 01-44

ADDRESS: 80 FAHY AVENUE, STATEN ISLAND, NY 10314

SAMPLING ADDRESS: 1101 LINWOOD STREET, BROOKLYN, NEW YORK 11208

SAMPLE LOCATION	SAMPLE DATE	ANALYTICAL PARAMETERS (ug/L) PPB			
		BENZENE	TOLUENE	ETHYLEBENZE	XYLENE
GW - W-1	01/09/2007	< 0.73	< 0.55	< 0.70	3.45 Y
GW - W-2	01/10/2007	< 0.73	< 0.55	1.97 Y	14.8 Y
GW - W-3	01/09/2007	< 36.5 D	38.1 Y D	6590 D	43400 D

**QUALIFIERS FOR ORGANICS DATA**

- < = INDICATES COMPOUND WAS ANALYZED FOR BUT NOT DETECTED AT QUANTIFICATION LIMIT INDICATED
- Y = INDICATES CONCENTRATION DETECTED BELOW THE LOWEST CALIBRATION STANDARD CONCENTRATION
- D = SAMPLE DILUTED FOR ANALYSIS

ANALYTICAL DATA WAS OBTAINED FROM ENVIRONMENTAL TESTING LABORATORIES, INC.  
SEE ETL's RESULTS IN APPENDIX "C".

LARRY ZEMAN

SIGNATURE

DATE

<b>SHAPIRO ENGINEERING, P.C.</b>							
181 SOUTH FRANKLIN AVENUE, SUITE 305, VALLEY STREAM, N.Y. 11581							
E-MAIL:shapiroengineers@worldnet.att.net							
(516) 791-2300				FAX: (516) 791-0782			
<b>TABLE #2</b>							
<b>SUMMARY OF SOIL SAMPLES AT LOCATIONS A#1 &amp; A#2</b>							
CLIENT: SHSFLATLANDS LLC				JOB NO.: 01-44			
ADDRESS: 80 FAHY AVENUE, STATEN ISLAND, NY 10314							
SAMPLING ADDRESS: 1101 LINWOOD STREET, BROOKLYN, NEW YORK 11208							
SAMPLE LOCATION	SAMPLE DATE	ANALYTICAL PARAMETERS (ug/Kg) PPB					
		BENZENE	TOLUENE	ETHYLEBENZE	XYLENE		
A#1 12 - ft deep	12/21/2006	< 1.11	< 0.84	< 0.95	< 1.95		
A#1 13 - ft deep	12/21/2006	< 1.12	< 0.85	< 0.96	< 1.97		
A#2 12 - ft deep	12/21/2006	< 1.13	< 0.86	< 0.98	< 2.00		
A#2 13 - ft deep	12/21/2006	< 110 D	203 Y D	29100 D	264000 D		
<b>QUALIFIERS FOR ORGANICS DATA</b>							
< = INDICATES COMPOUND WAS ANALYZED FOR BUT NOT DETECTED AT QUANTIFICATION LIMIT INDICATED							
D = SAMPLE DILUTED FOR ANALYSIS							
ANALYTICAL DATA WAS OBTAINED FROM ENVIRONMENTAL TESTING LABORATORIES, INC.							
SEE ETL's RESULTS IN APPENDIX "C".							
LARRY ZEMAN:							
SIGNATURE				DATE			

**INSPECTIONS AND MAINTENANCE**

Equipment inspection procedures will be based on the guidelines set in the Operation, Monitoring, and Maintenance Plan included in the Site Management Plan, accepted by the Department in August 2006. The in-line pressure gauge of the sub-slab depressurization system will be inspected weekly, the roof-top fan will be inspected yearly, and the monitoring well covers will be inspected monthly. All inspection dates and observations will be documented in the Inspection Log (see a sample page attached) and kept in the site manager office together with the OM&M Plan to be available upon request. The pages of the Inspection Log will be included into the annual reports starting from the year of 2007.

The Inspection Log pages for the year of 2006 have not been included in this annual report because of lingering anticipation of the Department's final approval of the Site Management Plan, including the inspection and maintenance procedures, and installation of additional new wells.





01-44

1101 LINWOOD STREET  
BROOKLYN, NEW YORK 11208

**APPENDIX "A"**

WELL PURGING AND SAMPLING FORMS

1101 LINWOOD STREET  
 BROOKLYN, NEW YORK 11208

SHAPIRO ENGINEERING, P.C.  
 CONSULTING ENGINEERS  
 181 SOUTH FRANKLIN AVENUE, SUITE 305, VALLEY STREAM, NEW YORK 11581  
 E-MAIL: shapiroengineers@worldnet.att.net

Well Purging and Sampling Form

Client: S&S X-Ray Products, Inc. & SHS FLATLANDS, LLC Contact Person: Robert LoPinto, P.E., SPEC

Project Location: 1101 Linwood Street, Brooklyn, N.Y. 11208 Job #: 01-44

Date: 01/09/07 Time: 13:50

Weather Conditions: Dry, Cold, Cloudy

Well Information

Well #: W # 1

Well Location (in reference to permanent structures or features): Sidewalk on Linwood St, southwest to the building

Well Coordinates (in reference to permanent structures or features): 77'-8" North & 5'-3" West from southwest corner of the Building

Diameter of Well Flush Mount: 8.5"

Diameter of Casing: 2"

Before Purging

Is Free Product Present (Yes/No, thickness) (ft., in.): NO

Total Depth of Well From Top of Casing or Surveyor's Mark (ft., in.): 13.42' 21' MC

Depth From Top of Casing or Surveyor's Mark to Groundwater (ft., in.): 13.42'

Linear Measurement of Groundwater in the Casing (ft., in.): 7.58'

Estimated Volume of Groundwater in Casing ( $V = \pi \cdot r^2 \cdot h$  or  $= 0.7856 \cdot h \cdot d^2$ , 1 gal. = 0.1337 ft<sup>3</sup> or 1 ft<sup>3</sup> = 7.481 gal.) (gal.):

	TIME	pH	Do	Tu	Cond.
<b>Purging</b>	14:35	6.47	0.75	-3.3	1.72
Start Purge Time (24 hr. Clock): 13:50	14:37	6.47	0.89	-3.1	1.72
End Purge Time (24 hr. Clock): 15:02	14:39	6.47	0.84	-3.2	1.71
Purge Method (bladder pump, bailer, etc.): pump in well	14:41	6.47	0.71	-2.4	1.71
Purge Rate (gal./min.): 200 ml/min	14:42	6.47	0.64	-2.4	1.70
Purge Range (Estimated Volume of Groundwater in the Casing multiplied by 3 and 5) (gal.): 14:48	14:44	6.47	0.59	-2.4	1.70
Total Volume Purged (gal.): 3.80	14:46	6.47	0.53	-1.3	1.71
	14:51	6.46	0.70	-1.4	1.72
	14:53	6.46	0.58	-1.1	1.70
	14:55	6.47	0.54	-1.3	1.70
	14:57	6.47	0.57	-1.4	1.72
	14:59	6.47	0.58	-1.5	1.72
	15:00	6.47	0.57	-1.5	1.72

Sampling

Groundwater Sample #: GW-W1; GW-W1-MS, GW-W1-MSD

Sampling Method: Submersible pump

Start Sample Time (24 hr. Clock): 15:02

End Sample Time (24 hr. Clock): 15:04

Sampled by: Larry Zeman

Signature: *[Signature]*

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BROOKLYN, NEW YORK 11208

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CONSULTING ENGINEERS  
181 SOUTH FRANKLIN AVENUE, SUITE 305, VALLEY STREAM, NEW YORK 11581  
E-MAIL: shapiroengineers@worldnet.att.net

**Well Purging and Sampling Form**

Client: S&S X-Ray Products, Inc. & SHS FLATLANDS, LLC Contact Person: Robert LoPinto, P.E., SPEC

Project Location: 1101 Linwood Street, Brooklyn, N.Y. 11208 Job #: 01-44

Date: 01/10/07 Time: 10:20

Weather Conditions: Dry, Cold, Sunny

**Well Information**

Well #: W#2

Well Location (in reference to permanent structures or features): Grassy area of the parking lot.

Well Coordinates (in reference to permanent structures or features): 102'-1" - south, 16'-5" - east from the southwest corner of the building

Diameter of Well Flush Mount: 8.5"

Diameter of Casing: 2"

**Before Purging**

Is Free Product Present (Yes/No, thickness) (ft., in.): NO

Total Depth of Well From Top of Casing or Surveyor's Mark (ft., in.): 22'

Depth From Top of Casing or Surveyor's Mark to Groundwater (ft., in.): 12.39'

Linear Measurement of Groundwater in the Casing (ft., in.): 9.61'

Estimated Volume of Groundwater in Casing ( $V = \pi * r^2 * h$  or  $= 0.7856 * h * d^2$ , 1 gal. = 0.1337 ft<sup>3</sup> or 1 ft<sup>3</sup> = 7.481 gal.) (gal.):

	TIME	pH	Do	Tu	Cond.
<b>Purging</b>					
Start Purge Time (24 hr. Clock): <u>10:20</u>	12:25	5.31	4.00	OR	2.24
	12:27	5.51	2.30	OR	2.24
End Purge Time (24 hr. Clock): <u>12:45</u>	12:29	5.69	2.04	OR	2.23
	12:31	5.79	2.44	OR	2.22
Purge Method (bladder pump, bailer, etc.): <u>pump in well</u>	12:33	5.89	2.57	OR	2.23
	12:35	5.95	2.60	OR	2.22
Purge Rate (gal./min.): <u>2.25 ml/min</u>	12:37	6.08	2.52	OR	2.23
	12:39	6.15	2.46	OR	2.24
Purge Range (Estimated Volume of Groundwater in the Casing multiplied by 3 and 5) (gal.):	12:41	6.19	2.46	OR	2.23
	12:43	6.22	2.45	OR	2.23
Total Volume Purged (gal.): <u>8.62</u>					

**Sampling**

Groundwater Sample #: GW-W2

Sampling Method: Submersible Pump

Start Sample Time (24 hr. Clock): 12:46

Sampled by: Larry Zeman

End Sample Time (24 hr. Clock): 12:47

Signature: [Signature]

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BROOKLYN, NEW YORK 11208

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E-MAIL: shapiroengineers@worldnet.att.net

**Well Purging and Sampling Form**

Client: S&S X-Ray Products, Inc. & SHS FLATLANDS, LLC Contact Person: Robert LoPinto, P.E., SPEC

Project Location: 1101 Linwood Street, Brooklyn, N.Y. 11208 Job #: 01-44

Date: 01/09/07 Time: 11:30

Weather Conditions: Dry, Cold, Cloudy

**Well Information**

Well #: 3

Well Location (in reference to permanent structures or features): Sidewalk on Essex Street northeast of the building.

Well Coordinates (in reference to permanent structures or features): 157'-0"-South; 8'-8"-East from the building.

Diameter of Well Flush Mount: 8.5"

Diameter of Casing: 2"

Northeast corner of the building

**Before Purging**

Is Free Product Present (Yes/No, thickness) (ft., in.): NO

Total Depth of Well From Top of Casing or Surveyor's Mark (ft., in.): 12.80' 22.33' mk

Depth From Top of Casing or Surveyor's Mark to Groundwater (ft., in.): 12.80'

Linear Measurement of Groundwater in the Casing (ft., in.): 9.53'

Estimated Volume of Groundwater in Casing ( $V = \pi \cdot r^2 \cdot h$  or  $= 0.7856 \cdot h \cdot d^2$ , 1 gal. = 0.1337 ft<sup>3</sup>, or 1 ft.<sup>3</sup> = 7.481 gal.) (gal.):

	TIME	pH	Do	Tu	Cond
<b>Purging</b>					
Start Purge Time (24 hr. Clock): <u>11:30</u>	11:58	6.46	2.92	OR	6.13
	12:00	6.47	2.36	OR	6.15
End Purge Time (24 hr. Clock): <u>12:20</u>	12:02	6.49	1.78	OR	6.19
	12:04	6.51	1.38	OR	6.25
Purge Method (bladder pump, bailer, etc.): <u>pump in well</u>	12:06	6.52	1.02	OR	6.32
Purge Rate (gal./min.): <u>210 ml/min</u>	12:08	6.52	0.86	-6.2	6.36
	12:10	6.53	0.80	-4.9	6.35
Purge Range (Estimated Volume of Groundwater in the Casing multiplied by 3 and 5) (gal.):	12:12	6.54	0.76	-4.2	6.33
Total Volume Purged (gal.): <u>2.77</u>	12:14	6.55	0.73	-3.5	6.32
	12:16	6.56	0.70	-3.2	6.33
<b>Sampling</b>	12:18	6.56	0.69	-3.1	6.33
Groundwater Sample #: <u>GW-W3</u>	12:20	6.56	0.69	-3.1	6.33
Sampling Method: <u>Submersible Pump</u>					

Start Sample Time (24 hr. Clock): 12:20

Sampled by: Larry Zeman

End Sample Time (24 hr. Clock): 12:21

Signature: Larry Zeman

**APPENDIX "B"**

CHAIN OF CUSTODY FORMS









**APPENDIX "C"**

ETL, INC. LABORATORY RESULTS

# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

**Laboratory Identifier: 0701162**

Received: 01/10/2007 16:46

Sampled by: Larry Zeman

**Client: Shapiro Engineers**

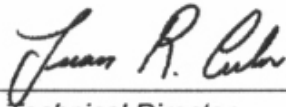
181 South Franklin Ave  
Valley Stream,  
NY 11580

**Project: SHS Flatlands, LLC**

1101 Linwood Street  
Brooklyn,  
NY 11208

**Manager: Bob LoPinto**

Respectfully submitted,



Technical Director

NYS Lab ID # 10969  
NJ Cert. # 73812  
CT Cert. # PH0645  
MA Cert. # NY061  
PA Cert. # 68-535  
NH Cert. # 252592-BA  
RI Cert. # 161

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# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

BTEX - SW 846 8260B

**Sample: 0701162-1**

Client Sample ID: GW-W3

Collected: 01/09/2007 12:20

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 01/16/2007

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1055	36.5	36.5	ug/L	U
108-88-3	Toluene	C2463-1055	27.5	38.1	ug/L	Y
100-41-4	Ethylbenzene	C2463-1055	35.0	6590	ug/L	
1330-20-7	Xylenes	C2463-1055	609	43400	ug/L	

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1055	104.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1055	99.0 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1055	101.0 %	( 90 - 108)	

**Sample: 0701162-2**

Client Sample ID: GW-W1

Collected: 01/09/2007 15:03

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 01/16/2007

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2465-1087	0.73	0.73	ug/L	U
108-88-3	Toluene	C2465-1087	0.55	0.55	ug/L	U
100-41-4	Ethylbenzene	C2465-1087	0.70	0.70	ug/L	U
1330-20-7	Xylenes	C2465-1087	0.92	3.45	ug/L	Y

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2465-1087	95.7 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2465-1087	95.8 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2465-1087	101.0 %	( 90 - 108)	



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

BTEX - SW 846 8260B

**Sample: 0701162-2MS**

Client Sample ID: GW-W1

Collected: 01/09/2007 15:03

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 01/11/2007

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1057	0.73	51.8	ug/L	
108-88-3	Toluene	C2463-1057	0.55	49.6	ug/L	
100-41-4	Ethylbenzene	C2463-1057	0.70	0.70	ug/L	U
1330-20-7	Xylenes	C2463-1057	0.92	4.06	ug/L	Y

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1057	103.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1057	100.0 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1057	99.5 %	( 90 - 108)	

## Matrix Spike Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
71-43-2	BENZENE	C2463-1057	104.0 %	( 73- 130)	
108-88-3	TOLUENE	C2463-1057	99.2 %	( 76- 116)	



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

BTEX - SW 846 8260B

**Sample:** 0701162-2MSD

Client Sample ID: GW-W1

Collected: 01/09/2007 15:03

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 01/11/2007

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1058	0.73	52.3	ug/L	
108-88-3	Toluene	C2463-1058	0.55	51.4	ug/L	
100-41-4	Ethylbenzene	C2463-1058	0.70	0.70	ug/L	U
1330-20-7	Xylenes	C2463-1058	0.92	3.55	ug/L	Y

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1058	101.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1058	100.0 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1058	99.8 %	( 90 - 108)	

## Matrix Spike Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
71-43-2	BENZENE	C2463-1058	105.0 %	( 73- 130)	
108-88-3	TOLUENE	C2463-1058	103.0 %	( 76- 116)	



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

BTEX - SW 846 8260B

**Sample: 0701162-3**

Client Sample ID: Field Blank  
Matrix: Liquid  
Remarks: See Case Narrative  
Analyzed Date: 01/11/2007

Type: Grab

Collected: 01/09/2007 12:19

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1059	0.73	0.73	ug/L	U
108-88-3	Toluene	C2463-1059	0.55	0.55	ug/L	U
100-41-4	Ethylbenzene	C2463-1059	0.70	0.70	ug/L	U
1330-20-7	Xylenes	C2463-1059	0.92	0.92	ug/L	U

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1059	103.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1059	100.0 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1059	99.2 %	( 90 - 108)	

**Sample: 0701162-4**

Client Sample ID: Trip Blank  
Matrix: Liquid  
Remarks: See Case Narrative  
Analyzed Date: 01/11/2007

Type: Trip Blank

Collected: 01/08/2007 16:30

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1054	0.73	0.73	ug/L	U
108-88-3	Toluene	C2463-1054	0.55	0.55	ug/L	U
100-41-4	Ethylbenzene	C2463-1054	0.70	0.70	ug/L	U
1330-20-7	Xylenes	C2463-1054	0.92	0.92	ug/L	U

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1054	102.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1054	100.0 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1054	100.0 %	( 90 - 108)	



**Environmental Testing Laboratories, Inc.**

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Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007





# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

## Case Narrative

### EPA 8260 VOLATILE ANALYSIS:

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

- Acetone
- 2-Butanone
- 4-Methyl-2-pentanone
- 2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Acrolein/Acrylonitrile were calibrated at 50, 100, 150, 200 and 250 ppb levels.

Tert Butyl Alcohol (TBA) was calibrated at 50, 200, 500, 1000 and 1500 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.

0701162-2ms and -2msd were spiked with the CLP compound matrix spike containing five 8260 compounds.

Benzene and Toluene are among these CLP spike compounds.



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

## Case Narrative

VOLATILES ANALYSIS  
GCMS-V

### INTRODUCTION

Samples were analyzed in accordance with protocols based on SW846 Methodologies, using accepted QA/QC procedures.

All required QA/QC parameters met acceptable limits unless otherwise noted.

### HOLDING TIME INFORMATION

All analyses were performed within required holding times.

### SAMPLE INFORMATION

Samples were analyzed as per the required protocols.

0701162-1

This sample was analyzed at a 1:50 dilution with results indicating m&p-Xylene present at a concentration above the upper calibration limit. A 1:500 dilution re-analysis was performed for this target compound.

For Total Xylenes, the 1:50 dilution factor was applied by the LIMS system. This does not take into account the 1:500 dilution factor for just m&p-Xylenes.

All sets of data have been included in this report package.

### SURROGATE RECOVERY INFORMATION

All surrogate recoveries met QC criteria.

### MATRIX SPIKE BLANK

The spike recoveries for the matrix spike blank were within QC limits.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Sample 0701162-2 was utilized for the MS/MSD analyses. All spike recoveries and all RPDs were within QC limits.

### METHOD BLANK

The method blank associated with these samples did not contain any target compounds at or above QC limits.

### TUNE PERFORMANCE

All Tune (BFB) specifications met QC criteria.

### CALIBRATION INFORMATION



- 0701162 -

Page: 8 of 10

# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

## Case Narrative

Initial Calibration: All required minimum RRFs and maximum % RSD requirements have been met in accordance with the Method.

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

Acetone  
2-Butanone  
4-Methyl-2-pentanone  
2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Acrolein/Acrylonitrile were calibrated at 50,100,150,200 and 250 ppb levels.

Tert Butyl Alcohol (TBA) was calibrated at 50,200,500,1000 and 1500 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.

0701162-2ms and -2msd were spiked with the CLP compound matrix spike containing five 8260 compounds.

Benzene and Toluene are among these CLP spike compounds.

Continuing Calibration: All required minimum RRFs and maximum %D requirements have been met in accordance with the Method.

Samples were quantitated using the initial calibration average response factor.

## INTERNAL STANDARDS

All area responses and retention times fell within acceptable ranges.



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

## ORGANIC METHOD QUALIFIERS

Q - Qualifier - specified entries and their meanings are as follows:

- U - The analytical result is not detected above the Method Detection Limit (MDL). All MDL's are lower than the lowest calibration standard concentration.
- J - Indicates an estimated value. The concentration reported was detected below the Method Detection Limit (MDL).
- Y - The concentration reported was detected below the lowest calibration standard concentration.
- B - The analyte was found in the associated method blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- E - The concentration of the analyte exceeded the calibration range of the instrument.
- D - This flag indicates a system monitoring compound diluted out.

## INORGANIC METHOD QUALIFIERS

C - (Concentration) qualifiers are as follows:

- B - Entered if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
- U - Entered when the analyte was analyzed for, but not detected above the Method Detection Limit (MDL) which is less than the lowest calibration standard concentration.

Q - Qualifier specific entries and their meanings are as follows:

- E - Reported value is estimated because of the presence of interferences.

M - (Method) qualifiers are as follows:

- A - Flame AA
- AS - Semi-automated Spectrophotometric
- AV - Automated Cold Vapor AA
- C - Manual Spectrophotometric
- F - Furnace AA
- P - ICP
- T - Titrimetric

## OTHER QUALIFIERS

ND - Not Detected



- 0701162 -

Page: 10 of 10

# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

01/16/2007

**Laboratory Identifier: 0701163**

Received: 01/10/2007 16:46

Sampled by: Larry Zeman

**Client: Shapiro Engineers**

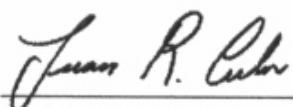
181 South Franklin Ave  
Valley Stream,  
NY 11580

**Project: SHS Flatlands, LLC**

1101 Linwood Street  
Brooklyn,  
NY 11208

**Manager: Bob LoPinto**

Respectfully submitted,



---

Technical Director

NYS Lab ID # 10969  
NJ Cert. # 73812  
CT Cert. # PH0645  
MA Cert. # NY061  
PA Cert. # 68-535  
NH Cert. # 252592-BA  
RI Cert. # 161

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- 0701163 -

Page: 1 of 5

# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

01/16/2007

## BTEX - SW 846 8260B

### Sample: 0701163-1

Client Sample ID: GW-W2

Collected: 01/10/2007 12:46

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 01/11/2007

### Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1060	0.73	0.73	ug/L	U
108-88-3	Toluene	C2463-1060	0.55	0.55	ug/L	U
100-41-4	Ethylbenzene	C2463-1060	0.70	1.97	ug/L	Y
1330-20-7	Xylenes	C2463-1060	0.92	14.8	ug/L	Y

### Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1060	104.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1060	98.7 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1060	98.9 %	( 90 - 108)	

### Sample: 0701163-2

Client Sample ID: Field Blank

Collected: 01/10/2007 12:48

Matrix: Liquid

Type: Grab

Remarks: See Case Narrative

Analyzed Date: 01/11/2007

### Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1061	0.73	0.73	ug/L	U
108-88-3	Toluene	C2463-1061	0.55	0.55	ug/L	U
100-41-4	Ethylbenzene	C2463-1061	0.70	0.70	ug/L	U
1330-20-7	Xylenes	C2463-1061	0.92	0.92	ug/L	U

### Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1061	104.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1061	99.6 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1061	100.0 %	( 90 - 108)	



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
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01/16/2007

BTEX - SW 846 8260B

**Sample: 0701163-3**

Client Sample ID: Trip Blank

Matrix: Liquid

Remarks: See Case Narrative

Analyzed Date: 01/11/2007

Type: Grab

Collected: 01/10/2007 16:30

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration	Units	Q
71-43-2	Benzene	C2463-1062	0.73	0.73	ug/L	U
108-88-3	Toluene	C2463-1062	0.55	0.55	ug/L	U
100-41-4	Ethylbenzene	C2463-1062	0.70	0.70	ug/L	U
1330-20-7	Xylenes	C2463-1062	0.92	0.92	ug/L	U

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2463-1062	104.0 %	( 78 - 112)	
4774-33-8	DIBROMOFLUOROMETHANE	C2463-1062	100.0 %	( 69 - 129)	
2037-26-5	TOLUENE-D8	C2463-1062	100.0 %	( 90 - 108)	



# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735

Phone - 631-249-1456 Fax - 631-249-8344

01/16/2007

## Case Narrative

### EPA 8260 VOLATILE ANALYSIS:

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

Acetone

2-Butanone

4-Methyl-2-pentanone

2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Acrolein/Acrylonitrile were calibrated at 50,100,150,200 and 250 ppb levels.

Tert Butyl Alcohol (TBA) was calibrated at 50,200,500,1000 and 1500 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.





# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

01/16/2007

## ORGANIC METHOD QUALIFIERS

Q - Qualifier - specified entries and their meanings are as follows:

- U - The analytical result is not detected above the Method Detection Limit (MDL).  
All MDL's are lower than the lowest calibration standard concentration.
- J - Indicates an estimated value. The concentration reported was detected below the Method Detection Limit (MDL).
- Y - The concentration reported was detected below the lowest calibration standard concentration.
- B - The analyte was found in the associated method blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- E - The concentration of the analyte exceeded the calibration range of the instrument.
- D - This flag indicates a system monitoring compound diluted out.

## INORGANIC METHOD QUALIFIERS

C - (Concentration) qualifiers are as follows:

- B - Entered if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
- U - Entered when the analyte was analyzed for, but not detected above the Method Detection Limit (MDL) which is less than the lowest calibration standard concentration.

Q - Qualifier specific entries and their meanings are as follows:

- E - Reported value is estimated because of the presence of interferences.

M - (Method) qualifiers are as follows:

- A - Flame AA
- AS - Semi-automated Spectrophotometric
- AV - Automated Cold Vapor AA
- C - Manual Spectrophotometric
- F - Furnace AA
- P - ICP
- T - Titrimetric

## OTHER QUALIFIERS

ND - Not Detected



- 0701163 -

Page: 5 of 5

# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

**Laboratory Identifier: 0612453**

Received: 12/21/2006 10:40

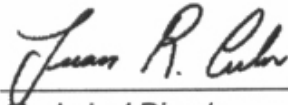
**Client: Shapiro Engineers**

181 South Franklin Ave  
Valley Stream,  
NY 11580

**Project: SHS Flatlands, LLC**

1101 Linwood Street  
Brooklyn,  
NY 11208

Respectfully submitted,



Technical Director

NYS Lab ID # 10969  
NJ Cert. # 73812  
CT Cert. # PH0645  
MA Cert. # NY061  
PA Cert. # 68-535  
NH Cert. # 252592-BA  
RI Cert. # 161

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- 0612453 -

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# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

BTEX - SW 846 8260B

**Sample: 0612453-1**

Client Sample ID: Northern Excav. 12'-depth  
Matrix: Soil Type: Grab  
Remarks: See Case Narrative  
Analyzed Date: 12/27/2006

Collected: 12/21/2006 09:01  
% Solid: 89.9%

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
71-43-2	Benzene	B 2247-7354	1.11	1.11	ug/Kg	U
108-88-3	Toluene	B 2247-7354	0.84	0.84	ug/Kg	U
100-41-4	Ethylbenzene	B 2247-7354	0.95	0.95	ug/Kg	U
1330-20-7	Xylenes	B 2247-7354	1.95	1.95	ug/Kg	U

\* Results are reported on a dry weight basis

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	B2247-7354	99.0 %	( 80 - 110)	
4774-33-8	DIBROMOFLUOROMETHANE	B2247-7354	102.0 %	( 68 - 156)	
2037-26-5	TOLUENE-D8	B2247-7354	98.6 %	( 89 - 113)	

**Sample: 0612453-2**

Client Sample ID: Northern Excav. 13'-depth  
Matrix: Soil Type: Grab  
Remarks: See Case Narrative  
Analyzed Date: 12/27/2006

Collected: 12/21/2006 09:01  
% Solid: 89.3%

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
71-43-2	Benzene	B 2247-7355	1.12	1.12	ug/Kg	U
108-88-3	Toluene	B 2247-7355	0.85	0.85	ug/Kg	U
100-41-4	Ethylbenzene	B 2247-7355	0.96	0.96	ug/Kg	U
1330-20-7	Xylenes	B 2247-7355	1.97	1.97	ug/Kg	U

\* Results are reported on a dry weight basis

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	B2247-7355	101.0 %	( 80 - 110)	
4774-33-8	DIBROMOFLUOROMETHANE	B2247-7355	102.0 %	( 68 - 156)	
2037-26-5	TOLUENE-D8	B2247-7355	99.7 %	( 89 - 113)	



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# Environmental Testing Laboratories, Inc.

208 Route 109, Farmingdale NY 11735  
Phone - 631-249-1456 Fax - 631-249-8344

02/01/2007

BTEX - SW 846 8260B

**Sample: 0612453-3**

Client Sample ID: Southern Excav. 12'-depth  
Matrix: Soil Type: Grab  
Remarks: See Case Narrative  
Analyzed Date: 12/27/2006

Collected: 12/21/2006 09:30  
% Solid: 88%

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
71-43-2	Benzene	B 2247-7357	1.13	1.13	ug/Kg	U
108-88-3	Toluene	B 2247-7357	0.86	0.86	ug/Kg	U
100-41-4	Ethylbenzene	B 2247-7357	0.98	0.98	ug/Kg	U
1330-20-7	Xylenes	B 2247-7357	2.00	2.00	ug/Kg	U

\* Results are reported on a dry weight basis

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	B2247-7357	100.0 %	( 80 - 110)	
4774-33-8	DIBROMOFLUOROMETHANE	B2247-7357	101.0 %	( 68 - 156)	
2037-26-5	TOLUENE-D8	B2247-7357	98.8 %	( 89 - 113)	



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208 Route 109, Farmingdale NY 11735  
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02/01/2007

BTEX - SW 846 8260B

**Sample: 0612453-4**

Client Sample ID: Southern Excav. 13'-depth

Collected: 12/21/2006 09:32

Matrix: Soil

Type: Grab

% Solid: 83.3%

Remarks: See Case Narrative

Analyzed Date: 12/28/2006

## Analytical Results

Cas No	Analyte	File ID	MDL	Concentration*	Units	Q
71-43-2	Benzene	C2451-835	110	110	ug/Kg	U
108-88-3	Toluene	C2451-835	82.5	203	ug/Kg	Y
100-41-4	Ethylbenzene	C2452-856	2100	29100	ug/Kg	
1330-20-7	Xylenes	C2451-835	5490	264000	ug/Kg	

\* Results are reported on a dry weight basis

## Surrogate Results

Cas No	Analyte	File ID	% Recovery	QC Limits	Q
460-00-4	4-BROMOFLUOROBENZENE	C2451-835	102.0 %	( 74 - 124)	
4774-33-8	DIBROMOFLUOROMETHANE	C2451-835	108.0 %	( 77 - 162)	
2037-26-5	TOLUENE-D8	C2451-835	101.0 %	( 73 - 120)	
460-00-4	4-BROMOFLUOROBENZENE	C2452-856	103.0 %	( 74 - 124)	
4774-33-8	DIBROMOFLUOROMETHANE	C2452-856	103.0 %	( 77 - 162)	
2037-26-5	TOLUENE-D8	C2452-856	101.0 %	( 73 - 120)	



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208 Route 109, Farmingdale NY 11735

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02/01/2007

## Case Narrative

### EPA 8260 VOLATILE ANALYSIS:

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

- Acetone
- 2-Butanone
- 4-Methyl-2-pentanone
- 2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Acrolein/Acrylonitrile were calibrated at 50, 100, 150, 200 and 250 ppb levels.

Tert Butyl Alcohol (TBA) was calibrated at 50, 200, 500, 1000 and 1500 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.



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02/01/2007

## Case Narrative

VOLATILES ANALYSIS  
GCMS-V

### INTRODUCTION

Samples were analyzed in accordance with protocols based on SW846 Methodologies, using accepted QA/QC procedures.

All required QA/QC parameters met acceptable limits unless otherwise noted.

### HOLDING TIME INFORMATION

All analyses were performed within required holding times.

### SAMPLE INFORMATION

0612453-4:

This sample was analyzed at a 1:150 dilution with results indicating Ethyl Benzene and m&p-Xylene concentrations above the upper calibration limit. A 1:3000 dilution re-analysis was performed for these target compounds.

All sets of data have been included in this report package.

### SURROGATE RECOVERY INFORMATION

All surrogate recoveries met QC criteria.

### MATRIX SPIKE BLANK

A matrix spike blank was not performed.

### MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Matrix spikes were not designated to be performed on any of the samples in this report package. Batch QC was utilized.

### METHOD BLANK

The method blank associated with these samples did not contain any target compounds at or above QC limits.

### TUNE PERFORMANCE

All Tune (BFB) specifications met QC criteria.



# Environmental Testing Laboratories, Inc.

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02/01/2007

## Case Narrative

### CALIBRATION INFORMATION

Initial Calibration: All required minimum RRFs and maximum % RSD requirements have been met in accordance with the Method.

The following compounds were calibrated at 25, 50, 100, 150 and 200 ppb levels in the initial calibration curve:

- Acetone
- 2-Butanone
- 4-Methyl-2-pentanone
- 2-Hexanone

M&P-Xylenes and 2-Chloroethylvinylether were calibrated at 10, 40, 100, 200 and 300 ppb levels.

Acrolein/Acrylonitrile were calibrated at 50,100,150,200 and 250 ppb levels.

Tert Butyl Alcohol (TBA) was calibrated at 50,200,500,1000 and 1500 ppb levels.

All other compounds were calibrated at 5, 20, 50, 100 and 150 ppb levels.

Continuing Calibration: All required minimum RRFs and maximum %D requirements have been met in accordance with the Method.

Samples were quantitated using the initial calibration average response factor.

### INTERNAL STANDARDS

All area responses and retention times fell within acceptable ranges.





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02/01/2007

## ORGANIC METHOD QUALIFIERS

Q - Qualifier - specified entries and their meanings are as follows:

- U - The analytical result is not detected above the Method Detection Limit (MDL). All MDL's are lower than the lowest calibration standard concentration.
- J - Indicates an estimated value. The concentration reported was detected below the Method Detection Limit (MDL).
- Y - The concentration reported was detected below the lowest calibration standard concentration.
- B - The analyte was found in the associated method blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.
- E - The concentration of the analyte exceeded the calibration range of the instrument.
- D - This flag indicates a system monitoring compound diluted out.

## INORGANIC METHOD QUALIFIERS

C - (Concentration) qualifiers are as follows:

- B - Entered if the reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
- U - Entered when the analyte was analyzed for, but not detected above the Method Detection Limit (MDL) which is less than the lowest calibration standard concentration.

Q - Qualifier specific entries and their meanings are as follows:

- E - Reported value is estimated because of the presence of interferences.

M - (Method) qualifiers are as follows:

- A - Flame AA
- AS - Semi-automated Spectrophotometric
- AV - Automated Cold Vapor AA
- C - Manual Spectrophotometric
- F - Furnace AA
- P - ICP
- T - Titrimetric

## OTHER QUALIFIERS

- ND - Not Detected



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BROOKLYN, NEW YORK 11208

**APPENDIX "D"**

PHOTOGRAPHIC LOG AND PHOTOGRAPHS





01/09/2007 - Groundwater Sampling Preparation



01/09/2007 - Groundwater Flow Rate Determination



01/09/2007 - Groundwater Purging



01/09/2007 - Groundwater Sampling

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BLANK

**APPENDIX "E"**

DATA USABILITY SUMMARY REPORT

**DATA USABILITY SUMMARY REPORT****GENERAL**

This Data Usability Summary Report (DUSR) provides a thorough evaluation of the analytical data submitted by ETL, Inc. for the purpose of determining whether or not the data meets the required level of quality. The DUSR is developed by reviewing and evaluating the analytical data packages. This review is facilitated by answering standard questions relating to the quality of the data, and by following guidance in the USEPA Contract Laboratory Program (CLP) Statement of Work for Organic Analysis. Three groundwater samples collected at 1101 Linwood Street, Brooklyn, were analyzed under data sample package 0701162 and 0701163, while four soil samples were analyzed under data sample package 0612453. A separate DUSR will be performed below for each Data Package, followed by summary comments on the overall data.

**DATA PACKAGE 0701162**

- 1 Is the data package complete under the requirements of New York State Department of Environmental Conservation Analytical Services Protocol (ASP) Category B?*

A review of the data package indicates it contains all the required documentation. This data package consists of two samples, one matrix spike, one matrix spike duplicate, one trip blank and one field blank. The chain of custody was complete and matches the data in the report regarding sample identification. The sample receipt checklist indicates the sample and the chain of custody as delivered were in compliance with the appropriate requirements, including preservation and absence of the headspace in vials.

- 2 Have all holding times been met?*

GW-W1 and GW-W3 samples were collected on 1/9/07. The samples were analyzed on 1/16/07, within 8 days, which is well below the limit of 14 days for preserved samples. No flags, actions or qualifications were applied to the data based on the holding time.

- 3 Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analysis, laboratory controls and sample data fall within the protocol required limits and specifications?*

A review of QA/QC data indicates no discrepancies with the following: the initial and continuing calibration; internal standards; the contract required detection limit (CRDL) standard; method blank; field blank; trip blank; and spike samples. The sample results' data are within the protocol and instrument limits. Sample GW-W1

was utilized for the spike 0701162-2MS and the spike duplicate 0701162-2MSD QC analysis. These analyses were within the required limits. The spike and duplicate analyses spiked with the CLP compound matrix spike containing five 8260 compounds including benzene and toluene.

- 4 *Have all of the data been generated using established and agreed upon analytical methods?*

The analytical method 8260B used for analysis is the approved method listed in Item No. 180.2 of the NYS Department of Health Environmental Laboratory Approval Program Certification Manual.

- 5 *Does an evaluation of the raw data confirm the results provided in the data summary sheets and Quality Control verification forms?*

Yes, an evaluation of the raw data confirms the results provided in the data summary sheets and the Quality Control verification forms.

- 6 *Have the correct data qualifiers been used?*

A review of all QA/QC results indicate that the laboratory applied the correct qualifiers to the appropriate sample results. Also, the proper qualifiers have been noted in the report's table of results.

- 7 Conclusion

Based on a review of the entire data package, it has been determined that all data results are acceptable and meet or exceed the required Quality Controls.

#### DATA PACKAGE 0701163

- 1 *Is the data package complete under the requirements of New York State Department of Environmental Conservation Analytical Services Protocol (ASP) Category B?*

A review of the data package indicates it contains all the required documentation. This data package consists of one sample, one trip blank and one field blank. The chain of custody was complete and matches the data in the report regarding sample identification. The sample receipt checklist indicates the sample and the chain of custody as delivered were in compliance with the appropriate requirements, including preservation and absence of the headspace in vials.

- 2 *Have all holding times been met?*

GW-W2 sample was collected on 1/10/07. The samples were analyzed on 1/11/07, within 2 days, which is well below the limit of 14 days for preserved



samples. No flags, actions or qualifications were applied to the data based on the holding time.

- 3 *Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analysis, laboratory controls and sample data fall within the protocol required limits and specifications?*

A review of QA/QC data indicates no discrepancies with the following: the initial and continuing calibration; internal standards; the contract required detection limit (CRDL) standard; method blank; field blank; and trip blank samples. The sample results' data are within the protocol and instrument limits.

- 4 *Have all of the data been generated using established and agreed upon analytical methods?*

The analytical method 8260B used for analysis is the approved method listed in Item No. 180.2 of the NYS Department of Health Environmental Laboratory Approval Program Certification Manual.

- 5 *Does an evaluation of the raw data confirm the results provided in the data summary sheets and Quality Control verification forms?*

Yes, an evaluation of the raw data confirms the results provided in the data summary sheets and the Quality Control verification forms.

- 6 *Have the correct data qualifiers been used?*

A review of all QA/QC results indicate that the laboratory applied the correct qualifiers to the appropriate sample results. Also, the proper qualifiers have been noted in the report's table of results.

- 7 Conclusion

Based on a review of the entire data package, it has been determined that all data results are acceptable and meet or exceed the required Quality Controls.

#### DATA PACKAGE 0612453

- 1 *Is the data package complete under the requirements of New York State Department of Environmental Conservation Analytical Services Protocol (ASP) Category B?*

A review of the data package indicates it contains all the required documentation. This data package consists of four samples. The chain of custody was complete and matches the data in the report regarding sample identification. The sample

receipt checklist indicates the samples and chain of custody as delivered were in compliance with the appropriate requirements, including preservation.

2 *Have all holding times been met?*

The samples were collected on 12/21/06. The samples were analyzed on 12/27/06, within 7 days, which is well below the limit of 14 days. No flags, actions or qualifications were applied to the data based on the holding time.

3 *Do all the QC data: blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analysis, laboratory controls and sample data fall within the protocol required limits and specifications?*

A review of QA/QC internal standards indicates no discrepancies with the following: the initial and continuing calibration and internal standards the contract required detection limit (CRDL) standard. The samples' results data are within the protocol and instrument limits.

4 *Have all of the data been generated using established and agreed upon analytical methods?*

The analytical method 8260B used for analysis is the approved method listed in Item No. 180.3 of the NYS DOH Environmental Laboratory Approval Program Certification Manual.

5 *Does an evaluation of the raw data confirm the results provided in the data summary sheets and Quality Control verification forms?*

Yes, an evaluation of the raw data confirms the results provided in the data summary sheets and the Quality Control verification forms.

6 *Have the correct data qualifiers been used?*

A review of all QA/QC results indicate that the laboratory applied the correct qualifiers to the appropriate sample results. Also, the proper qualifiers have been noted in the report's table of results.

7 Conclusion

Based on a review of the entire data package, it has been determined that all data results are acceptable and meet the required Quality Controls.

SUMMARY

The data presented on the report's table of results is an acceptable representation of the true value of all contaminants tested. Where laboratory results were above the instrument detection limit, but below the laboratory required detection limit, the actual value is presented.

ELLIOT J. SHAPIRO, P.E., DEE, F, NSPE  
NEW YORK 38645  
MARCH 8, 2007

**CERTIFICATION**

The data produced in this Report is certified to be a true copy of the Field and Analytical Data.

ROBERT A. LO PINTO, P.E., NSPE  
NEW YORK #53312  
MARCH 8, 2007