

February 17, 2003

FILE COPY

Mr. Jeffrey Crawford
Rhode Island Department of Environmental Management
Office of Waste Management
235 Promenade Street
Providence, RI 02908-5767

Subject: Quarterly Monitoring for Springfield Street School Complex, 50 Springfield Street, Providence, RI – December 2002 Monitoring Round

Dear Jeff:

Quarterly monitoring was conducted in December, 2002 at the above referenced site. The monitoring was performed in accordance with the *Long-Term Operation and Maintenance Plan and Site Contingency Plan* (O&M Plan) contained in the *Remedial Action Work Plan* prepared by ATC dated April 2, 1999, revised May 3, 1999 and May 9, 1999. The *Remedial Action Work Plan* (RAWP) was approved by the Rhode Island Department of Environmental Management (RIDEM) in a letter dated June 4, 1999.

Results of monitoring are provided in the following sections and in the attachments.

SOIL COVER MONITORING

LFR conducted a visual survey of the site for evidence of significant soil cover erosion, or for any areas where the orange snow fencing indicator barrier was visible. We did not observe any significant erosion or visible indicator barrier during the December monitoring.

SUB-SLAB VENTILATION SYSTEM

The sub-slab ventilation system was inspected by LFR during the quarterly monitoring on December 20, 2002. Influent and effluent air from the two blowers at the elementary school and the blower in the front shed of the middle school were sampled. The blower in the back shed at the middle school was not operating. This blower has since been repaired and was started up again during the week of January 13, 2003. Samples of influent and effluent gas were collected at each location for screening for methane, carbon dioxide, carbon monoxide, hydrogen sulfide, and volatile organic compounds (VOC). Results are provided in Attachment 1. Methane was not detected in any of the system samples collected.

INDOOR AIR MONITORING

Indoor air monitoring was conducted on September 26, 2002 using a Landtec GA-90 and a hNu photoionization detector. Results of monitoring are provided in the field notes in Attachment 1. No methane was detected during the indoor air monitoring, and all parameters were within the normal expected range for indoor air.

We noted that carbon monoxide concentrations were higher during the December round than during previous rounds. However, the carbon monoxide concentrations were still within the range expected in indoor air (EPA, 2003, *Sources of Indoor Air Quality - Carbon Monoxide (CO)* <http://www.epa.gov/iaq/co.html>).

Diamond Calibration has been performing regular calibration of the methane monitoring system at both schools. The monitors were functioning properly at the time of the quarterly monitoring.

GROUNDWATER MONITORING

Five groundwater monitoring wells were sampled by LFR on December 19, 2002. Prior to sampling, the depth to water was gauged, and a volume of water equivalent to approximately three well volumes was removed from the well. Temperature, specific conductance, dissolved oxygen, and pH were measured in the field prior to sampling. Depth to groundwater ranged between 11.91 and 18.30 feet below the ground surface. Groundwater sampling logs are provided as Attachment 2.

Laboratory certificates of analysis are provided in Attachment 3. Samples were analyzed for VOC by ESS laboratory via EPA method 8260. No contaminants were detected by the laboratory analysis of the groundwater samples.

SOIL GAS MONITORING

Soil gas monitoring was conducted on December 19, 20, 2002 and January 2, 2003. Sampling was conducted by placing an air sampling gripper cap on each well and attaching a piece of tubing. A volume of air equivalent to approximately 3 well volumes was removed from each well using an SKC Airchek Sampling pump. Soil gas was then screened using a Landtec GA-90 Gas Analyzer and an Hnu Photoionization Detector. Air samples were collected in Tedlar bags using the SKC airchek Pump from wells WB-3 and WB-14. The Tedlar bags were submitted to Con-test Analytical Laboratory for analysis for VOC via EPA method TO-14.

The three wells which were not sampled during the September sampling round have been repaired or reinstalled since then and were included in this round of monitoring. As previously noted in correspondence with you, new wells were installed to replace WB-5 and WB-13, and MPL-2 was repaired on December 3, 2002.

Soil Gas Field Monitoring Results

Soil gas samples were screened for methane, carbon monoxide, hydrogen sulfide, carbon dioxide, oxygen, and total volatile organic compounds. Soil gas survey results are provided in Table 1.

Methane was detected in one sample during monitoring. Methane was detected at 10.6% in MPL6. This concentration is over the action limit of 0.5%. Well MPL6 is located on the northern end of the middle school parking lot, in a landscaped area adjacent to Hartford Ave (see attached figure). MPL-6 is not adjacent to any structures. The wells on either side of MPL-6, which are closer to the neighboring structures, did not contain methane.

The source of the methane in well MPL6 has not been determined. Oxygen was detected in this well at 6.4%, and the carbon dioxide concentration was 7.1%. This does not indicate an anaerobic condition under which methane would be produced. The literature indicates that oxygen must be completely depleted before methane is produced. For example, the federal Agency for Toxic Substances and Disease Registry (ASTDR) states in *Landfill Gas Primer An Overview for Environmental Health Professionals*: "Methane will be produced only when oxygen is no longer present in the landfill."

In addition, MPL6 is located near the northeast corner of the site. According to the Site Investigation Report prepared by ATC Associates Inc., this corner of the site was historically occupied by a gas station, and therefore was not part of the area where garbage was buried. The proximity of this well to the property line presents the possibility of an off-site source.

Carbon dioxide concentrations were generally lower than the September monitoring event, but some locations still exceed the action limit. Carbon dioxide concentrations ranged from 0 to 7.1% during this monitoring event.

Concentrations of carbon monoxide were detected in 25 wells, and exceeded the action level in 20 wells during this round of monitoring. The action level for carbon monoxide is 9 ppm. The highest reading for carbon monoxide during this round of monitoring was 19 ppm. Carbon monoxide levels have not been elevated during previous monitoring rounds. Although the action level has been exceeded, the concentrations are still lower than the OSHA PEL for carbon monoxide, which is 35 ppm for an 8 hour work day. Although the Landtec was calibrated prior to beginning the monitoring, it appears that the meter may have been reading slightly high for carbon monoxide since all readings were high relative to previous measurements at the site.

Hydrogen sulfide was detected in 24 wells during this round of monitoring, but none of the concentrations exceeded the action level.




Soil Gas Laboratory Results

Per the O&M Plan, two soil gas samples were collected in Tedlar bags and submitted to Con-Test Analytical Laboratories for analysis by method TO-14. Results of analysis are summarized in Table 2, and the laboratory report is provided in Attachment 4.

If you have any questions regarding this letter, please contact me at 738-3887.

Sincerely,


Donna Holden Pallister, P.E.
Senior Engineer



Thomas L. Daley
Senior Engineer

Table 1
Soil Gas Survey Results
Springfield Street School Complex
Providence, RI
December 2002

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
WB-1	0	1.2	19.1	11	0	0
WB-2	0	0.1	20.7	11	0	0
WB-3	0	0	20.8	11	002	0
WB-4	0	0	20.8	12	0	0
WB-5	0	0	20.7	9	005	1.1
WB-6	0	0	20.8	10	004	0
WB-7	0	0	20.8	11	005	1.0
WB-8	0	0	20.7	10	6	0
WB-12	0	0	20.5	11	6	1
WB-13	0	0	20.6	11	6	2

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
WB-14	0	0	20.5	11	6	1.9
WB-15	0	0	20.6	10	5	1.0
EPL-1	0	0	21	8	3	2
EPL-2	0	0	21	6	2	1
EPL-3	0	0	20.8	4	0	1.1
EPL-4	0	3.1	16.6	1	1	0
EPL-5	0	2.9	15.7	11	2	0
ENE-1	0	0.4	19.7	No reading	5	1.0
MG1	0	0.1	19.8	12	2	1.5
MG2	0	0	20.3	12	5	1.0
MG3	0	0	20.4	12	5	1.0
MG4	0	0.1	20.3	No reading	5	1.0
MG5	0	1.0	19.2	No reading	5	1.5

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MPL2	0	0	20.3	12	5	0
MPL3	0	2.4	17.7	19	6	1.5
MPL5	0	3.8	16.2	12	5	0
MPL6	10.6	7.1	6.4	12	5	0
MPL7	0	3.5	15.7	11	5	2.0
MPL8						
Remedial Action Work Plan Action Levels	0.5%	1,000 PPM (0.1%)	NA	9 PPM	10 PPM	5 PPM

Date: 12/19/02, 12/20/02, and 1/2/03 **Sampled by:** Christina L. McKay

Weather Conditions: 12/19 cold, clear ~30 degrees F, 12/20 rainy ~40 degrees F, 1/2/03 Cold 24 degrees F.

Sampling Equipment: Landtec GA 90, SKC224 pump

Table 3
Soil Gas Laboratory Analysis Results
Springfield Street School Complex
January 2, 2003

Parameter	Results of Analysis in parts per billion by volume (PPBv)	
	WB-14	WB-3
Dichlorodifluoromethane	1.6	0.7
Methylene Chloride	2.5*	2.7*
Tetrachloroethylene	1.7	<0.5
Toluene	3.2	5.9
Trichlorofluoromethane (Freon 11)	5.6	<0.5

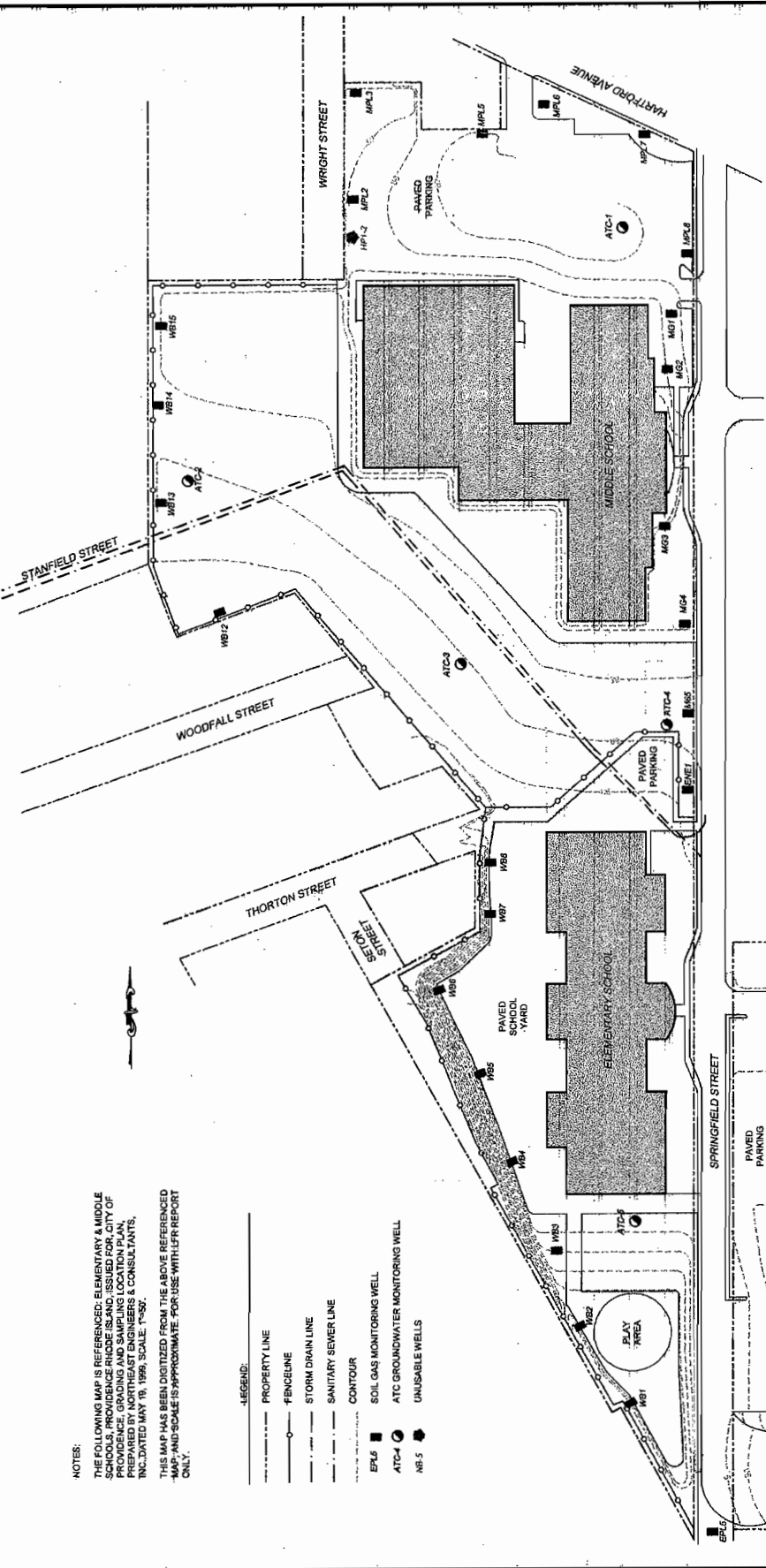
Table lists only detected compounds. See laboratory report for full list of analytes.

<0.5 indicates compound not detected above method reporting limit of 0.5 PPBv.

* Methylene chloride was also detected in the laboratory blank, and is a common laboratory contaminant.

NOTES:
 THE FOLLOWING MAP IS REFERENCED, ELEMENTARY & MIDDLE SCHOOLS, PROVIDENCE RHODE ISLAND ISSUED FOR CITY OF PROVIDENCE, GRADING AND SAMPLING LOCATION PLAN, PREPARED BY NORTHEAST ENGINEERS & CONSULTANTS, INC. DATED MAY 19, 1999, SCALE, 1"=50'.
 THIS MAP HAS BEEN DIGITIZED FROM THE ABOVE REFERENCED MAP, AND SCALE IS APPROXIMATE. FOR USE WITH LFR REPORT ONLY.

- LEGEND:**
- PROPERTY LINE
 - - - FENCELINE
 - STORM DRAIN LINE
 - - - SANITARY SEWER LINE
 - CONTOUR
 - SOIL GAS MONITORING WELL
 - ATC GROUNDWATER MONITORING WELL
 - ⊙ UNUSABLE WELLS



<p>LFR 250 DASHMAN ROAD BUILDING E, SUITE 12 WARWICK, RHODE ISLAND 02886 PHONE: (401) 235-3887 FAX: (401) 732-1886</p>	DATE: 12-15-02 DRAWN BY: RPN CHECKED BY: DP APPROVED BY: AS NOTED SCALE: 08-1-2022-08 FILE NO: 08-1-2022-08 JOB NO:	TITLE: SITE PLAN PROJECT: SPRINGFIELD STREET SCHOOL COMPLEX LOCATION: SPRINGFIELD STREET CITY: PROVIDENCE, RHODE ISLAND	FIGURE: 1
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Attachment 1

Indoor Air and System Monitoring Results

**Indoor Air Monitoring Notes
Springfield Street School Complex
Providence, RI
December 20, 2002
081-12027-00**

Monitoring Location	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
System Monitoring						
Elementary School inlet 1	0	0.4	19.9	2	2	0
Elementary School inlet 2	0	0.4	19.7	3	1	0
Elementary school shed outlet	0	0.3	19.7	0	2	0
Front Middle school shed inlet	0	0.1	20.5	12	2	0
Front Middle school after 2 nd carbon	0	0.1	20.6	3	2	0
Rear Middle school shed inlet	Not operating					
Remedial Action Work Plan Action Levels	0.5%	1,000 ppm	NA	9 ppm	10ppm	5 ppm

Monitoring Location	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Rear Middle school shed after 1 st carbon	Not operating					
Rear Middle school shed after 2 nd carbon	Not operating					
Elementary School Indoor Air Monitoring						
Front office	0	0.1	20.3	8	4	0
Elevator Room	0	0	20.3	10	3	0
Elevator Shaft	0	0.1	20.3	6	2	0
Electrical closet	0	0	20.2	0	3	0
Gym storage closet	0	0	20.2	2	1	0
Boiler Rm. Elec. Closet	0	0.1	20.2	1	1	0
Library	0	0	20.2	3	0	0
Remedial Action Work Plan Action Levels	0.5%	1,000 ppm	NA	9 ppm	10ppm	5 ppm

Monitoring Location	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Second Floor, Rm. 211	0	0	20.3	2	3	0
Second Floor, West closet	0	0	20.1	2	0	0
Stairway	0	0	20.2	1	3	0
Middle School						
Front office	0	0	19.7	2	5	0
Elev. Closet (hallway)	0	0	19.9	1	1	0
Elev. shaft	0	0	19.6	1	2	0
Crack near door to outside near gym	0	0	19.9	1	1	0
Music Room	0	0	20.1	3	1	0
Closet 1 st Floor (hallway)	0	0	20.2	3	2	0
Closet 2 nd Floor	0	0	20.2	3	1	0
Remedial Action Work Plan Action Levels	0.5%	1,000 ppm	NA	9 ppm	10ppm	5 ppm

Monitoring Location	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Room 205	0	0	20.4	2	2	0
Library	0	0	20.3	2	1	0
Janitor office	0	0	20.4	0	0	0
Stairwell north end front	0	0	20.3	0	2	0
Remedial Action Work Plan Action Levels	0.5%	1,000 ppm	NA	9 ppm	10ppm	5 ppm

Attachment 2

Groundwater Sampling Logs



Well Number: ATC-1

Site Name: Springfield Street School

Project Number: 081-12027-00

Site Address: Springfield Street
Providence, RI

GROUNDWATER SAMPLING LOG

Sampled By: CM	Date: 12/19/02
Weather: cold, 40 degrees F	Purging Equipment: bailer
Sampling Equipment: 2 inch bailer	Decontamination method:
Measuring Point (top of PVC/ top of casing): PVC	Depth to water: (feet) 12.96
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 21.65 (feet)	Length of Water Column (depth to bottom - depth to water): 8.69 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters)	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 16.07 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
16 liters	7.5	16.2	6.56	7.1

Total volume Removed: 16 liters

OBSERVATIONS:

Color of groundwater: light brown, cloudy Odors: None Did well go dry: No

Notes: sampled at 1130



Well Number: ATC-2

Site Name: Springfield Street School

GROUNDWATER SAMPLING LOG

Project Number: 081-12027-00

Site Address: Springfield Street
Providence, RI

Sampled By: CM	Date: 12/19/02
Weather: cold, 40 degrees F	Purging Equipment: bailer
Sampling Equipment: 2 inch bailer	Decontamination method:
Measuring Point (top of PVC/ top of casing): PVC	Depth to water: (feet) 12.49
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 19.0 (feet)	Length of Water Column (depth to bottom - depth to water): 6.51 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters)	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 12.04 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
11 liters	9.2	17.0	6.56	7.5
12 liters	12.8	19.9	4.48	7.6

Total volume Removed: 12 liters

OBSERVATIONS:

Color of groundwater: cloudy Odors: None Did well go dry: No

Notes: sampled at 1100.



Well Number: ATC-3

Site Name: Springfield Street School

Project Number: 081-12027-00

Site Address: Springfield Street
Providence, RI

GROUNDWATER SAMPLING LOG

Sampled By: CM	Date: 12/19/02
Weather: cold, 40 degrees F	Purging Equipment: bailer
Sampling Equipment: 2 inch bailer	Decontamination method:
Measuring Point (top of PVC/ top of casing): PVC	Depth to water: (feet) 11.91
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 22.25 (feet)	Length of Water Column (depth to bottom - depth to water): 10.34 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters)	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 19.13 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
19 liters	12.7	266.7	4.41	7.6

Total volume Removed: 19 liters

OBSERVATIONS:

Color of groundwater: cloudy Odors: None Did well go dry: No

Notes: sampled at 1011.



Well Number: ATC-4

Site Name: Springfield Street School

Project Number: 081-12027-00

Site Address: Springfield Street
Providence, RI

GROUNDWATER SAMPLING LOG

Sampled By: CM	Date: 12/19/02
Weather: cold, 40 degrees F	Purging Equipment: bailer
Sampling Equipment: 2 inch bailer	Decontamination method:
Measuring Point (top of PVC/ top of casing): PVC	Depth to water: (feet) 13.81
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 24.00 (feet)	Length of Water Column (depth to bottom – depth to water): 10.19 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters)	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 18.85 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
18 liters	10.9	17.5	4.65	7.4
19 liters	12.7	32.7	3.51	7.4

Total volume Removed: 19 liters

OBSERVATIONS:

Color of groundwater: clear Odors: None Did well go dry: No

Notes: sampled at 0930.



Well Number: ATC-5

Site Name: Springfield Street School

Project Number: 081-12027-00

Site Address: Springfield Street
Providence, RI

GROUNDWATER SAMPLING LOG

Sampled By: CM	Date: 12/19/02
Weather: cold, 40 degrees F	Purging Equipment: bailer
Sampling Equipment: 1 inch bailer	Decontamination method:
Measuring Point (top of PVC/ top of casing): PVC	Depth to water: (feet) 18.30
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 20.80 (feet)	Length of Water Column (depth to bottom - depth to water): 2.5 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters)	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 4.6 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
21 liters	11.1	18.0	3.56	8.0

Total volume Removed: 21 liters

OBSERVATIONS:

Color of groundwater: light brown Odors: None Did well go dry: YES

Notes: 0900 attempted to sample well. The PVC has cracked. The 2 inch bailer will not fit into well. Return to Site with a 1 inch bailer. Sampled at 1400.

Attachment 3

Laboratory Report for Groundwater

ESS Laboratory

Division of Thielsch Engineering, Inc.

December 27, 2002

Donna Pallister
LFR Levine-Fricke
250 Centerville Road
Bldg. E, Suite 12
Warwick, RI 02886

Dear Donna Pallister:

We appreciate this opportunity to provide you with our analytical services. ESS Laboratory is committed to providing the highest quality service. Our dedication to each client includes responsiveness to emergencies, dependable, well-written reports, and client services, which include the availability of all analysts to answer your inquiries.

Enclosed is your data report. The invoice for this project is being forwarded to your Accounts Payable Department unless other arrangements have previously been made with the laboratory. Samples will be disposed of thirty days after the final report has been mailed. If you have any questions or concerns, please feel free to call our Customer Service Department. We value our continued relationship and look forward to hearing from you in the future.

Sincerely,

ESS LABORATORY



Laurel Stoddard
Laboratory Director

Enclosure

MDP

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

CLIENT: LFR Levine-Fricke
CLIENT PROJECT ID: Springfield St.
ESS PROJECT ID: 02120237

Sample Receipt

5 Ground Water samples and 1 Trip Blank were received on December 20, 2002 for the analysis specified on the enclosed Chain of Custody Record.

Analytical Summary

The project as described above has been analyzed in accordance with the ESS Quality Assurance Plan. This plan utilizes the following methodologies: US EPA SW-846, US EPA Methods for Chemical Analysis of Water and Wastes per 40 CFR Part 136, APHA Standard Methods for the Examination of Water and Wastewater, American Society for Testing and Materials (ASTM), and other recognized methodologies. The analyses with these noted observations are in conformance to the Quality Assurance Plan. In chromatographic analysis, manual integration may be used instead of automated integration because it produces more accurate results.

Volatile Organics Analysis

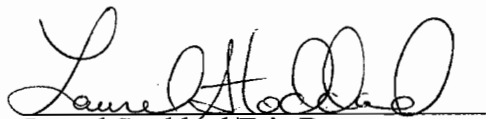
Blank Spike was outside of the recommended range for Trichlorofluoromethane and Vinyl Acetate. These analytes were biased high, however, samples were non detect for these analytes.

The batch Matrix Spike/Matrix Spike Duplicate was outside of the recommended range for 2-Butanone and Vinyl Acetate due to matrix interferences. These analytes were biased high, however, samples were non detect for these analytes.

No other observations noted.

This signed Certificate of Analysis is our approved release of your analytical results. Beginning with this Project Narrative, the entire report has been paginated. The Chain of Custody is the final report page. This report should not be copied except in full without the approval of the laboratory.

End of project narrative.



Laurel Stoddard/Eric Baanante
Laboratory Director/Operations Manager

12/30/02
Date

MDP

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-1
Date Sampled: 12/19/02
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: 02120237-01
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,3-Trichloropropane	ND	1
1,2,4-Trichlorobenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,2-Dibromo-3-Chloropropane	ND	5
1,2-Dibromoethane	ND	1
1,2-Dichlorobenzene	ND	1
1,2-Dichloroethane	ND	1
1,2-Dichloropropane	ND	1
1,3,5-Trimethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,3-Dichloropropane	ND	1
1,4-Dichlorobenzene	ND	1
1-Chlorohexane	ND	1
2,2-Dichloropropane	ND	1
2-Butanone	ND	25
2-Chlorotoluene	ND	1
2-Hexanone	ND	10
4-Chlorotoluene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-Pentanone	ND	10
Acetone	ND	25
Benzene	ND	1
Bromobenzene	ND	1
Bromochloromethane	ND	1
Bromodichloromethane	ND	1
Bromoform	ND	1
Bromomethane	ND	2
Carbon Disulfide	ND	1
Carbon Tetrachloride	ND	1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: ATC-1

ESS Project ID: 02120237
ESS Sample ID: 02120237-01

Test Name	Result	MRL
Chlorobenzene	ND	1
Chloroethane	ND	2
Chloroform	ND	1
Chloromethane	ND	2
cis-1,2-Dichloroethene	ND	1
cis-1,3-Dichloropropene	ND	0.5
Dibromochloromethane	ND	1
Dibromomethane	ND	1
Dichlorodifluoromethane	ND	2
Diethyl Ether	ND	1
Ethylbenzene	ND	1
Hexachlorobutadiene	ND	0.6
Isopropylbenzene	ND	1
Methyl tert-Butyl Ether	ND	1
Methylene Chloride	ND	2
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
Naphthalene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
Tetrachloroethene	ND	1
Tetrahydrofuran	ND	5
Toluene	ND	1
trans-1,2-Dichloroethene	ND	1
trans-1,3-Dichloropropene	ND	0.5
Trichloroethene	ND	1
Trichlorofluoromethane	ND	2
Vinyl Acetate	ND	1
Vinyl Chloride	ND	2
Xylenes (Total)	ND	2

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ *MD*

Date: 12/24/01

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-2
Date Sampled: 12/19/02
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: 02120237-02
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,3-Trichloropropane	ND	1
1,2,4-Trichlorobenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,2-Dibromo-3-Chloropropane	ND	5
1,2-Dibromoethane	ND	1
1,2-Dichlorobenzene	ND	1
1,2-Dichloroethane	ND	1
1,2-Dichloropropane	ND	1
1,3,5-Trimethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,3-Dichloropropane	ND	1
1,4-Dichlorobenzene	ND	1
1-Chlorohexane	ND	1
2,2-Dichloropropane	ND	1
2-Butanone	ND	25
2-Chlorotoluene	ND	1
2-Hexanone	ND	10
4-Chlorotoluene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-Pentanone	ND	10
Acetone	ND	25
Benzene	ND	1
Bromobenzene	ND	1
Bromochloromethane	ND	1
Bromodichloromethane	ND	1
Bromoform	ND	1
Bromomethane	ND	2
Carbon Disulfide	ND	1
Carbon Tetrachloride	ND	1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: ATC-2

ESS Project ID: 02120237
ESS Sample ID: 02120237-02

Test Name	Result	MRL
Chlorobenzene	ND	1
Chloroethane	ND	2
Chloroform	ND	1
Chloromethane	ND	2
cis-1,2-Dichloroethene	ND	1
cis-1,3-Dichloropropene	ND	0.5
Dibromochloromethane	ND	1
Dibromomethane	ND	1
Dichlorodifluoromethane	ND	2
Diethyl Ether	ND	1
Ethylbenzene	ND	1
Hexachlorobutadiene	ND	0.6
Isopropylbenzene	ND	1
Methyl tert-Butyl Ether	ND	1
Methylene Chloride	ND	2
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
Naphthalene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
Tetrachloroethene	ND	1
Tetrahydrofuran	ND	5
Toluene	ND	1
trans-1,2-Dichloroethene	ND	1
trans-1,3-Dichloropropene	ND	0.5
Trichloroethene	ND	1
Trichlorofluoromethane	ND	2
Vinyl Acetate	ND	1
Vinyl Chloride	ND	2
Xylenes (Total)	ND	2

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ *rd*

Date: _____ *12/24/01*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-3
Date Sampled: 12/19/02
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: 02120237-03
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,3-Trichloropropane	ND	1
1,2,4-Trichlorobenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,2-Dibromo-3-Chloropropane	ND	5
1,2-Dibromoethane	ND	1
1,2-Dichlorobenzene	ND	1
1,2-Dichloroethane	ND	1
1,2-Dichloropropane	ND	1
1,3,5-Trimethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,3-Dichloropropane	ND	1
1,4-Dichlorobenzene	ND	1
1-Chlorohexane	ND	1
2,2-Dichloropropane	ND	1
2-Butanone	ND	25
2-Chlorotoluene	ND	1
2-Hexanone	ND	10
4-Chlorotoluene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-Pentanone	ND	10
Acetone	ND	25
Benzene	ND	1
Bromobenzene	ND	1
Bromochloromethane	ND	1
Bromodichloromethane	ND	1
Bromoform	ND	1
Bromomethane	ND	2
Carbon Disulfide	ND	1
Carbon Tetrachloride	ND	1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: ATC-3

ESS Project ID: 02120237
ESS Sample ID: 02120237-03

Test Name	Result	MRL
Chlorobenzene	ND	1
Chloroethane	ND	2
Chloroform	ND	1
Chloromethane	ND	2
cis-1,2-Dichloroethene	ND	1
cis-1,3-Dichloropropene	ND	0.5
Dibromochloromethane	ND	1
Dibromomethane	ND	1
Dichlorodifluoromethane	ND	2
Diethyl Ether	ND	1
Ethylbenzene	ND	1
Hexachlorobutadiene	ND	0.6
Isopropylbenzene	ND	1
Methyl tert-Butyl Ether	ND	1
Methylene Chloride	ND	2
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
Naphthalene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
Tetrachloroethene	ND	1
Tetrahydrofuran	ND	5
Toluene	ND	1
trans-1,2-Dichloroethene	ND	1
trans-1,3-Dichloropropene	ND	0.5
Trichloroethene	ND	1
Trichlorofluoromethane	ND	2
Vinyl Acetate	ND	1
Vinyl Chloride	ND	2
Xylenes (Total)	ND	2

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ *md*

Date: _____ *12/24/12*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-4
Date Sampled: 12/19/02
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: 02120237-04
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,3-Trichloropropane	ND	1
1,2,4-Trichlorobenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,2-Dibromo-3-Chloropropane	ND	5
1,2-Dibromoethane	ND	1
1,2-Dichlorobenzene	ND	1
1,2-Dichloroethane	ND	1
1,2-Dichloropropane	ND	1
1,3,5-Trimethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,3-Dichloropropane	ND	1
1,4-Dichlorobenzene	ND	1
1-Chlorohexane	ND	1
2,2-Dichloropropane	ND	1
2-Butanone	ND	25
2-Chlorotoluene	ND	1
2-Hexanone	ND	10
4-Chlorotoluene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-Pentanone	ND	10
Acetone	ND	25
Benzene	ND	1
Bromobenzene	ND	1
Bromochloromethane	ND	1
Bromodichloromethane	ND	1
Bromoform	ND	1
Bromomethane	ND	2
Carbon Disulfide	ND	1
Carbon Tetrachloride	ND	1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: ATC-4

ESS Project ID: 02120237
ESS Sample ID: 02120237-04

Test Name	Result	MRL
Chlorobenzene	ND	1
Chloroethane	ND	2
Chloroform	ND	1
Chloromethane	ND	2
cis-1,2-Dichloroethene	ND	1
cis-1,3-Dichloropropene	ND	0.5
Dibromochloromethane	ND	1
Dibromomethane	ND	1
Dichlorodifluoromethane	ND	2
Diethyl Ether	ND	1
Ethylbenzene	ND	1
Hexachlorobutadiene	ND	0.6
Isopropylbenzene	ND	1
Methyl tert-Butyl Ether	ND	1
Methylene Chloride	ND	2
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
Naphthalene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
Tetrachloroethene	ND	1
Tetrahydrofuran	ND	5
Toluene	ND	1
trans-1,2-Dichloroethene	ND	1
trans-1,3-Dichloropropene	ND	0.5
Trichloroethene	ND	1
Trichlorofluoromethane	ND	2
Vinyl Acetate	ND	1
Vinyl Chloride	ND	2
Xylenes (Total)	ND	2

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ *ND*

Date: _____ *12/24/09*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-5
Date Sampled: 12/19/02
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: 02120237-05
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,3-Trichloropropane	ND	1
1,2,4-Trichlorobenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,2-Dibromo-3-Chloropropane	ND	5
1,2-Dibromoethane	ND	1
1,2-Dichlorobenzene	ND	1
1,2-Dichloroethane	ND	1
1,2-Dichloropropane	ND	1
1,3,5-Trimethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,3-Dichloropropane	ND	1
1,4-Dichlorobenzene	ND	1
1-Chlorohexane	ND	1
2,2-Dichloropropane	ND	1
2-Butanone	ND	25
2-Chlorotoluene	ND	1
2-Hexanone	ND	10
4-Chlorotoluene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-Pentanone	ND	10
Acetone	ND	25
Benzene	ND	1
Bromobenzene	ND	1
Bromochloromethane	ND	1
Bromodichloromethane	ND	1
Bromoform	ND	1
Bromomethane	ND	2
Carbon Disulfide	ND	1
Carbon Tetrachloride	ND	1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: ATC-5

ESS Project ID: 02120237
ESS Sample ID: 02120237-05

Test Name	Result	MRL
Chlorobenzene	ND	1
Chloroethane	ND	2
Chloroform	ND	1
Chloromethane	ND	2
cis-1,2-Dichloroethene	ND	1
cis-1,3-Dichloropropene	ND	0.5
Dibromochloromethane	ND	1
Dibromomethane	ND	1
Dichlorodifluoromethane	ND	2
Diethyl Ether	ND	1
Ethylbenzene	ND	1
Hexachlorobutadiene	ND	0.6
Isopropylbenzene	ND	1
Methyl tert-Butyl Ether	ND	1
Methylene Chloride	ND	2
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
Naphthalene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
Tetrachloroethene	ND	1
Tetrahydrofuran	ND	5
Toluene	ND	1
trans-1,2-Dichloroethene	ND	1
trans-1,3-Dichloropropene	ND	0.5
Trichloroethene	ND	1
Trichlorofluoromethane	ND	2
Vinyl Acetate	ND	1
Vinyl Chloride	ND	2
Xylenes (Total)	ND	2

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____

Date: 12/24/11

Page 2 of 2

MDP 011

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: Trip Blank
Date Sampled: 12/19/02
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: 02120237-06
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,3-Trichloropropane	ND	1
1,2,4-Trichlorobenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,2-Dibromo-3-Chloropropane	ND	5
1,2-Dibromoethane	ND	1
1,2-Dichlorobenzene	ND	1
1,2-Dichloroethane	ND	1
1,2-Dichloropropane	ND	1
1,3,5-Trimethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,3-Dichloropropane	ND	1
1,4-Dichlorobenzene	ND	1
1-Chlorohexane	ND	1
2,2-Dichloropropane	ND	1
2-Butanone	ND	25
2-Chlorotoluene	ND	1
2-Hexanone	ND	10
4-Chlorotoluene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-Pentanone	ND	10
Acetone	ND	25
Benzene	ND	1
Bromobenzene	ND	1
Bromochloromethane	ND	1
Bromodichloromethane	ND	1
Bromoform	ND	1
Bromomethane	ND	2
Carbon Disulfide	ND	1
Carbon Tetrachloride	ND	1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: Trip Blank

ESS Project ID: 02120237
ESS Sample ID: 02120237-06

Test Name	Result	MRL
Chlorobenzene	ND	1
Chloroethane	ND	2
Chloroform	ND	1
Chloromethane	ND	2
cis-1,2-Dichloroethene	ND	1
cis-1,3-Dichloropropene	ND	0.5
Dibromochloromethane	ND	1
Dibromomethane	ND	1
Dichlorodifluoromethane	ND	2
Diethyl Ether	ND	1
Ethylbenzene	ND	1
Hexachlorobutadiene	ND	0.6
Isopropylbenzene	ND	1
Methyl tert-Butyl Ether	ND	1
Methylene Chloride	ND	5
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
Naphthalene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
Tetrachloroethene	ND	1
Tetrahydrofuran	ND	5
Toluene	ND	1
trans-1,2-Dichloroethene	ND	1
trans-1,3-Dichloropropene	ND	0.5
Trichloroethene	ND	1
Trichlorofluoromethane	ND	2
Vinyl Acetate	ND	1
Vinyl Chloride	ND	2
Xylenes (Total)	ND	2

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ *rd*

Date: _____ *12/24/07*

Page 2 of 2

MDP 013

QUALITY CONTROL SECTION

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B Surrogate Report

Client Name: LFR Levine-Fricke

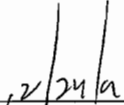
Client Project ID: Springfield St.

ESS Project ID: 02120237

Lab ID (Dilution Factor)	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
02120237-01MS (1x)	88	96	100
02120237-01MSD (1x)	86	95	98
02120237-01 (1x)	89	97	92
02120237-02 (1x)	91	97	91
02120237-03 (1x)	89	102	92
02120237-04 (1x)	88	98	89
02120237-05 (1x)	89	102	91
02120237-06 (1x)	86	96	90
VMH122302B1 (1x)	85	96	90
VMH122302C1 (1x)	89	94	96

Surrogate	Limits
1,2-Dichloroethane-d4	70 - 130
Toluene-d8	70 - 130
4-Bromofluorobenzene	70 - 130

Approved by: _____ 

Date: _____ 

Page 1 of 1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: Method Blank
Date Sampled: N/A
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: VMH122302B1
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Test Name	Result	MRL
1,1,1,2-Tetrachloroethane	ND	1
1,1,1-Trichloroethane	ND	1
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	1
1,1-Dichloroethane	ND	1
1,1-Dichloroethene	ND	1
1,1-Dichloropropene	ND	1
1,2,3-Trichlorobenzene	ND	1
1,2,3-Trichloropropane	ND	1
1,2,4-Trichlorobenzene	ND	1
1,2,4-Trimethylbenzene	ND	1
1,2-Dibromo-3-Chloropropane	ND	5
1,2-Dibromoethane	ND	1
1,2-Dichlorobenzene	ND	1
1,2-Dichloroethane	ND	1
1,2-Dichloropropane	ND	1
1,3,5-Trimethylbenzene	ND	1
1,3-Dichlorobenzene	ND	1
1,3-Dichloropropane	ND	1
1,4-Dichlorobenzene	ND	1
1-Chlorohexane	ND	1
2,2-Dichloropropane	ND	1
2-Butanone	ND	25
2-Chlorotoluene	ND	1
2-Hexanone	ND	10
4-Chlorotoluene	ND	1
4-Isopropyltoluene	ND	1
4-Methyl-2-Pentanone	ND	10
Acetone	ND	25
Benzene	ND	1
Bromobenzene	ND	1
Bromochloromethane	ND	1
Bromodichloromethane	ND	1
Bromoform	ND	1
Bromomethane	ND	2
Carbon Disulfide	ND	1
Carbon Tetrachloride	ND	1

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: Method Blank

ESS Project ID: 02120237
ESS Sample ID: VMH122302B1

Test Name	Result	MRL
Chlorobenzene	ND	1
Chloroethane	ND	2
Chloroform	ND	1
Chloromethane	ND	2
cis-1,2-Dichloroethene	ND	1
cis-1,3-Dichloropropene	ND	0.5
Dibromochloromethane	ND	1
Dibromomethane	ND	1
Dichlorodifluoromethane	ND	2
Diethyl Ether	ND	1
Ethylbenzene	ND	1
Hexachlorobutadiene	ND	0.6
Isopropylbenzene	ND	1
Methyl tert-Butyl Ether	ND	1
Methylene Chloride	ND	5
n-Butylbenzene	ND	1
n-Propylbenzene	ND	1
Naphthalene	ND	1
sec-Butylbenzene	ND	1
Styrene	ND	1
tert-Butylbenzene	ND	1
Tetrachloroethene	ND	1
Tetrahydrofuran	ND	5
Toluene	ND	1
trans-1,2-Dichloroethene	ND	1
trans-1,3-Dichloropropene	ND	0.5
Trichloroethene	ND	1
Trichlorofluoromethane	ND	2
Vinyl Acetate	ND	1
Vinyl Chloride	ND	2
Xylenes (Total)	ND	2

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____ *MD*

Date: _____ *12/24/09*

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: Laboratory Control Sample
Date Sampled: N/A
Analyst: MD
Date Analyzed: 12/23/02

ESS Project ID: 02120237
ESS Sample ID: VMH122302C1
Units: µg/L
Dilution: 1
Percent Solid: N/A
Sample Amount: 10 ml

Compound	Spike Added	LCS Concentration	LCS Percent Recovery	QC Recovery Limits
1,1,1,2-Tetrachloroethane	25	22.4	90	70-130
1,1,1-Trichloroethane	25	23.4	94	70-130
1,1,2,2-Tetrachloroethane	25	27.6	110	70-130
1,1,2-Trichloroethane	25	24.7	99	70-130
1,1-Dichloroethane	25	21.9	88	70-130
1,1-Dichloroethene	25	30	120	70-130
1,1-Dichloropropene	25	22.8	91	70-130
1,2,3-Trichlorobenzene	25	25.2	101	70-130
1,2,3-Trichloropropane	25	28.9	116	70-130
1,2,4-Trichlorobenzene	25	25.8	103	70-130
1,2,4-Trimethylbenzene	25	23.7	95	70-130
1,2-Dibromo-3-Chloropropane	25	27.1	108	70-130
1,2-Dibromoethane	25	23.8	95	70-130
1,2-Dichlorobenzene	25	25.8	103	70-130
1,2-Dichloroethane	25	22.7	91	70-130
1,2-Dichloropropane	25	22.6	90	70-130
1,3,5-Trimethylbenzene	25	24.7	99	70-130
1,3-Dichlorobenzene	25	25.4	102	70-130
1,3-Dichloropropane	25	24.6	98	70-130
1,4-Dichlorobenzene	25	24.2	97	70-130
1-Chlorohexane	25	24.1	96	70-130
2,2-Dichloropropane	25	19.8	79	70-130
2-Butanone	25	30.1	120	70-130
2-Chlorotoluene	25	22.4	90	70-130
2-Hexanone	25	23.6	94	70-130
4-Chlorotoluene	25	24.2	97	70-130
4-Isopropyltoluene	25	23.3	93	70-130
4-Methyl-2-Pentanone	25	25.7	103	70-130
Acetone	25	30.2	121	70-130
Benzene	25	23.3	93	70-130
Bromobenzene	25	26.5	106	70-130
Bromochloromethane	25	23.5	94	70-130
Bromodichloromethane	25	25.7	103	70-130
Bromoform	25	23.4	94	70-130
Bromomethane	25	27.7	111	70-130
Carbon Disulfide	25	23.8	95	70-130

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

Client Project ID: Springfield St.
Client Sample ID: Laboratory Control Sample

ESS Project ID: 02120237
ESS Sample ID: VMH122302C1

Compound	Spike Added	LCS Concentration	LCS Percent Recovery	QC Recovery Limits
Carbon Tetrachloride	25	24.4	98	70-130
Chlorobenzene	25	23.8	95	70-130
Chloroethane	25	32.6	130	70-130
Chloroform	25	22.7	91	70-130
Chloromethane	25	23	92	70-130
cis-1,2-Dichloroethene	25	22.2	89	70-130
cis-1,3-Dichloropropene	25	23.1	92	70-130
Dibromochloromethane	25	25.1	100	70-130
Dibromomethane	25	24.2	97	70-130
Dichlorodifluoromethane	25	28.9	116	70-130
Ethylbenzene	25	23.8	95	70-130
Hexachlorobutadiene	25	26.4	106	70-130
Isopropylbenzene	25	24.8	99	70-130
Methyl tert-Butyl Ether	25	22	88	70-130
Methylene Chloride	25	25.6	102	70-130
n-Butylbenzene	25	22.8	91	70-130
n-Propylbenzene	25	23.8	95	70-130
Naphthalene	25	26.1	104	70-130
sec-Butylbenzene	25	23.8	95	70-130
Styrene	25	24.7	99	70-130
tert-Butylbenzene	25	23.7	95	70-130
Tetrachloroethene	25	26.1	104	70-130
Tetrahydrofuran	25	24.7	99	70-130
Toluene	25	23.2	93	70-130
trans-1,2-Dichloroethene	25	24	96	70-130
trans-1,3-Dichloropropene	25	24.7	99	70-130
Trichloroethene	25	22.5	90	70-130
Trichlorofluoromethane	25	36.6	146+	70-130
Vinyl Acetate	25	39.2	157+	70-130
Vinyl Chloride	25	22.5	90	70-130
Xylenes (Total)	75	75.4	101	70-130

+ = Outside QC Limits.

MDL = Method Detection Limit.

MRL = Method Reporting Limit.

ND = Not Detected above MDL.

Approved By: _____

Date: 2/24/11

Page 2 of 2

MDP 019

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B Matrix Spike Report

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-1MS

ESS Project ID: 02120237
ESS Sample ID: 02120237-01MS
Units: µg/L

Compound Name	Sample Result	MS Conc.	Spike Added	MS % Recovery	Recovery Limits
1,1,1,2-Tetrachloroethane	ND	21.5	25	86	70-130
1,1,1-Trichloroethane	ND	26.7	25	107	70-130
1,1,2,2-Tetrachloroethane	ND	23.6	25	94	70-130
1,1,2-Trichloroethane	ND	24.2	25	97	70-130
1,1-Dichloroethane	ND	24.9	25	100	70-130
1,1-Dichloroethene	ND	29.7	25	119	70-130
1,1-Dichloropropene	ND	23.7	25	95	70-130
1,2,3-Trichlorobenzene	ND	21.2	25	85	70-130
1,2,3-Trichloropropane	ND	24.2	25	97	70-130
1,2,4-Trichlorobenzene	ND	21.6	25	86	70-130
1,2,4-Trimethylbenzene	ND	21.1	25	84	70-130
1,2-Dibromo-3-Chloropropane	ND	23.9	25	96	70-130
1,2-Dibromoethane	ND	22.9	25	92	70-130
1,2-Dichlorobenzene	ND	23.1	25	92	70-130
1,2-Dichloroethane	ND	22.4	25	90	70-130
1,2-Dichloropropane	ND	22.2	25	89	70-130
1,3,5-Trimethylbenzene	ND	21.8	25	87	70-130
1,3-Dichlorobenzene	ND	21.9	25	88	70-130
1,3-Dichloropropane	ND	23.8	25	95	70-130
1,4-Dichlorobenzene	ND	21.5	25	86	70-130
1-Chlorohexane	ND	23.6	25	94	70-130
2,2-Dichloropropane	ND	24.8	25	99	70-130
2-Butanone	ND	35.4	25	142+	70-130
2-Chlorotoluene	ND	23.2	25	93	70-130
2-Hexanone	ND	23.7	25	95	70-130
4-Chlorotoluene	ND	21.5	25	86	70-130
4-Isopropyltoluene	ND	20.5	25	82	70-130
4-Methyl-2-Pentanone	ND	24.7	25	99	70-130
Acetone	ND	26.5	25	106	70-130
Benzene	ND	23.5	25	94	70-130
Bromobenzene	ND	23.4	25	94	70-130
Bromochloromethane	ND	30.5	25	122	70-130
Bromodichloromethane	ND	24.6	25	98	70-130
Bromoform	ND	22.1	25	88	70-130
Bromomethane	ND	18.2	25	73	70-130
Carbon Disulfide	ND	24.2	25	97	70-130
Carbon Tetrachloride	ND	25.1	25	100	70-130
Chlorobenzene	ND	23.2	25	93	70-130

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B Matrix Spike Report Continued

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-1MS

ESS Project ID: 02120237
ESS Sample ID: 02120237-01MS
Units: µg/L

Compound Name	Sample Result	MS Conc.	Spike Added	MS % Recovery	Recovery Limits
Chloroethane	ND	26.6	25	106	70-130
Chloroform	ND	28.4	25	114	70-130
Chloromethane	ND	20.8	25	83	70-130
cis-1,2-Dichloroethene	ND	27.8	25	111	70-130
cis-1,3-Dichloropropene	ND	22	25	88	70-130
Dibromochloromethane	ND	23.6	25	94	70-130
Dibromomethane	ND	22.9	25	92	70-130
Dichlorodifluoromethane	ND	26.6	25	106	70-130
Diethyl Ether	ND	24	25	96	70-130
Ethylbenzene	ND	23.5	25	94	70-130
Hexachlorobutadiene	ND	20.4	25	82	70-130
Isopropylbenzene	ND	24.2	25	97	70-130
Methyl tert-Butyl Ether	ND	24.3	25	97	70-130
Methylene Chloride	ND	27.5	25	110	70-130
n-Butylbenzene	ND	20.7	25	83	70-130
n-Propylbenzene	ND	21.2	25	85	70-130
Naphthalene	ND	22.1	25	88	70-130
sec-Butylbenzene	ND	21.2	25	85	70-130
Styrene	ND	23.8	25	95	70-130
tert-Butylbenzene	ND	21.4	25	86	70-130
Tetrachloroethene	ND	25.8	25	103	70-130
Tetrahydrofuran	ND	25.5	25	102	70-130
Toluene	ND	22.9	25	92	70-130
trans-1,2-Dichloroethene	ND	27	25	108	70-130
trans-1,3-Dichloropropene	ND	25.1	25	100	70-130
Trichloroethene	ND	22.6	25	90	70-130
Trichlorofluoromethane	ND	31.7	25	127	70-130
Vinyl Acetate	ND	41.1	25	164+	70-130
Vinyl Chloride	ND	25.2	25	101	70-130
Xylene O	ND	24.4	25	98	70-130
Xylene P,M	ND	48.7	50	97	70-130
Xylenes (Total)	ND	73.1	100	73	70-130

+ = Outside QC Limits.

Approved By: _____

Date: 12/21/11

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B Matrix Spike Duplicate Report

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-1MSD

ESS Project ID: 02120237
ESS Sample ID: 02120237-01MSD
Units: µg/L

Compound Name	Sample Result	MSD Conc.	Spike Added	MSD % Recovery	RPD	Recovery Limits	RPD Limits
1,1,1,2-Tetrachloroethane	ND	21.3	25	85	1	70-130	20
1,1,1-Trichloroethane	ND	24	25	96	11	70-130	20
1,1,2,2-Tetrachloroethane	ND	23.5	25	94	0	70-130	20
1,1,2-Trichloroethane	ND	23.4	25	94	3	70-130	20
1,1-Dichloroethane	ND	25.1	25	100	1	70-130	20
1,1-Dichloroethene	ND	28.8	25	115	3	70-130	20
1,1-Dichloropropene	ND	23	25	92	3	70-130	20
1,2,3-Trichlorobenzene	ND	22.3	25	89	5	70-130	20
1,2,3-Trichloropropane	ND	24.2	25	97	0	70-130	20
1,2,4-Trichlorobenzene	ND	22	25	88	2	70-130	20
1,2,4-Trimethylbenzene	ND	21.4	25	86	1	70-130	20
1,2-Dibromo-3-Chloropropane	ND	22.8	25	91	5	70-130	20
1,2-Dibromoethane	ND	22.8	25	91	0	70-130	20
1,2-Dichlorobenzene	ND	23.4	25	94	1	70-130	20
1,2-Dichloroethane	ND	22.1	25	88	1	70-130	20
1,2-Dichloropropane	ND	22.1	25	88	0	70-130	20
1,3,5-Trimethylbenzene	ND	22	25	88	1	70-130	20
1,3-Dichlorobenzene	ND	22.3	25	89	2	70-130	20
1,3-Dichloropropane	ND	23.6	25	94	1	70-130	20
1,4-Dichlorobenzene	ND	21.9	25	88	2	70-130	20
1-Chlorohexane	ND	23.8	25	95	1	70-130	20
2,2-Dichloropropane	ND	23.7	25	95	5	70-130	20
2-Butanone	ND	32	25	128	10	70-130	20
2-Chlorotoluene	ND	19.6	25	78	17	70-130	20
2-Hexanone	ND	23.9	25	96	1	70-130	20
4-Chlorotoluene	ND	21.9	25	88	2	70-130	20
4-Isopropyltoluene	ND	20.6	25	82	0	70-130	20
4-Methyl-2-Pentanone	ND	24.4	25	98	1	70-130	20
Acetone	ND	27.9	25	112	5	70-130	20
Benzene	ND	23.5	25	94	0	70-130	20
Bromobenzene	ND	23.5	25	94	0	70-130	20
Bromochloromethane	ND	25.4	25	102	18	70-130	20
Bromodichloromethane	ND	25.4	25	102	3	70-130	20
Bromoform	ND	22	25	88	0	70-130	20
Bromomethane	ND	20.2	25	81	10	70-130	20
Carbon Disulfide	ND	23.9	25	96	1	70-130	20
Carbon Tetrachloride	ND	24.7	25	99	2	70-130	20
Chlorobenzene	ND	23.5	25	94	1	70-130	20

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

EPA Method 8260B Matrix Spike Duplicate Report Continued

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-1MSD

ESS Project ID: 02120237
ESS Sample ID: 02120237-01MSD
Units: µg/L

Compound Name	Sample Result	MSD Conc.	Spike Added	MSD % Recovery	RPD	Recovery Limits	RPD Limits
Chloroethane	ND	25.6	25	102	4	70-130	20
Chloroform	ND	24.2	25	97	16	70-130	20
Chloromethane	ND	21.5	25	86	3	70-130	20
cis-1,2-Dichloroethene	ND	26.4	25	106	5	70-130	20
cis-1,3-Dichloropropene	ND	22.5	25	90	2	70-130	20
Dibromochloromethane	ND	23.7	25	95	0	70-130	20
Dibromomethane	ND	23.8	25	95	4	70-130	20
Dichlorodifluoromethane	ND	27	25	108	1	70-130	20
Diethyl Ether	ND	24	25	96	0	70-130	20
Ethylbenzene	ND	23.4	25	94	0	70-130	20
Hexachlorobutadiene	ND	20.3	25	81	0	70-130	20
Isopropylbenzene	ND	24.2	25	97	0	70-130	20
Methyl tert-Butyl Ether	ND	24.2	25	97	0	70-130	20
Methylene Chloride	ND	27.2	25	109	1	70-130	20
n-Butylbenzene	ND	20.8	25	83	0	70-130	20
n-Propylbenzene	ND	23.9	25	96	12	70-130	20
Naphthalene	ND	22.9	25	92	4	70-130	20
sec-Butylbenzene	ND	21.5	25	86	1	70-130	20
Styrene	ND	24	25	96	1	70-130	20
tert-Butylbenzene	ND	21.4	25	86	0	70-130	20
Tetrachloroethene	ND	25.8	25	103	0	70-130	20
Tetrahydrofuran	ND	21.4	25	86	17	70-130	20
Toluene	ND	23	25	92	0	70-130	20
trans-1,2-Dichloroethene	ND	26.9	25	108	0	70-130	20
trans-1,3-Dichloropropene	ND	24.6	25	98	2	70-130	20
Trichloroethene	ND	22.8	25	91	1	70-130	20
Trichlorofluoromethane	ND	32.2	25	129	2	70-130	20
Vinyl Acetate	ND	40.7	25	163+	1	70-130	20
Vinyl Chloride	ND	22.2	25	89	13	70-130	20
Xylene O	ND	24.6	25	98	1	70-130	20
Xylene P,M	ND	49.4	50	99	1	70-130	20
Xylenes (Total)	ND	74	100	74	1	70-130	20

+ = Outside QC Limits.

RPD = Relative Percent Deviation.

Approved By: _____

Date: 12/21/17

Page 2 of 2

MDP

023

ESS LABORATORY CERTIFICATIONS

U.S. Army Corps of Engineers
Soil and Water

Navy Installation Restoration QA Program
Soil and Water

Rhode Island: 179

Connecticut: PH-0750

Maine: RI002

Maryland: 301
Drinking Water

Massachusetts: M-RI002

New Hampshire (NELAP):
Drinking Water: 242400-C
Wastewater: 242400-D

New York (NELAP): 11313
Potable Water
Non Potable Water
Solid and Hazardous Waste

United States Department of Agriculture
Soil Permit: S-54210

New Jersey (NELAP) RI002
Potable Water
Non Potable Water
Solid and Hazardous Waste

ESS Laboratory

Division of Thielsch Engineering, Inc.
 185 Frances Avenue, Cranston, RI 02910-2211
 Tel. (401) 461-7181 Fax (401) 461-4486
 www.esslaboratory.com

CHAIN OF CUSTODY

Page _____ of _____

Turn Time _____
 If faster than 5 days, prior approval by laboratory is required # _____
 State where samples were collected from:
 MA () CT () NH () NJ () NY () ME () Other ()
 Is this project for any of the following:
 MA-MCP* Navy USACE Other

Reporting Limits _____
 ESS LAB PROJECT ID **02120237**
 Electronic Deliverable Yes ___ No ___
 Format _____

ESS LAB Sample #	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Number of Containers	Type of Containers	8260	8021	8015	8100	8081	8082	808	PAH	RCRAS	TCLP8	
1	12/19/02	1130			GW	ATC-1	3	V	X										
2	ATC-2	1100				ATC-2	3	V	X										
3	ATC-3	1011				ATC-3	3	V	X										
4	ATC-4	0930				ATC-4	3	V	X										
6	ATC-5	1400				ATC-5	3	V	X										
6						TrippBlank	1	V	X										

Co. Name: LFR Levinfricke
 Contact Person: Donna Pallister
 City: Warwick State: RI
 Telephone #: 401 738 3887 Fax #: 401 732 1684
 Project Name (20 Char. or less): 08170210 Springfield St.
 Address: 250 Centerville Rd
 PO #: 02886
 Email Address: Donna.Pallister@fr.com

Container Type: P-Poly G-Glass S-Sterile V-VOA Matrix: S-Soil SD-Solid D-Sludge WW-Waste Water GW-Ground Water SW-Surface Water DW-Drinking Water O-Oil W-Wipes F-Filters

Cooler Present: Yes No
 Seals Intact: Yes No NA:
 Cooler Temp: 4.7

Internal Use Only
 Pickup
 Technicians

Comments:

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Christina May	12/20/02 0931	Donna	12/20/02 9:30
02			

Attachment 4

Laboratory Report For Soil Gas



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

REPORT DATE 1/7/03

LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886
ATTN: CHRISTINA MCKAY

CONTRACT NUMBER:
PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMS-68618
JOB NUMBER: -

The results of analyses performed on the following samples submitted to the CON-TEST Analytical Laboratory are found in this report.

PROJECT LOCATION: SPRINGFIELD ST. SCHOOL

FIELD SAMPLE #	LAB ID	MATRIX	SAMPLE DESCRIPTION	TEST
*WB-03	03B00093	AIR	NOT SPECIFIED	to-14 ppbv
*WB-03	03B00093	AIR	NOT SPECIFIED	to-14 ug/m3
*WB-14	03B00094	AIR	NOT SPECIFIED	to-14 ppbv
*WB-14	03B00094	AIR	NOT SPECIFIED	to-14 ug/m3

The CON-TEST Environmental Laboratory operates under the following certifications and accreditations :

AIHA 100033	AIHA ELLAP (LEAD) 100033
MASSACHUSETTS MA0100	NEW HAMPSHIRE 2516
CONNECTICUT PH-0567	VERMONT DOH (LEAD) No. LL015036
NEW YORK ELAP 10899	RHODE ISLAND (LIC. No. 112)

I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Edward Denson 1/7/03

SIGNATURE

DATE

Tod Kopyscinski
Director of Operations

Sondra S. Kocot
Quality Control Coordinator

Edward Denson
Technical Director

* See end of data tabulation for notes and comments pertaining to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

CHRISTINA MCKAY
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

1/7/03
Page 2 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST. SCHOOL
Date Received: 1/3/03

LIMS-BAT #: LIMS-68618
Job Number: -

Field Sample #: **WB-03**

Sample ID : *03B00093

Sampled : 1/2/03
NOT SPECIFIED

Sample Matrix: AIR

Sample Medium : TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit Lo Hi	P/ F
Trichloroethylene	PPBv	ND	01/03/03	PRM	0.5		
Trichlorofluoromethane (Freon 11)	PPBv	ND	01/03/03	PRM	0.5		
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	01/03/03	PRM	0.5		
1,2,4-Trimethylbenzene	PPBv	ND	01/03/03	PRM	0.5		
1,3,5-Trimethylbenzene	PPBv	ND	01/03/03	PRM	0.5		
Vinyl Chloride	PPBv	ND	01/03/03	PRM	0.5		
m/p-Xylene	PPBv	ND	01/03/03	PRM	0.5		
o-Xylene	PPBv	ND	01/03/03	PRM	0.5		

Analytical Method:

EPA TO-14A

SAMPLES ARE TAKEN IN SUMMA CANISTERS AND ANALYZED BY GAS CHROMATOGRAPHY WITH MASS SPECTROMETRY DETECTION. (GC/MS)

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

CHRISTINA MCKAY
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

1/7/03
Page 4 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST. SCHOOL
Date Received: 1/3/03

LIMS-BAT #: LIMS-68618
Job Number: -

Field Sample #: WB-14

Sample ID: *03B00094

Sampled: 1/2/03
NOT SPECIFIED

Sample Matrix: AIR

Sample Medium: TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit		P/ F
						Lo	Hi	
Trichloroethylene	PPBv	ND	01/03/03	PRM	0.5			
Trichlorofluoromethane (Freon 11)	PPBv	5.6	01/03/03	PRM	0.5			
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	01/03/03	PRM	0.5			
1,2,4-Trimethylbenzene	PPBv	ND	01/03/03	PRM	0.5			
1,3,5-Trimethylbenzene	PPBv	ND	01/03/03	PRM	0.5			
Vinyl Chloride	PPBv	ND	01/03/03	PRM	0.5			
m/p-Xylene	PPBv	ND	01/03/03	PRM	0.5			
o-Xylene	PPBv	ND	01/03/03	PRM	0.5			

Analytical Method:

EPA TO-14A

SAMPLES ARE TAKEN IN SUMMA CANISTERS AND ANALYZED BY GAS CHROMATOGRAPHY WITH MASS SPECTROMETRY DETECTION. (GC/MS)

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



39 Spruce Street ° 2nd Floor ° East Longmeadow, MA 01028 ° FAX 413/525-6405 ° TEL. 413/525-2332

CHRISTINA MCKAY
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

1/7/03
Page 6 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST. SCHOOL
Date Received: 1/3/03

LIMS-BAT #: LIMS-68618
Job Number: -

Field Sample #: WB-03

Sample ID: *03B00093

Sampled: 1/2/03
NOT SPECIFIED

Sample Matrix: AIR

Sample Medium: TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit		P/ F
						Lo	Hi	
Trichloroethylene	ug/m3	ND	01/03/03	PRM	2.7			
Trichlorofluoromethane	ug/m3	ND	01/03/03	PRM	2.8			
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	01/03/03	PRM	3.8			
1,2,4-Trimethylbenzene	ug/m3	ND	01/03/03	PRM	2.5			
1,3,5-Trimethylbenzene	ug/m3	ND	01/03/03	PRM	2.5			
Vinyl Chloride	ug/m3	ND	01/03/03	PRM	1.3			
m/p-Xylene	ug/m3	ND	01/03/03	PRM	2.2			
o-Xylene	ug/m3	ND	01/03/03	PRM	2.2			

Analytical Method:

EPA TO-14A

SAMPLES ARE TAKEN IN SUMMA CANISTERS AND ANALYZED BY GAS CHROMATOGRAPHY WITH MASS SPECTROMETRY DETECTION. (GC/MS)

RL = Reporting Limit

ND = Not Detected

NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



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CHRISTINA MCKAY
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

1/7/03
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Purchase Order No.:

Project Location: SPRINGFIELD ST. SCHOOL

LIMS-BAT #: LIMS-68618

Date Received: 1/3/03

Job Number: -

Field Sample #: WB-14

Sample ID: *03B00094

Sampled: 1/2/03

NOT SPECIFIED

Sample Matrix: AIR

Sample Medium: TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit Lo Hi	P/F
Trichloroethylene	ug/m3	ND	01/03/03	PRM	2.7		
Trichlorofluoromethane	ug/m3	31.4	01/03/03	PRM	2.8		
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	01/03/03	PRM	3.8		
1,2,4-Trimethylbenzene	ug/m3	ND	01/03/03	PRM	2.5		
1,3,5-Trimethylbenzene	ug/m3	ND	01/03/03	PRM	2.5		
Vinyl Chloride	ug/m3	ND	01/03/03	PRM	1.3		
m/p-Xylene	ug/m3	ND	01/03/03	PRM	2.2		
o-Xylene	ug/m3	ND	01/03/03	PRM	2.2		

Analytical Method:

EPA TO-14A

SAMPLES ARE TAKEN IN SUMMA CANISTERS AND ANALYZED BY GAS CHROMATOGRAPHY WITH MASS SPECTROMETRY DETECTION. (GC/MS)

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1/7/03
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Purchase Order No.:

Project Location: SPRINGFIELD ST. SCHOOL
Date Received: 1/3/03

LIMS-BAT #: LIMS-68618
Job Number: -

The following notes were attached to the reported analysis :

Sample ID: * 03B00093
Analysis: to-14 ppbv

SAMPLED IN TEDLAR BAG.

Sample ID: * 03B00093
Analysis: Methylene Chloride

METHYLENE CHLORIDE IS A COMMON LABORATORY CONTAMINANT. SEE BLANK.

Sample ID: * 03B00094
Analysis: to-14 ppbv

SAMPLED IN TEDLAR BAG.

Sample ID: * 03B00094
Analysis: Methylene Chloride

METHYLENE CHLORIDE IS A COMMON LABORATORY CONTAMINANT. SEE BLANK.

** END OF REPORT **

RL = Reporting Limit
ND = Not Detected
NM = Not Measured

SPEC LIMIT = a client specified recommended or regulatory level for comparison with data to determine PASS (P) or FAIL (F) condition of results.

* = See end of report for comments and notes applying to this sample



QC SUMMARY REPORT

SAMPLE QC: Sample Results with Duplicates.

BATCH QC: Lab fortified Blanks and Duplicates

Sample Matrix Spikes and Matrix Spike Duplicates

Standard Reference Materials and Duplicates

Method Blanks

Report Date: 1/7/03 Lims Bat #: LIMS-68618 Page 1 of 2

QC Batch Number: BATCH-5143

Sample Id	Analysis	QC Analysis	Values	Units	Limits
03B00093	4-Bromofluorobenzene	Surrogate Recovery	90.1	%	70-130
03B00094	4-Bromofluorobenzene	Surrogate Recovery	87.4	%	70-130
BLANK-47245	Benzene	Blank	<1.6	ug/m3	
	Carbon Tetrachloride	Blank	<3.1	ug/m3	
	Chloroform	Blank	<2.4	ug/m3	
	1,2-Dichloroethane	Blank	<2.0	ug/m3	
	1,4-Dichlorobenzene	Blank	<3.0	ug/m3	
	Ethylbenzene	Blank	<2.2	ug/m3	
	Styrene	Blank	<2.1	ug/m3	
	Tetrachloroethylene	Blank	<3.4	ug/m3	
	Toluene	Blank	<1.9	ug/m3	
	1,1,1-Trichloroethane	Blank	<2.7	ug/m3	
	Trichloroethylene	Blank	<2.7	ug/m3	
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Blank	<3.8	ug/m3	
	Trichlorofluoromethane	Blank	<2.8	ug/m3	
	o-Xylene	Blank	<2.2	ug/m3	
	m/p-Xylene	Blank	8.5	ug/m3	
	1,2-Dichlorobenzene	Blank	<3.0	ug/m3	
	1,3-Dichlorobenzene	Blank	<3.0	ug/m3	
	1,1-Dichloroethane	Blank	<2.0	ug/m3	
	1,1-Dichloroethylene	Blank	<2.0	ug/m3	
	Vinyl Chloride	Blank	<1.3	ug/m3	
	Methylene Chloride	Blank	6.5	ug/m3	
	Chlorobenzene	Blank	<2.3	ug/m3	
	Chloromethane	Blank	<1.0	ug/m3	
	Bromomethane	Blank	<1.9	ug/m3	
	Chloroethane	Blank	<1.3	ug/m3	
	cis-1,3-Dichloropropene	Blank	<2.3	ug/m3	
	trans-1,3-Dichloropropene	Blank	<2.3	ug/m3	
	1,1,2-Trichloroethane	Blank	<2.7	ug/m3	
	1,1,2,2-Tetrachloroethane	Blank	<3.4	ug/m3	
	Hexachlorobutadiene	Blank	<5.3	ug/m3	
	1,2,4-Trichlorobenzene	Blank	<3.7	ug/m3	
	1,2,4-Trimethylbenzene	Blank	<2.5	ug/m3	
	1,3,5-Trimethylbenzene	Blank	<2.5	ug/m3	
	cis-1,2-Dichloroethylene	Blank	<2.0	ug/m3	
	1,2-Dichloropropane	Blank	<2.3	ug/m3	
	Dichlorodifluoromethane	Blank	<2.5	ug/m3	
	1,2-Dibromoethane	Blank	<3.8	ug/m3	
	1,2-Dichlorotetrafluoroethane (114)	Blank	<3.5	ug/m3	



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QC SUMMARY REPORT

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Standard Reference Materials and Duplicates

Method Blanks

Report Date:

1/7/03

Lims Bat #: LIMS-68618

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QUALITY CONTROL DEFINITIONS AND ABBREVIATIONS

QC BATCH NUMBER	This is the number assigned to all samples analyzed together that would be subject to comparison with a particular set of Quality Control Data.
LIMITS	Upper and Lower Control Limits for the QC ANALYSIS Reported. All values normally would fall within these statistically determined limits, unless there is an unusual circumstance that would be documented in a NOTE appearing on the last page of the QC SUMMARY REPORT. Not all QC results will have Limits defined.
Sample Amount	Amount of analyte found in a sample.
Blank	Method Blank that has been taken through all the steps of the analysis.
LFBLANK	Laboratory Fortified Blank (a control sample)
STDADD	Standard Added (a laboratory control sample)
Matrix Spk Amt Added	Amount of analyte spiked into a sample
MS Amt Measured	Amount of analyte found including amount that was spiked
Matrix Spike % Rec.	% Recovery of spiked amount in sample.
Duplicate Value	The result from the Duplicate analysis of the sample.
Duplicate RPD	The Relative Percent Difference between two Duplicate Analyses.
Surrogate Recovery	The % Recovery for non-environmental compounds (surrogates) spiked into samples to determine the performance of the analytical methods.
Sur. Recovery (ELCD)	Surrogate Recovery on the Electrolytic Conductivity Detector.
Sur. Recovery (PID)	Surrogate Recovery on the Photoionization Detector.
Standard Measured	Amount measured for a laboratory control sample
Standard Amt Added	Known value for a laboratory control sample
Standard % Recovery	% recovered for a laboratory control sample with a known value.
Lab Fort Blank Amt	Laboratory Fortified Blank Amount Added
Lab Fort Blk. Found	Laboratory Fortified Blank Amount Found
Lab Fort Blk % Rec	Laboratory Fortified Blank % Recovered
Dup Lab Fort Bl Amt	Duplicate Laboratory Fortified Blank Amount Added
Dup Lab Fort Bl Fnd	Duplicate Laboratory Fortified Blank Amount Found
Dup Lab Fort Bl % Rec	Duplicate Laboratory Fortified Blank % Recovery
Lab Fort Blank Range	Laboratory Fortified Blank Range (Absolute value of difference between recoveries for Lab Fortified Blank and Lab Fortified Blank Duplicate).
Lab Fort Bl. Av. Rec.	Laboratory Fortified Blank Average Recovery
Duplicate Sample Amt	Sample Value for Duplicate used with Matrix Spike Duplicate
MSD Amount Added	Matrix Spike Duplicate Amount Added (Spiked)
MSD Amt Measured	Matrix Spike Duplicate Amount Measured
MSD % Recovery	Matrix Spike Duplicate % Recovery
MSD Range	Absolute difference between Matrix Spike and Matrix Spike Duplicate Recoveries

