

April 10, 2003

801-12027-00

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 – March 2003 Monitoring Round

Dear Jeff:

Quarterly monitoring was conducted in March, 2003 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 areas where the orange indicator barrier was visible during the March monitoring. However, we did observe some areas where settling and /or erosion due to heavy winter and spring rains had caused soil erosion or sinkholes. These areas are described below and are shown on the attached site plan:

- In the paved section of a courtyard on the northern end of the Middle School, the pavement has settled and broken around the catch basin in the middle of the area, and underlying soil is exposed.
- In the same courtyard area, some settling has occurred along the eastern building wall.
- On the south side of the Middle School, adjacent to the HVAC unit and a transformer, settling has occurred around the catch basin and in this general vicinity. Several holes and a depressed area were observed.

- Along the western wall of the middle school adjacent to the HVAC unit and transformer, several deep holes were observed along the building foundation.
- On the southern side of the paved driveway around the Middle School, there is a small area where it appears that a plow scraped up some dirt along the edge of the driveway.

SUB-SLAB VENTILATION SYSTEM

The sub-slab ventilation system was inspected by LFR during the quarterly monitoring on March 20, 2003. Influent and effluent air from the two blowers at the elementary school and the two blowers at the middle school were sampled. 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.

During this quarter, the sub-slab ventilation system in the front shed of the Middle School shut down twice because the water tank filled. The system is equipped with a sensor to shut down the blower when the knockout tank fills with water. DEM was notified of these events when they occurred. On February 26, 2003, during a routine system check by LFR, we observed that the knockout tank was approximately three-fourths full. We shut down the blower and drained approximately 20 gallons of water to a fifty-five gallon drum, then restarted the blower. We visited the site again on March 4, and found that the system had shut down again because the tank was full. The blower was still warm, indicating that it had not been off for long. We drained the tank to the fifty five gallon drum. The fifty-five gallon drum is now full and is stored in the shed with the blower. The system was checked again following these incidents and no further water buildup in the knockout tank was observed.

The fifty-five gallon drum of water from the knockout tank is assumed to be non hazardous based on the results of analysis of groundwater samples collected at the site. However, a sample will be collected for analysis and a determination will be made regarding disposal options for this water.

INDOOR AIR MONITORING

Indoor air monitoring was conducted on March 20, 2003 using a Landtec GA-90 landfill gas monitor and an hNu photoionization detector. Results of monitoring are provided in the field notes in Attachment 1. No methane was detected during the indoor air monitoring.

Carbon monoxide was detected in indoor air at concentrations above the action level of 9 ppm in some of the areas measured. We noted that carbon monoxide concentrations were also higher during the December round than during previous rounds. Carbon monoxide is produced as a product of incomplete combustion of fuels, such as gasoline, diesel and oil.

The carbon monoxide concentrations detected were still within the range reported as normal for indoor air (EPA, 2003, *Sources of Indoor Air Quality – Carbon Monoxide (CO)* <http://www.epa.gov/iaq/co.html>). The concentrations detected were also well below the Permissible Exposure Limit of 35 ppm set by the Occupational Safety and Health Administration (OSHA).

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 March 19, 2003. 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 11.71 and 18.33 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 VOCs were detected by the laboratory analysis of the groundwater samples.

SOIL GAS MONITORING

Soil gas monitoring was conducted at 29 locations on March 17, 18 and 19, 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 MPL-6. The Tedlar bags were submitted to Con-test Analytical Laboratory for analysis for VOC via EPA method TO-14.

Soil Gas Field Monitoring Results

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

Methane was detected in five samples during monitoring. Three of these samples contained only 0.1% methane (WB-1, WB-12, and ENE-1), which is just barely above the detection limit of the instrument. Methane was detected above the action limit of 0.5% in two wells: MPL-6 (5.8%) and MPL-7 (0.9%). The concentration of methane detected in MPL-6 was less than the concentration detected during the December monitoring (10.6%).

Well MPL-6 is located on the northern end of the middle school parking lot, in a landscaped area adjacent to Hartford Ave (see attached figure). After the last round of monitoring, additional monitoring of MPL-6 was performed. The results of the additional monitoring are provided in Table 2.

The source of the methane in well MPL6 has not been determined. Oxygen was detected in this well at 7.3% and the carbon dioxide concentration was 5.5% during the most recent monitoring round. 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, MPL-6 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.

We submitted a request to the New England Gas Company for site plans showing the locations of all natural gas lines in the vicinity of the schools, and for an investigation of their lines in the area. We have received acknowledgement of receipt of our request but have not received the requested information yet. An initial visit to the site by New England Gas on March 3, 2003 discovered a gas leak at the meter on the Middle School, which was repaired.

Carbon dioxide concentrations were generally lower than the previous monitoring event, but some locations still exceed the action limit. Carbon dioxide concentrations ranged from 0 to 5.5% during this monitoring event.

Concentrations of carbon monoxide were detected in 28 wells, and exceeded the action level in 25 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 32 ppm. 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.

Hydrogen sulfide was detected in 20 wells during this round of monitoring, but none of the concentrations exceeded the action level.

Soil Gas Laboratory Results

In accordance with 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 3, and the laboratory report is provided in Attachment 4.

MR. JEFFERY CRAWFORD

Rhode Island Department Environmental Management

April 7, 2003

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MPL-6 was analyzed during this round instead of WB-15 to try to obtain additional information about the potential source of the methane detected in the well. The results of analysis did not reveal any unusual contaminants.

Recommendations

Based on the results of monitoring at the site and exceedance of some action levels, we recommend the following actions be taken at the site:

- Obtain the requested information from New England Gas Company and determine if leaking gas lines could affect any of the soil gas monitoring wells.
- Perform a surface gas survey for methane in the vicinity of MPL-6.
- Measure carbon monoxide concentrations at various locations across the site, indoors, outdoors and in the neighborhood to determine local ambient conditions for comparison to site conditions.

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

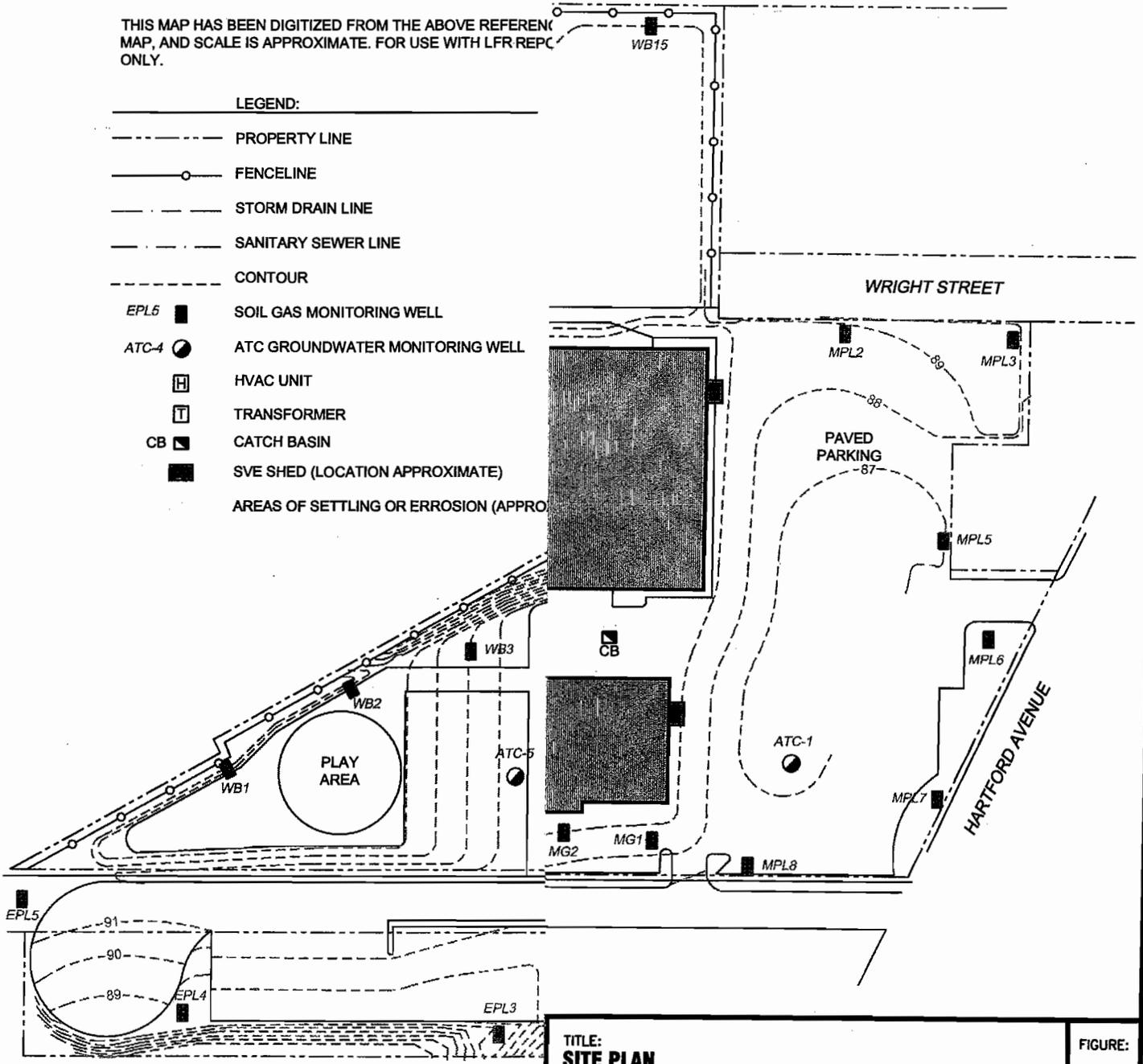
FIGURES

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
 - EPL6 ■ SOIL GAS MONITORING WELL
 - ATC-4 ● ATC GROUNDWATER MONITORING WELL
 - HVAC UNIT
 - TRANSFORMER
 - CB ■ CATCH BASIN
 - SVE SHED (LOCATION APPROXIMATE)
 - AREAS OF SETTLING OR EROSION (APPROXIMATE)



<p>TITLE: SITE PLAN</p>	<p>FIGURE: 1</p>
<p>LOCATION: SPRINGFIELD STREET SCHOOL COMPLEX SPRINGFIELD STREET PROVIDENCE, RHODE ISLAND</p>	

TABLES

Table 1
Soil Gas Survey Results
Springfield Street School Complex
Providence, RI
March 2003

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	0	20.7	30	1	0
WB-2	0	0.3	19.2	14	0	0
WB-3	0	0	20.6	16	0	0
WB-4	0	0	20.3	20	0	0
WB-5	0	0	20.2	10	0	0
WB-6	0	0	20.0	0	1	0
WB-7	0	0	20.5	15	0	0
WB-8	0	0	20.5	21	2	1.0
WB-12	0.1	0.2	20.3	20	1	0
WB-13	0	0.2	20.4	20	1	0

Table 1 (continued)
Soil Gas Survey Results
Springfield Street School Complex
Providence, RI
March 2003

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	30	1	0
WB-15	0	0.1	20.4	24	1	0
EPL-1	0	0.1	20.2	5	1	0
EPL-2	0	0	19.4	13	0	0
EPL-3	0	0.5	18.9	11	0	0
EPL-4	0	1.2	16.9	18	1	0
EPL-5	0	0.7	19.7	9	0	0
ENE-1	0.1	0	20.6	30	3	0
MG1	0	0	20.8	31	3	0
MG2	0	0.1	20.7	27	4	0
MG3	0	0	21.0	31	4	0
MG4	0	0.1	20.6	26	5	0

Table 1 (continued)
Soil Gas Survey Results
Springfield Street School Complex
Providence, RI
March 2003

Monitoring Well	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
MG5	0	2.2	17.9	27	5	0
MPL2	Well was buried by snow plowed off parking lot. Could not be sampled.					
MPL3	0	0.5	18.7	32	3	0
MPL5	0	1.9	17.6	25	3	0
MPL6	5.8	5.5	7.3	25	3	0
MPL7	0.9	3.8	11.3	31	4	0
MPL8	0	0.6	19.9	27	4	0
Remedial Action Work Plan Action Levels	0.5%	1,000 PPM (0.1%)	NA	9 PPM	10 PPM	5 PPM

Date: 3/18/03, 3/19/03, and 3/17/03 **Sampled by:** Christina L. McKay
Weather Conditions: 3/17 sunny, 60 degrees F, 3/18 cloudy 40 degrees F, 3/19 sunny 39 degrees F.
Sampling Equipment: Landtec GA 90, SKC224 pump

Table 2
Monitoring Results for MPL-6
Springfield Street School
Providence Rhode Island

Date	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM	Monitored By:
4/2000 ?	0.2%	8.7	8.1	0.0	0.0	0	ATC
1 st Qtr 2001 (9/2001 – 12/2001)	0.0	1.0	16.0	0.0	0.0	0	ATC
2/2001	0.0	0.7	16.0	0.0	0.0	0	ATC
7/2001	0.0	0.0	19.0	0.0	0.0	0	ATC
6/2002	0.0	9.4	6.0	0.0	0.0	6.0	ATC
9/2002	0.0	14.7	4.6	1	0	1.4	LFR
12/2002	10.6	7.1	6.4	12	5	0	LFR
2/28/03	16.9	9.6	0.4	7	5	0	LFR
3/7/03	3.6	3.6	9.7	3	4	0	LFR
3/19/03	5.8	5.5	7.3	25	3	0	LFR

Table 3
Soil Gas Laboratory Analysis Results
Springfield Street School Complex
March 19, 2003

Parameter	Results of Analysis in parts per billion by volume (PPBv)	
	MPL-6	WB-3
Tetrachloroethylene	2.7	1.7
Toluene	2.8*	2.0*
M/p-Xylene	0.7	0.6

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

* Toluene was also detected in the laboratory blank..

Attachment 1

Indoor Air and System Monitoring Results

Attachment 1

Indoor Air and System Monitoring Results

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

Date: 3/20/2003 Sampled by: D.H. Pallister

Weather Conditions: Overcast, Mid 40's

Sampling Equipment: Landtec GA-90, hNu Photoionization Detector

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	0.1	20.2	11	3	1
Elementary School inlet 2	0	0.1	20	5	0	0
Elementary School Outlet	0	0.1	19.8	6	0	0
Middle school front shed inlet	0	0	20.6	6	2	0
Middle school front shed after 1 st carbon	0	0	20.5	9	0	0
Middle school front shed after 2 nd carbon	0	0	20.6	9	0	0

**Indoor Air Monitoring Notes
Springfield Street School Complex
March 20, 2003**

Middle school back shed inlet	0	0	20.4	12	1	0
Middle school back shed after 1 st carbon	0	0	20.8	14	0	0
Middle school back shed after 2 nd carbon	0	0	20.7	13	0	0

**Indoor Air Monitoring Notes
Springfield Street School Complex
March 20, 2003**

Monitoring Location	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Elementary School						
Front office	0	0	20.8	18	1	0
Elevator Room	0	0	20.8	14	1	0
Elevator Shaft	0	0	20.9	14	2	0
Electrical closet	0	0	20.7	10	0	0
Gym storage closet	0	0	20.8	11	0	0
Boiler Rm. Elec. Closet	0	0	20.6	11	1	0
Library	0	0	20.6	12	1	0
Second Floor, Rm. 211	0	0	20.6	13	0	0
Second Floor, West closet	0	0	20.6	11	0	0
Stairway	0	0	20.6	0	0	0
Middle School						
Front office	0	0	20.5	8	0	0
Elev. closet	0	0	20.7	10	0	0

**Indoor Air Monitoring Notes
Springfield Street School Complex
March 20, 2003**

Monitoring Location	Methane % by volume	Carbon Dioxide % by volume	Oxygen % by volume	Carbon Monoxide PPM	Hydrogen Sulfide PPM	Organic Vapors PPM
Elev. shaft	0	0	20.7	9	0	0
Crack near door to outside near gym	0	0	20.8	10	1	0
Music Room	0	0	20.8	7	0	0
Closet 1 st Floor	0	0	20.8	9	0	0
Closet 2 nd Floor	0	0	20.6	14	0	0
Library	0	0	20.8	10	1	0
Closet north end 2 nd Floor	0	0	20.8	10	1	0
Stairwell north end front	0	0	20.8	10	0	0

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: 03/19/03
Weather: cloudy ~45 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) 11.71
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 21.10 (feet)	Length of Water Column (depth to bottom – depth to water): 9.39 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters) 5.79	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 17.37 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
6	13.9	340.6	0.77	7.6
12	13.9	540	0.47	7.4
18	14.1	355.9	0.99	7.6

Total volume Removed: 18 liters

OBSERVATIONS:

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

Notes: sampled at 1246



Well Number: ATC-2

Site Name: Springfield Street School

Project Number: 081-12027-00

Site Address: Springfield Street
Providence, RI

GROUNDWATER SAMPLING LOG

Sampled By: CM	Date: 03/19/03
Weather: cloudy, 45 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) 12.13
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 18.9 (feet)	Length of Water Column (depth to bottom – depth to water): 6.77 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters) 4.17	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 12.52 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
5	14.0	814	2.55	7.7
10	13.4	606	2.53	7.6
13	13.5	802	2.52	7.4

Total volume Removed: 13 liters

OBSERVATIONS:

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

Notes: sampled at 1200



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: 03/19/03
Weather: cloudy, 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: 23.0 (feet)	Length of Water Column (depth to bottom – depth to water): 11.09 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters) 6.84	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 20.52 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
7	8.6	71.9	1.95	8.0
14	7.9	135.8	1.92	8.2
21	8.6	152.5	1.60	7.9

Total volume Removed: 21 liters

OBSERVATIONS:

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

Notes: sampled at 1125



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: 03/19/03
Weather: cloudy, 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) 13.56
Casing diameter: 2 inch (inches)	Flush mount or riser: flush mount
Depth to Product: (feet) NA	Product thickness: NA (feet)
Depth to bottom: 23.80 (feet)	Length of Water Column (depth to bottom – depth to water): 10.24 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters) 6.31	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 18.944 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
6	11.9	534	1.23	7.8
12	13.0	565	1.03	7.9
19	13.5	768	0.98	7.9

Total volume Removed: 19 liters

OBSERVATIONS:

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

Notes: sampled at 0948



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: 03/19/02
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) 18.33
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): 2.47 (feet)
Well measuring point elevation: (feet)	Water table elevation: (feet)
Well volume: (liters) 1.52	Three well volumes: (1.85 x length of water column for 2 inch well): (liters) 4.57 (liters)

FIELD MEASUREMENT DATA

Volume Removed (liters)	Temperature (°C)	Specific Conductance (uS/cm)	Dissolved Oxygen (mg/L)	pH (standard units)
1	13.3	0.0	0.0	8.5
2	10.1	1.5	2.79	8.2

Total volume Removed: 2.5

OBSERVATIONS:

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

Notes: well was not recharging so only took two sets of parameters. Sampled at 0845

Attachment 3

Laboratory Report for Groundwater

ESS Laboratory

Division of Thielsch Engineering, Inc.

March 26, 2003

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

HJL

ESS Laboratory

Division of Thielsch Engineering, Inc.

CERTIFICATE OF ANALYSIS

PROJECT NARRATIVE

CLIENT: LFR Levine-Fricke
CLIENT PROJECT ID: Springfield St.
ESS PROJECT ID: 03030177

Sample Receipt

5 Ground Water samples and 1 Trip Blank were received on March 18, 2003 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 2-Butanone and Vinyl Acetate. 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

3/27/03
Date

HJL

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: 3/18/03
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: 03030177-01
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	0.5
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	2
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.

ESS Project ID: 03030177

Client Sample ID: ATC-1

ESS Sample ID: 03030177-01

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	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	1

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: SVD

Date: 3/21/03

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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-2
Date Sampled: 3/18/03
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: 03030177-02
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	0.5
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	2
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

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: ATC-3
Date Sampled: 3/18/03
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: 03030177-03
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	0.5
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	2
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: 03030177
ESS Sample ID: 03030177-03

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	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	1

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: SVD

Date: 3/21/03

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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-4
Date Sampled: 3/18/03
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: 03030177-04
Units: $\mu\text{g/L}$
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	0.5
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	2
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.

ESS Project ID: 03030177

Client Sample ID: ATC-4

ESS Sample ID: 03030177-04

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	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	1

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: _____

510

Date: _____

3/21/03

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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-5
Date Sampled: 3/18/03
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: 03030177-05
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	0.5
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	2
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

EPA Method 8260B

Client Name: LFR Levine-Fricke
Client Project ID: Springfield St.
Client Sample ID: Trip Blank
Date Sampled: 3/18/03
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: 03030177-06
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	0.5
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	2
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: 03030177
ESS Sample ID: 03030177-06

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	1

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: JVD

Date: 3/21/03

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: 03030177

Lab ID (Dilution Factor)	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzene
03030177-01 (1x)	77	105	100
03030177-02 (1x)	76	105	100
03030177-03 (1x)	73	104	99
03030177-04 (1x)	72	105	98
03030177-05 (1x)	73	105	99
03030177-06 (1x)	79	106	102
VAMH032003B1 (1x)	88	105	105
VAMH032003C1 (1x)	97	100	101

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

Approved by: SWD

Date: 3/21/03

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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: Method Blank
Date Sampled: N/A
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: VAMH032003B1
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	0.5
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	2
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: 03030177
ESS Sample ID: VAMH032003B1

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	1

MRL = Method Reporting Limit.

ND = Not Detected above MRL.

Approved By: SW

Date: 3/21/03

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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: Laboratory Control Sample
Date Sampled: N/A
Analyst: SVD
Date Analyzed: 3/20/03

ESS Project ID: 03030177
ESS Sample ID: VAMH032003C1
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	24.6	98	70-130
1,1,1-Trichloroethane	25	26.1	104	70-130
1,1,2,2-Tetrachloroethane	25	24.8	99	70-130
1,1,2-Trichloroethane	25	24.8	99	70-130
1,1-Dichloroethane	25	25.1	100	70-130
1,1-Dichloroethene	25	27.6	110	70-130
1,1-Dichloropropene	25	26.2	105	70-130
1,2,3-Trichlorobenzene	25	22.8	91	70-130
1,2,3-Trichloropropane	25	28.3	113	70-130
1,2,4-Trichlorobenzene	25	23.7	95	70-130
1,2,4-Trimethylbenzene	25	25	100	70-130
1,2-Dibromo-3-Chloropropane	25	26.5	106	70-130
1,2-Dibromoethane	25	24.3	97	70-130
1,2-Dichlorobenzene	25	26.3	105	70-130
1,2-Dichloroethane	25	25	100	70-130
1,2-Dichloropropane	25	25	100	70-130
1,3,5-Trimethylbenzene	25	25.9	104	70-130
1,3-Dichlorobenzene	25	25.4	102	70-130
1,3-Dichloropropane	25	24.8	99	70-130
1,4-Dichlorobenzene	25	25	100	70-130
1-Chlorohexane	25	24.5	98	70-130
2,2-Dichloropropane	25	25.1	100	70-130
2-Butanone	25	32.8	131+	70-130
2-Chlorotoluene	25	25.8	103	70-130
2-Hexanone	25	27.2	109	70-130
4-Chlorotoluene	25	26.2	105	70-130
4-Isopropyltoluene	25	25.7	103	70-130
4-Methyl-2-Pentanone	25	29	116	70-130
Acetone	25	28.4	114	70-130
Benzene	25	25.3	101	70-130
Bromobenzene	25	26.1	104	70-130
Bromochloromethane	25	25.4	102	70-130
Bromodichloromethane	25	27	108	70-130
Bromoform	25	27.2	109	70-130
Bromomethane	25	27.2	109	70-130
Carbon Disulfide	25	23.9	96	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: 03030177
ESS Sample ID: VAMH032003C1

Compound	Spike Added	LCS Concentration	LCS Percent Recovery	QC Recovery Limits
Carbon Tetrachloride	25	26.7	107	70-130
Chlorobenzene	25	25.5	102	70-130
Chloroethane	25	26.6	106	70-130
Chloroform	25	24.5	98	70-130
Chloromethane	25	25.4	102	70-130
cis-1,2-Dichloroethene	25	25.3	101	70-130
cis-1,3-Dichloropropene	25	24.4	98	70-130
Dibromochloromethane	25	27.2	109	70-130
Dibromomethane	25	25.1	100	70-130
Dichlorodifluoromethane	25	26.4	106	70-130
Ethylbenzene	25	25.7	103	70-130
Hexachlorobutadiene	25	28.6	114	70-130
Isopropylbenzene	25	27.3	109	70-130
Methyl tert-Butyl Ether	25	24.7	99	70-130
Methylene Chloride	25	25.5	102	70-130
n-Butylbenzene	25	25	100	70-130
n-Propylbenzene	25	25.3	101	70-130
Naphthalene	25	24.4	98	70-130
sec-Butylbenzene	25	25.6	102	70-130
Styrene	25	26.5	106	70-130
tert-Butylbenzene	25	25.4	102	70-130
Tetrachloroethene	25	26.6	106	70-130
Tetrahydrofuran	25	24.4	98	70-130
Toluene	25	26.1	104	70-130
trans-1,2-Dichloroethene	25	26.2	105	70-130
trans-1,3-Dichloropropene	25	26	104	70-130
Trichloroethene	25	25.2	101	70-130
Trichlorofluoromethane	25	30.5	122	70-130
Vinyl Acetate	25	41.9	168+	70-130
Vinyl Chloride	25	26.6	106	70-130
Xylenes (Total)	75	78.6	105	70-130

+ = Outside QC Limits.

MDL = Method Detection Limit.

MRL = Method Reporting Limit.

ND = Not Detected above MDL.

Approved By: _____

SWD

Date: _____

3/21/03

Page 2 of 2

MDP

ESS LABORATORY CERTIFICATIONS

U.S. Army Corps of Engineers
Soil and Water

Navy Installation Restoration QA Program
Soil and Water

Connecticut: PH-0750

Maine: RI002

Maryland: 301
Potable Water

Massachusetts: M-RI002

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

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

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

North Carolina: 44701
Potable Water(Organics)

Pennsylvania: 68-934

Rhode Island: 179

United States Department of Agriculture
Soil Permit: S-54210

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

Reporting Limits _____
 Electronic Deliverable Yes No Format _____
 ESS LAB PROJECT ID 03030177

ESS LAB Sample#	Date	Collection Time	COMP	GRAB	MATRIX	Sample Identification (20 Char. or less)	Number of Containers	Type of Containers	8260	8021 VPH	8015 GRO	8100 TPH	8015 EPH	8081 PCB	8082 PCB	608 PCB	8270 PAH only	RCRA5 PP13 TAL23	TCLP8 MCP MCPw/Hg NBC7
1	3/18/03	1244			6W	ATC-1	3	↓	X										
2	↓	1200			6W	ATC-2	3	↓	X										
3	↓	1125			6W	ATC-3	3	↓	X										
4	↓	0946			6W	ATC-4	3	↓	X										
5	↓	0845			6W	ATC-5	3	↓	X										
6	↓					Trip Blank	1	↓	X										

Co. Name: LFL Levine Fricke Project # 081-12027 Springfield St.
 Contact Person: Donna Pallister Address 250 Centerville Rd
 City: Warwick State: RI Zip: 02880 PO # _____
 Telephone # 401-738-3887 Fax # 401-732-1686 Email Address donna.pallister@lfr.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 Internal Use Only
 Seals Intact Yes No NA: Pickup Technicians _____
 Cooler Temp: 3.1

Relinquished by: (Signature) Christine McKay Date/Time 3/19/03 1400
 Received by: (Signature) [Signature] Date/Time 3/18/03 1400

Relinquished by: (Signature) _____ Date/Time _____
 Received by: (Signature) _____ Date/Time _____

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 3/21/03

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

CONTRACT NUMBER:
PURCHASE ORDER NUMBER:

PROJECT NUMBER:

ANALYTICAL SUMMARY

LIMS BAT #: LIMS-70029
JOB NUMBER: 081-12027-00

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
MPL-6	03B05961	AIR	NOT SPECIFIED	to-14 ppbv
MPL-6	03B05961	AIR	NOT SPECIFIED	to-14 ug/m3
WB-3	03B05960	AIR	NOT SPECIFIED	to-14 ppbv
WB-3	03B05960	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.

Sondra S. Kocot 03/21/03

SIGNATURE

DATE

Tod Kopyscinski
Director of Operations

Sondra S. Kocot
Quality Control Coordinator

Edward Denson
Technical Director

DONNA PALLISTER
 LEVINE FRICKE
 250 CENTERVILLE RD., BLDG. E, SUITE 12
 WARWICK, RI 02886

3/21/03
 Page 1 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL

LIMS-BAT #: LIMS-70029

Date Received: 3/20/03

Job Number: 081-12027-00

Field Sample #: MPL-6

Sample ID : 03B05961

Sampled : 3/19/03

NOT SPECIFIED

Sample Matrix: AIR

Sample Medium : TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit		P/ F
						Lo	Hi	
Benzene	PPBv	ND	03/20/03	PRM	0.5			
Bromomethane	PPBv	ND	03/20/03	PRM	0.5			
Carbon Tetrachloride	PPBv	ND	03/20/03	PRM	0.5			
Chlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
Chloroethane	PPBv	ND	03/20/03	PRM	0.5			
Chloroform	PPBv	ND	03/20/03	PRM	0.5			
Chloromethane	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dibromoethane	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
1,3-Dichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
1,4-Dichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
Dichlorodifluoromethane	PPBv	ND	03/20/03	PRM	0.5			
1,1-Dichloroethane	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichloroethane	PPBv	ND	03/20/03	PRM	0.5			
1,1-Dichloroethylene	PPBv	ND	03/20/03	PRM	0.5			
cis-1,2-Dichloroethylene	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichloropropane	PPBv	ND	03/20/03	PRM	0.5			
cis-1,3-Dichloropropene	PPBv	ND	03/20/03	PRM	0.5			
trans-1,3-Dichloropropene	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	03/20/03	PRM	0.5			
Ethylbenzene	PPBv	ND	03/20/03	PRM	0.5			
Hexachlorobutadiene	PPBv	ND	03/20/03	PRM	0.5			
Methylene Chloride	PPBv	ND	03/20/03	PRM	0.5			
Styrene	PPBv	ND	03/20/03	PRM	0.5			
1,1,2,2-Tetrachloroethane	PPBv	ND	03/20/03	PRM	0.5			
Tetrachloroethylene	PPBv	2.7	03/20/03	PRM	0.5			
Toluene	PPBv	2.8	03/20/03	PRM	0.5			
1,2,4-Trichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
1,1,1-Trichloroethane	PPBv	ND	03/20/03	PRM	0.5			
1,1,2-Trichloroethane	PPBv	ND	03/20/03	PRM	0.5			

RL = Reporting Limit

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

ND = Not Detected

NM = Not Measured

* = 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

DONNA PALLISTER
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

3/21/03
Page 2 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL
Date Received: 3/20/03

LIMS-BAT #: LIMS-70029
Job Number: 081-12027-00

Field Sample #: MPL-6

Sample ID: 03B05961

Sampled: 3/19/03
NOT SPECIFIED

Sample Matrix: AIR

Sample Medium: TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit		P/ F
						Lo	Hi	
Trichloroethylene	PPBv	ND	03/20/03	PRM	0.5			
Trichlorofluoromethane (Freon 11)	PPBv	ND	03/20/03	PRM	0.5			
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	03/20/03	PRM	0.5			
1,2,4-Trimethylbenzene	PPBv	ND	03/20/03	PRM	0.5			
1,3,5-Trimethylbenzene	PPBv	ND	03/20/03	PRM	0.5			
Vinyl Chloride	PPBv	ND	03/20/03	PRM	0.5			
m/p-Xylene	PPBv	0.7	03/20/03	PRM	0.5			
o-Xylene	PPBv	ND	03/20/03	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

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DONNA PALLISTER
 LEVINE FRICKE
 250 CENTERVILLE RD., BLDG. E, SUITE 12
 WARWICK, RI 02886

3/21/03
 Page 3 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL
 Date Received: 3/20/03

LIMS-BAT #: LIMS-70029
 Job Number: 081-12027-00

Field Sample #: WB-3

Sample ID: 03B05960

Sampled: 3/19/03
 NOT SPECIFIED

Sample Matrix: AIR

Sample Medium: TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit		P/ F
						Lo	Hi	
Benzene	PPBv	ND	03/20/03	PRM	0.5			
Bromomethane	PPBv	ND	03/20/03	PRM	0.5			
Carbon Tetrachloride	PPBv	ND	03/20/03	PRM	0.5			
Chlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
Chloroethane	PPBv	ND	03/20/03	PRM	0.5			
Chloroform	PPBv	ND	03/20/03	PRM	0.5			
Chloromethane	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dibromoethane	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
1,3-Dichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
1,4-Dichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
Dichlorodifluoromethane	PPBv	ND	03/20/03	PRM	0.5			
1,1-Dichloroethane	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichloroethane	PPBv	ND	03/20/03	PRM	0.5			
1,1-Dichloroethylene	PPBv	ND	03/20/03	PRM	0.5			
cis-1,2-Dichloroethylene	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichloropropane	PPBv	ND	03/20/03	PRM	0.5			
cis-1,3-Dichloropropene	PPBv	ND	03/20/03	PRM	0.5			
trans-1,3-Dichloropropene	PPBv	ND	03/20/03	PRM	0.5			
1,2-Dichlorotetrafluoroethane (114)	PPBv	ND	03/20/03	PRM	0.5			
Ethylbenzene	PPBv	ND	03/20/03	PRM	0.5			
Hexachlorobutadiene	PPBv	ND	03/20/03	PRM	0.5			
Methylene Chloride	PPBv	ND	03/20/03	PRM	0.5			
Styrene	PPBv	ND	03/20/03	PRM	0.5			
1,1,2,2-Tetrachloroethane	PPBv	ND	03/20/03	PRM	0.5			
Tetrachloroethylene	PPBv	1.7	03/20/03	PRM	0.5			
Toluene	PPBv	2.0	03/20/03	PRM	0.5			
1,2,4-Trichlorobenzene	PPBv	ND	03/20/03	PRM	0.5			
1,1,1-Trichloroethane	PPBv	ND	03/20/03	PRM	0.5			
1,1,2-Trichloroethane	PPBv	ND	03/20/03	PRM	0.5			

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 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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DONNA PALLISTER
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

3/21/03
Page 4 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL

LIMS-BAT #: LIMS-70029

Date Received: 3/20/03

Job Number: 081-12027-00

Field Sample #: WB-3

Sample ID: 03B05960

Sampled: 3/19/03

NOT SPECIFIED

Sample Matrix: AIR

Sample Medium: TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit		P/ F
						Lo	Hi	
Trichloroethylene	PPBv	ND	03/20/03	PRM	0.5			
Trichlorofluoromethane (Freon 11)	PPBv	ND	03/20/03	PRM	0.5			
1,1,2-Trichloro-1,2,2-Trifluoroethane	PPBv	ND	03/20/03	PRM	0.5			
1,2,4-Trimethylbenzene	PPBv	ND	03/20/03	PRM	0.5			
1,3,5-Trimethylbenzene	PPBv	ND	03/20/03	PRM	0.5			
Vinyl Chloride	PPBv	ND	03/20/03	PRM	0.5			
m/p-Xylene	PPBv	0.6	03/20/03	PRM	0.5			
o-Xylene	PPBv	ND	03/20/03	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

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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

DONNA PALLISTER
 LEVINE FRICKE
 250 CENTERVILLE RD., BLDG. E, SUITE 12
 WARWICK, RI 02886

3/21/03
 Page 5 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL
 Date Received: 3/20/03

LIMS-BAT #: LIMS-70029
 Job Number: 081-12027-00

Field Sample #: MPL-6

Sample ID : 03B05961

Sampled : 3/19/03
 NOT SPECIFIED

Sample Matrix: AIR

Sample Medium : TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit		P / F
						Lo	Hi	
Benzene	ug/m3	ND	03/20/03	PRM	1.6			
Bromomethane	ug/m3	ND	03/20/03	PRM	1.9			
Carbon Tetrachloride	ug/m3	ND	03/20/03	PRM	3.1			
Chlorobenzene	ug/m3	ND	03/20/03	PRM	2.3			
Chloroethane	ug/m3	ND	03/20/03	PRM	1.3			
Chloroform	ug/m3	ND	03/20/03	PRM	2.4			
Chloromethane	ug/m3	ND	03/20/03	PRM	1.0			
1,2-Dibromoethane	ug/m3	ND	03/20/03	PRM	3.8			
1,2-Dichlorobenzene	ug/m3	ND	03/20/03	PRM	3.0			
1,3-Dichlorobenzene	ug/m3	ND	03/20/03	PRM	3.0			
1,4-Dichlorobenzene	ug/m3	ND	03/20/03	PRM	3.0			
Dichlorodifluoromethane	ug/m3	ND	03/20/03	PRM	2.5			
1,1-Dichloroethane	ug/m3	ND	03/20/03	PRM	2.0			
1,2-Dichloroethane	ug/m3	ND	03/20/03	PRM	2.0			
1,1-Dichloroethylene	ug/m3	ND	03/20/03	PRM	2.0			
cis-1,2-Dichloroethylene	ug/m3	ND	03/20/03	PRM	2.0			
1,2-Dichloropropane	ug/m3	ND	03/20/03	PRM	2.3			
cis-1,3-Dichloropropene	ug/m3	ND	03/20/03	PRM	2.3			
trans-1,3-Dichloropropene	ug/m3	ND	03/20/03	PRM	2.3			
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	03/20/03	PRM	3.5			
Ethylbenzene	ug/m3	ND	03/20/03	PRM	2.2			
Hexachlorobutadiene	ug/m3	ND	03/20/03	PRM	5.3			
Methylene Chloride	ug/m3	ND	03/20/03	PRM	1.7			
Styrene	ug/m3	ND	03/20/03	PRM	2.1			
1,1,2,2-Tetrachloroethane	ug/m3	ND	03/20/03	PRM	3.4			
Tetrachloroethylene	ug/m3	18.1	03/20/03	PRM	3.4			
Toluene	ug/m3	10.7	03/20/03	PRM	1.9			
1,2,4-Trichlorobenzene	ug/m3	ND	03/20/03	PRM	3.7			
1,1,1-Trichloroethane	ug/m3	ND	03/20/03	PRM	2.7			
1,1,2-Trichloroethane	ug/m3	ND	03/20/03	PRM	2.7			

RL = Reporting Limit

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

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

DONNA PALLISTER
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

3/21/03
Page 6 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL

LIMS-BAT #: LIMS-70029

Date Received: 3/20/03

Job Number: 081-12027-00

Field Sample #: MPL-6

Sample ID: 03B05961

Sampled: 3/19/03
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	03/20/03	PRM	2.7		
Trichlorofluoromethane	ug/m3	ND	03/20/03	PRM	2.8		
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	03/20/03	PRM	3.8		
1,2,4-Trimethylbenzene	ug/m3	ND	03/20/03	PRM	2.5		
1,3,5-Trimethylbenzene	ug/m3	ND	03/20/03	PRM	2.5		
Vinyl Chloride	ug/m3	ND	03/20/03	PRM	1.3		
m/p-Xylene	ug/m3	3.1	03/20/03	PRM	2.2		
o-Xylene	ug/m3	ND	03/20/03	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

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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

DONNA PALLISTER
 LEVINE FRICKE
 250 CENTERVILLE RD., BLDG. E, SUITE 12
 WARWICK, RI 02886

3/21/03
 Page 7 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL
 Date Received: 3/20/03

LIMS-BAT #: LIMS-70029
 Job Number: 081-12027-00

Field Sample #: WB-3

Sample ID: 03B05960

Sampled: 3/19/03
 NOT SPECIFIED

Sample Matrix: AIR

Sample Medium: TEDLAR BAG

	Units	Results	Date Analyzed	Analyst	RL	SPEC Limit Lo Hi	P/ F
Benzene	ug/m3	ND	03/20/03	PRM	1.6		
Bromomethane	ug/m3	ND	03/20/03	PRM	1.9		
Carbon Tetrachloride	ug/m3	ND	03/20/03	PRM	3.1		
Chlorobenzene	ug/m3	ND	03/20/03	PRM	2.3		
Chloroethane	ug/m3	ND	03/20/03	PRM	1.3		
Chloroform	ug/m3	ND	03/20/03	PRM	2.4		
Chloromethane	ug/m3	ND	03/20/03	PRM	1.0		
1,2-Dibromoethane	ug/m3	ND	03/20/03	PRM	3.8		
1,2-Dichlorobenzene	ug/m3	ND	03/20/03	PRM	3.0		
1,3-Dichlorobenzene	ug/m3	ND	03/20/03	PRM	3.0		
1,4-Dichlorobenzene	ug/m3	ND	03/20/03	PRM	3.0		
Dichlorodifluoromethane	ug/m3	ND	03/20/03	PRM	2.5		
1,1-Dichloroethane	ug/m3	ND	03/20/03	PRM	2.0		
1,2-Dichloroethane	ug/m3	ND	03/20/03	PRM	2.0		
1,1-Dichloroethylene	ug/m3	ND	03/20/03	PRM	2.0		
cis-1,2-Dichloroethylene	ug/m3	ND	03/20/03	PRM	2.0		
1,2-Dichloropropane	ug/m3	ND	03/20/03	PRM	2.3		
cis-1,3-Dichloropropene	ug/m3	ND	03/20/03	PRM	2.3		
trans-1,3-Dichloropropene	ug/m3	ND	03/20/03	PRM	2.3		
1,2-Dichlorotetrafluoroethane (114)	ug/m3	ND	03/20/03	PRM	3.5		
Ethylbenzene	ug/m3	ND	03/20/03	PRM	2.2		
Hexachlorobutadiene	ug/m3	ND	03/20/03	PRM	5.3		
Methylene Chloride	ug/m3	ND	03/20/03	PRM	1.7		
Styrene	ug/m3	ND	03/20/03	PRM	2.1		
1,1,2,2-Tetrachloroethane	ug/m3	ND	03/20/03	PRM	3.4		
Tetrachloroethylene	ug/m3	11.8	03/20/03	PRM	3.4		
Toluene	ug/m3	7.4	03/20/03	PRM	1.9		
1,2,4-Trichlorobenzene	ug/m3	ND	03/20/03	PRM	3.7		
1,1,1-Trichloroethane	ug/m3	ND	03/20/03	PRM	2.7		
1,1,2-Trichloroethane	ug/m3	ND	03/20/03	PRM	2.7		

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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DONNA PALLISTER
LEVINE FRICKE
250 CENTERVILLE RD., BLDG. E, SUITE 12
WARWICK, RI 02886

3/21/03
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Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL

LIMS-BAT #: LIMS-70029

Date Received: 3/20/03

Job Number: 081-12027-00

Field Sample #: WB-3

Sample ID: 03B05960

Sampled: 3/19/03

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	03/20/03	PRM	2.7		
Trichlorofluoromethane	ug/m3	ND	03/20/03	PRM	2.8		
1,1,2-Trichloro-1,2,2-Trifluoroethane	ug/m3	ND	03/20/03	PRM	3.8		
1,2,4-Trimethylbenzene	ug/m3	ND	03/20/03	PRM	2.5		
1,3,5-Trimethylbenzene	ug/m3	ND	03/20/03	PRM	2.5		
Vinyl Chloride	ug/m3	ND	03/20/03	PRM	1.3		
m/p-Xylene	ug/m3	2.4	03/20/03	PRM	2.2		
o-Xylene	ug/m3	ND	03/20/03	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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3/21/03
Page 9 of 9

Purchase Order No.:

Project Location: SPRINGFIELD ST SCHOOL
Date Received: 3/20/03

LIMS-BAT #: LIMS-70029
Job Number: 081-12027-00

** END OF REPORT **

RL = Reporting Limit
ND = Not Detected
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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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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: 3/21/03

Lims Bat #: LIMS-70029

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QC Batch Number: BATCH-5365

Sample Id	Analysis	QC Analysis	Values	Units	Limits
03B05960	4-Bromofluorobenzene	Surrogate Recovery	88.0	%	70-130
03B05961	4-Bromofluorobenzene	Surrogate Recovery	91.9	%	70-130
BLANK-48802	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	2.7	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	<2.2	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	<1.7	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: 3/21/03

Lims Bat #: LIMS-70029

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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