

Site Investigation Report #2
Pownal Elementary School
94 Schoolhouse Road
Pownal, Vermont
SMS #1995-1927

for

Pownal Elementary School
94 Schoolhouse Road
Pownal, VT 05261
Contact: Mr. Rich Vallee

prepared by

Paul D.G. Miller/Consulting Hydrogeologist
P.O. Box 4302
Bennington, VT 05201
(802) 440-1559

December 19, 2011

Table of Contents

1. INTRODUCTION	- 1 -
2. WORK PERFORMED	- 1 -
2.1 <i>Monitoring Well Gauging</i>	- 1 -
2.2 <i>Monitoring Well Sampling</i>	- 1 -
2.3 <i>Water Supply Well Sampling</i>	- 2 -
3. RESULTS.....	- 3 -
3.1 <i>Hydrogeology</i>	- 3 -
3.2 <i>Groundwater Contamination</i>	- 4 -
3.3 <i>Water Supply Well Contamination</i>	- 5 -
4. CONCLUSIONS	- 7 -
5. RECOMMENDATIONS	- 7 -

TABLES

Table I	Monitoring Well Groundwater Measurements
Table II	Groundwater Flow Trends
Table III	Monitoring Well Analytical Groundwater Sampling Results
Table IV	Water Supply Well Analytical Groundwater Sampling Results

FIGURES

Figure 1	Site Map
Figure 2	Groundwater Potentiometric Map

APPENDICES

Appendix A	Groundwater & Water Supply Well Analytical Laboratory Report (10/25/11)
------------	---

1. INTRODUCTION

A letter dated August 11, 2011, from Mr. Gerold Noyes, Environmental Engineer, of the VT Department of Environmental Conservation (VT DEC) Waste Management Division Sites Management Section (SMS), was submitted to Mr. Rich Vallee of the Pownal Elementary School in regard to the Pownal Elementary School (“the site”) in Pownal, Vermont.

Specifically, the letter notified Mr. Vallee that the SMS had recently reviewed two (2) reports from Paul D.G. Miller/Consulting Hydrogeologist (Miller) entitled: “*UST Closure Report Pownal Elementary School, 94 School House Road, Pownal, Vermont*” (dated July 7, 2011); and the “*Remedial Summary Report*” (dated July 11, 2011). Miller recommended, and the SMS agreed, that all site monitoring wells and the Frey water supply well should be sampled with the results reported to the SMS.

The results of this additional work are submitted here.

2. WORK PERFORMED

2.1 Monitoring Well Gauging

On October 25, 2011, the site was monitored by Miller. All six (6) existing monitoring wells (PES-1, -2, -4, -5, -7, and -8) were gauged (see Site Map in Figure 1). PES-3 and PES-6 had been removed/abandoned during remedial activities conducted in June/July 2011.

Each monitoring well was gauged with a Solinst oil/water electronic interface meter accurate to 0.01 foot. The gauging of each respective monitoring well was referenced to the highest portion of the PVC well casing. Wells were gauged beginning with the suspected least contaminated well (according to prior soil boring and monitoring well findings) and progressing to the most contaminated well. This order was followed to aid in reducing any potential chance of cross-contamination at the site. The interface meter was decontaminated between each successive well gauging.

2.2 Monitoring Well Sampling

On October 25, 2011, all six (6) existing monitoring wells were sampled.

Prior to sampling, all monitoring wells were developed through the removal of groundwater through the use of plastic, dedicated, disposable bailers. A total of three (3) bore volumes of water were removed prior to sampling.

The groundwater samples were collected and preserved per standard sampling protocol. Specifically, groundwater samples were taken after stability was shown at the wellhead by analysis for conductivity, pH, and temperature. Samples were poured directly from a clean bailer into clean forty (40) ml VOA vials. Preservative in the vials consisted of hydrochloric acid (HCl). Each vial was filled so that there were no air bubbles or headspace. Each vial was then labeled and immediately stored in a cooler at four (4) degrees Celsius. The samples were delivered by Miller to Upstate Laboratories, Inc. in Albany, NY with the proper chain-of-custody documentation. The samples were then transported to the Upstate Laboratories, Inc. headquarters in East Syracuse, NY for a subsequent analysis via EPA Method 8260 for VOCs.

2.3 Water Supply Well Sampling

On October 25, 2011, water supply well sampling was again conducted for the Frey Residence which is located to the northwest of the site. The water supply well sample was taken from an outside tap at the residence. The water sample was taken from the tap after the water was allowed to run for five (5) minutes. Samples were poured directly from the tap into clean forty (40) ml VOA vials. Preservative in the vials consisted of HCl. Each vial was filled so that there were no air bubbles or headspace. Each vial was then labeled and immediately stored in a cooler at four (4) degrees Celsius.

Upon completion of the monitoring well and water supply well sampling, all samples were delivered by Miller to Upstate Laboratories, Inc. in Albany, NY with the proper chain-of-custody documentation. The samples were then transported to the Upstate Laboratories, Inc. headquarters in East Syracuse, NY for a subsequent analysis. The water supply well sample was analyzed via EPA Method 524.2 for VOCs.

3. RESULTS

3.1 Hydrogeology

On October 25, 2011, Miller conducted the gauging of groundwater elevations at all six (6) monitoring wells at the site. Groundwater elevations are shown in Table I.

Table I Monitoring Well Groundwater Measurements

Date	Monitoring Wells	PES-1	PES-2	PES-3	PES-4	PES-5	PES-6	PES-7	PES-8
	PVC Elevations	99.73	99.32	99.26	96.23	98.62	97.79	97.43	96.98
10/25/11	Depth to GW	7.44	6.38	NM	4.21	4.90	NM	5.16	5.28
	GW Elevation	92.29	92.94	NM	92.02	93.72	NM	92.27	91.70
5/12/10	Depth to GW	9.29	8.24	9.25*	6.18	6.98	7.50	NM	NM
	GW Elevation	90.44	91.08	90.01*	90.05	91.64	90.49	NM	NM
12/02/09	Depth to GW	8.21	7.13	8.05*	4.96	5.74	NM	NM	NM
	GW Elevation	91.52	92.19	91.21*	91.27	92.88	NM	NM	NM
All groundwater elevations are relative to the on-site benchmark of 100.00 feet (well top of PES-1) * Denotes groundwater depth and elevation correction made due to the presence of free product NM = Not Monitored									

Depth to groundwater at the site ranged from 4.21 (PES-4) to 7.44 (PES-1) feet below the PVC wellhead. The average depth to static water level is 5.56 feet below the ground surface. The average static water elevation at the site (92.49 feet) is relative to an on-site benchmark as measured by Miller. The benchmark is the rim of monitoring well PES-1 which was given an elevation of 100.00 feet. The average static water elevation for October 25, 2011 showed an increase of 1.87 feet as compared to the average elevation of 90.62 feet as found on May 12, 2010.

According to the variations in groundwater elevation, a trend in groundwater flow exists in a general northeast/east/southeast direction at an average hydraulic gradient varying from 0.011 to 0.019 feet/foot (see Groundwater Flow Trends in Table II). A Groundwater Potentiometric Map for the site is presented in Figure 2. The flow direction and gradient appear to be influenced greatly by the local topography. The Pownal Elementary School building is situated on a local topographic high. As a result, shallow groundwater appears to potentially flow radiating in many directions away from the school. The deeper regional groundwater flow is believed to be in a northwest direction mimicking the larger regional topographic features and the influence of Jewett Brook located approximately 600 feet to the northwest of the site.

Table II Groundwater Flow Trends

Date	Groundwater Flow Direction	Groundwater Flow Gradient
10/25/11	northeast/east/south	0.011 – 0.019 feet/foot
5/12/10	northeast/east/south	0.010 – 0.023 feet/foot
12/02/09	northeast/east/south	0.008 – 0.037 feet/foot

3.2 Groundwater Contamination

Groundwater samples from all monitoring wells were analyzed via EPA Method 8260 for VOCs. Analytical laboratory reports are shown in Appendix A. Since no VOCs were detected in any of the groundwater samples, no Isoconcentration Map was constructed for the site.

Table III Monitoring Well Analytical Groundwater Sampling Results

Date	Parameter	Monitoring Well								
		PES-1	PES-2	PES-3	PES-4	PES-5	PES-6	PES-7	PES-8	STD
10/25/11	Benzene	ND	ND	NS	ND	ND	NS	ND	ND	5
	Toluene	ND	ND	NS	ND	ND	NS	ND	ND	1,000
	Ethylbenzene	ND	ND	NS	ND	ND	NS	ND	ND	700
	Total Xylenes	ND	ND	NS	ND	ND	NS	ND	ND	10,000
	MTBE	ND	ND	NS	ND	ND	NS	ND	ND	40
	1,2,4-Trimethylbenzene	ND	ND	NS	ND	ND	NS	ND	ND	350*
	1,3,5-Trimethylbenzene	ND	ND	NS	ND	ND	NS	ND	ND	350*
	Naphthalene	ND	ND	NS	ND	ND	NS	ND	ND	20
	n-Butylbenzene	ND	ND	NS	ND	ND	NS	ND	ND	No STD
	n-Propylbenzene-	ND	ND	NS	ND	ND	NS	ND	ND	No STD
	p-Isopropyltoluene	ND	ND	NS	ND	ND	NS	ND	ND	No STD
Sec-Butylbenzene	ND	ND	NS	ND	ND	NS	ND	ND	No STD	
	Total VOCs	ND	ND	NS	ND	ND	NS	ND	ND	
5/12/10	Benzene	NS	NS	NS	NS	NS	ND	NS	NS	5
	Toluene	NS	NS	NS	NS	NS	1,100	NS	NS	1,000
	Ethylbenzene	NS	NS	NS	NS	NS	1,800	NS	NS	700
	Total Xylenes	NS	NS	NS	NS	NS	11,600	NS	NS	10,000
	MTBE	NS	NS	NS	NS	NS	ND	NS	NS	40
	1,2,4-Trimethylbenzene	NS	NS	NS	NS	NS	5,800	NS	NS	350*
	1,3,5-Trimethylbenzene	NS	NS	NS	NS	NS	2,000	NS	NS	350*
	Naphthalene	NS	NS	NS	NS	NS	500	NS	NS	20
	n-Butylbenzene	NS	NS	NS	NS	NS	340	NS	NS	No STD
	n-Propylbenzene-	NS	NS	NS	NS	NS	890	NS	NS	No STD
	p-Isopropyltoluene	NS	NS	NS	NS	NS	220	NS	NS	No STD
Sec-Butylbenzene	NS	NS	NS	NS	NS	93	NS	NS	No STD	
	Total VOCs	NS	NS	NS	NS	NS	24,343	NS	NS	

4. CONCLUSIONS

- All monitoring wells (PES-1, -2, -4, -5, -7, and -8) were gauged and sampled on October 25, 2011. Depth to groundwater ranged from 4.21 (PES-4) to 7.44 (PES-1) feet below the PVC wellhead.
- According to the variations in groundwater elevation, a trend in groundwater flow exists in a general northeast/east/southeast direction at an average hydraulic gradient of between approximately 0.011 and 0.019 feet/foot.
- No VOCs were detected in any of the monitoring well groundwater samples.
- The removal of contaminated soils at the site in June/July 2011 appears to have directly contributed to groundwater samples in the excavation area (PES-7 and PES-8) displaying no VOC concentrations.
- Sampling of the Frey water supply well on October 25, 2011, showed that no VOCs were detected (other than through lab error) and that no MTBE concentrations were detected in the sample for the first time since sampling of the Frey water supply commenced.
- Beside the Frey water supply well, which may have been contaminated due to a source other than the site, no other potential sensitive receptors in the site area appear to be currently impacted.

5. RECOMMENDATIONS

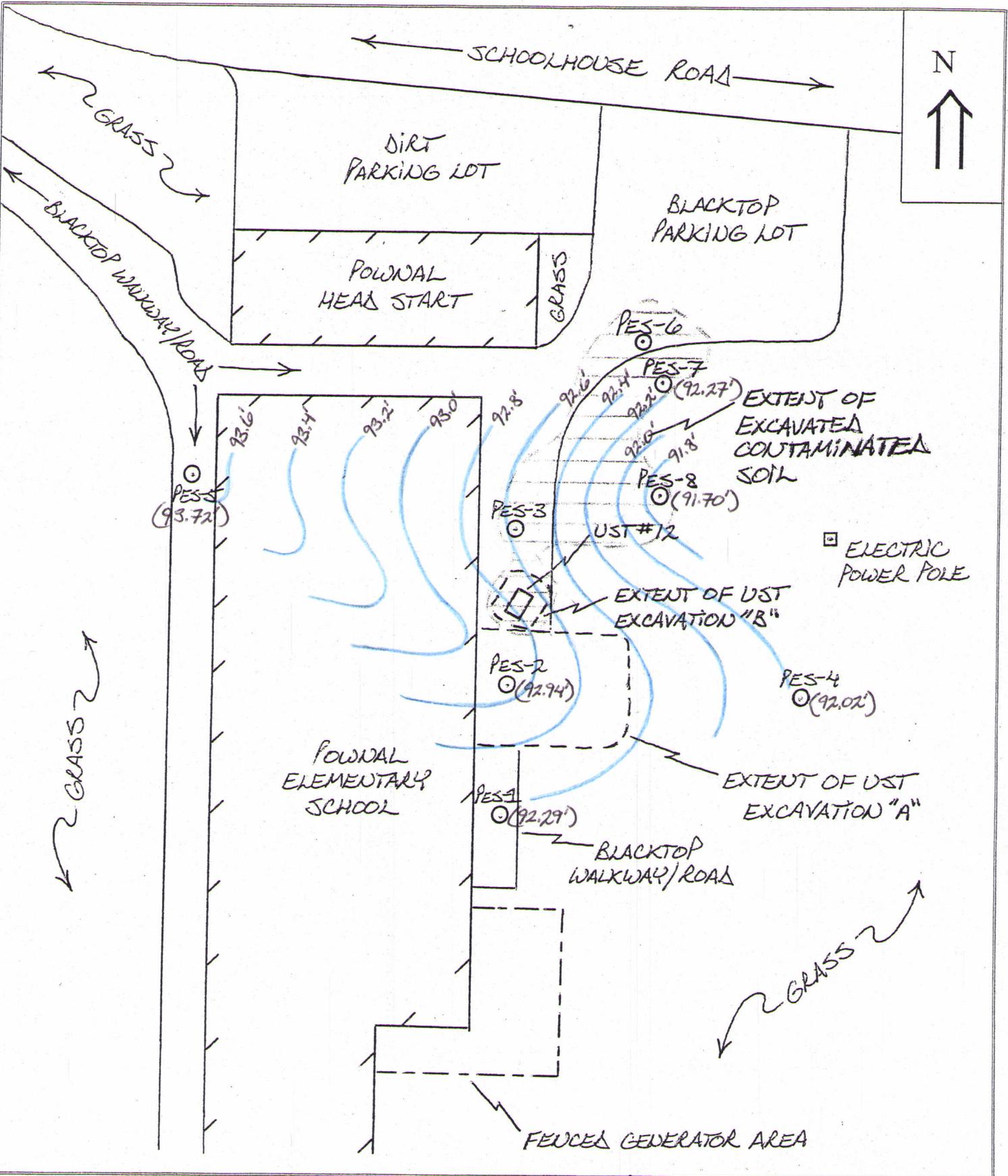
Miller has the following recommendations:

- The abandonment of the six (6) existing monitoring wells at the site (PES-1, -2, -4, -5, -7, and -8). The wells should be closed/abandoned per Section 12.3.5 of Appendix A of the Vermont Water Supply Rule - Chapter 21.
- The submittal of a brief letter report confirming the closure/abandonment of the existing monitoring wells.
- Based on the final site work involving the closure/abandonment of the existing monitoring wells, the site should be considered for a "Sites Management Activities Completed" designation.

PES4.rep

Figure 1
Site Map

Figure 2
Groundwater Potentiometric Map



Groundwater Potentiometric Map

Approximate Scale 1:360

Pownal Elementary School
94 Schoolhouse Road
Pownal, VT

Appendix A
Groundwater & Water Supply Well Analytical Laboratory Report (10/25/11)

Upstate Laboratories, Inc.

Shipping: 6034 Corporate Dr. * E. Syracuse, NY 13057-1017 * (315) 437-0255 * Fax (315) 437-1209

Mailing: Box 169 * Syracuse, NY 13206

Albany (518) 459-3134 * Binghamton (607) 239-4413 * Buffalo (716) 972-0371

Rochester (866) 437-0255 * New Jersey (908) 581-4285

Mr. Paul Miller
Paul Miller Consulting Hydrologist
PO Box 121
Hoosick, NY 12089

Monday, November 14, 2011

RE: Analytical Report:
Pownal Elementary School

Order No.: U1110711

Dear Mr. Paul Miller:

Upstate Laboratories, Inc. received 7 sample(s) on 10/28/2011 for the analyses presented in the following report.

All analytical results relate to the samples as received by the laboratory.

All analytical data conforms with standard approved methodologies and quality control. Our quality control narrative will be included should any anomalies occur.

We have included the Chain of Custody Record as part of your report. You may need to reference this form for a more detailed explanation of your samples. Samples will be disposed of approximately one month from final report date.

Should you have any questions regarding these tests, please feel free to give us a call.

Thank you for your patronage.

Sincerely,

UPSTATE LABORATORIES, INC.


Anthony J. Scala
President/CEO

Confidentiality Statement: This report is meant for the use of the intended recipient. It may contain confidential information, which is legally privileged or otherwise protected by law. If you have received this report in error, you are strictly prohibited from reviewing, using, disseminating, distributing or copying the information.

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist
Lab Order: U1110711
Project: Pownal Elementary School
Lab ID: U1110711-001

Client Sample ID: PES-1
Collection Date: 10/25/2011 3:05:00 PM
Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TCL VOLATILE ORGANICS BY METHOD 8260		8260B_TCL_W		Analyst: LEF		
1,1,1-Trichloroethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
1,1,2,2-Tetrachloroethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
1,1,2-Trichloroethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
1,1-Dichloroethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
1,1-Dichloroethene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
1,2-Dichloroethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
1,2-Dichloropropane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
2-Butanone	ND	10		µg/L	1	11/4/2011 3:27:00 PM
2-Hexanone	ND	10		µg/L	1	11/4/2011 3:27:00 PM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/4/2011 3:27:00 PM
Acetone	ND	10		µg/L	1	11/4/2011 3:27:00 PM
Benzene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Bromodichloromethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Bromoform	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Bromomethane	ND	3.0	Q	µg/L	1	11/4/2011 3:27:00 PM
Carbon disulfide	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Carbon tetrachloride	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Chlorobenzene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Chloroethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Chloroform	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Chloromethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
cis-1,2-Dichloroethene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
cis-1,3-Dichloropropene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Dibromochloromethane	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Ethylbenzene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
m,p-Xylene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Methylene chloride	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
o-Xylene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Styrene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Tetrachloroethene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Toluene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
trans-1,2-Dichloroethene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
trans-1,3-Dichloropropene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Trichloroethene	ND	3.0		µg/L	1	11/4/2011 3:27:00 PM
Vinyl chloride	ND	2.0		µg/L	1	11/4/2011 3:27:00 PM

Approved By: C2A

Date: 11/14/11

Page 1 of 8

Qualifiers: # Accreditation not offered by NYS DOH for this parameter
 ** Value exceeds Maximum Contaminant Value
 E Value above quantitation range
 J Analyte detected below quantitation limits
 Q Outlying QC recoveries were associated with this parameter

* Low Level
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist
 Lab Order: U1110711
 Project: Pownal Elementary School
 Lab ID: U1110711-002

Client Sample ID: PES-2
 Collection Date: 10/25/2011 4:23:00 PM
 Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TCL VOLATILE ORGANICS BY METHOD 8260		8260B_TCL_W		Analyst: LEF		
1,1,1-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
1,1,1,2-Tetrachloroethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
1,1,2-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
1,1-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
1,1-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
1,2-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
1,2-Dichloropropane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
2-Butanone	ND	10		µg/L	1	11/5/2011 12:01:00 AM
2-Hexanone	ND	10		µg/L	1	11/5/2011 12:01:00 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2011 12:01:00 AM
Acetone	ND	10		µg/L	1	11/5/2011 12:01:00 AM
Benzene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Bromodichloromethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Bromoform	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Bromomethane	ND	3.0	Q	µg/L	1	11/5/2011 12:01:00 AM
Carbon disulfide	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Carbon tetrachloride	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Chlorobenzene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Chloroethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Chloroform	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Chloromethane	ND	3.0	Q	µg/L	1	11/5/2011 12:01:00 AM
cis-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
cis-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Dibromochloromethane	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Ethylbenzene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
m,p-Xylene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Methylene chloride	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
o-Xylene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Styrene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Tetrachloroethene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Toluene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
trans-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
trans-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Trichloroethene	ND	3.0		µg/L	1	11/5/2011 12:01:00 AM
Vinyl chloride	ND	2.0		µg/L	1	11/5/2011 12:01:00 AM

Approved By: CA

Date: 11/14/11

Page 2 of 8

Qualifiers: # Accreditation not offered by NYS DOH for this parameter
 ** Value exceeds Maximum Contaminant Value
 E Value above quantitation range
 J Analyte detected below quantitation limits
 Q Outlying QC recoveries were associated with this parameter

* Low Level
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist

Client Sample ID: PES-4

Lab Order: U1110711

Collection Date: 10/25/2011 3:30:00 PM

Project: Pownal Elementary School

Lab ID: U1110711-003

Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TCL VOLATILE ORGANICS BY METHOD 8260		8260B_TCL_W		Analyst: LEF		
1,1,1-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
1,1,2,2-Tetrachloroethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
1,1,2-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
1,1-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
1,1-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
1,2-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
1,2-Dichloropropane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
2-Butanone	ND	10		µg/L	1	11/5/2011 12:38:00 AM
2-Hexanone	ND	10		µg/L	1	11/5/2011 12:38:00 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2011 12:38:00 AM
Acetone	ND	10		µg/L	1	11/5/2011 12:38:00 AM
Benzene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Bromodichloromethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Bromoform	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Bromomethane	ND	3.0	Q	µg/L	1	11/5/2011 12:38:00 AM
Carbon disulfide	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Carbon tetrachloride	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Chlorobenzene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Chloroethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Chloroform	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Chloromethane	ND	3.0	Q	µg/L	1	11/5/2011 12:38:00 AM
cis-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
cis-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Dibromochloromethane	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Ethylbenzene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
m,p-Xylene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Methylene chloride	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
o-Xylene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Styrene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Tetrachloroethene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Toluene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
trans-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
trans-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Trichloroethene	ND	3.0		µg/L	1	11/5/2011 12:38:00 AM
Vinyl chloride	ND	2.0		µg/L	1	11/5/2011 12:38:00 AM

Approved By:

CZW

Date:

11/14/11

Page 3 of 8

Qualifiers: # Accreditation not offered by NYS DOH for this parameter
 ** Value exceeds Maximum Contaminant Value
 E Value above quantitation range
 J Analyte detected below quantitation limits
 Q Outlying QC recoveries were associated with this parameter

* Low Level
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist
 Lab Order: U1110711
 Project: Pownal Elementary School
 Lab ID: U1110711-004

Client Sample ID: PES-5
 Collection Date: 10/25/2011 4:00:00 PM
 Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TCL VOLATILE ORGANICS BY METHOD 8260				8260B_TCL_W		Analyst: LEF
1,1,1-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
1,1,2,2-Tetrachloroethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
1,1,2-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
1,1-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
1,1-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
1,2-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
1,2-Dichloropropane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
2-Butanone	ND	10		µg/L	1	11/5/2011 1:17:00 AM
2-Hexanone	ND	10		µg/L	1	11/5/2011 1:17:00 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2011 1:17:00 AM
Acetone	ND	10		µg/L	1	11/5/2011 1:17:00 AM
Benzene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Bromodichloromethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Bromoform	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Bromomethane	ND	3.0	Q	µg/L	1	11/5/2011 1:17:00 AM
Carbon disulfide	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Carbon tetrachloride	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Chlorobenzene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Chloroethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Chloroform	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Chloromethane	ND	3.0	Q	µg/L	1	11/5/2011 1:17:00 AM
cis-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
cis-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Dibromochloromethane	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Ethylbenzene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
m,p-Xylene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Methylene chloride	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
o-Xylene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Styrene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Tetrachloroethene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Toluene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
trans-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
trans-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Trichloroethene	ND	3.0		µg/L	1	11/5/2011 1:17:00 AM
Vinyl chloride	ND	2.0		µg/L	1	11/5/2011 1:17:00 AM

NOTES:

The pH of the sample >2.

Approved By: CZH

Date: 11/14/11

Page 4 of 8

Qualifiers: # Accreditation not offered by NYS DOH for this parameter
 ** Value exceeds Maximum Contaminant Value
 E Value above quantitation range
 J Analyte detected below quantitation limits
 Q Outlying QC recoveries were associated with this parameter

* Low Level
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist
Lab Order: U1110711
Project: Pownal Elementary School
Lab ID: U1110711-005

Client Sample ID: PES-7
Collection Date: 10/25/2011 5:10:00 PM
Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TCL VOLATILE ORGANICS BY METHOD 8260		8260B_TCL_W		Analyst: LEF		
1,1,1-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
1,1,2,2-Tetrachloroethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
1,1,2-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
1,1-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
1,1-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
1,2-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
1,2-Dichloropropane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
2-Butanone	ND	10		µg/L	1	11/5/2011 1:56:00 AM
2-Hexanone	ND	10		µg/L	1	11/5/2011 1:56:00 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2011 1:56:00 AM
Acetone	ND	10		µg/L	1	11/5/2011 1:56:00 AM
Benzene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Bromodichloromethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Bromoform	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Bromomethane	ND	3.0	Q	µg/L	1	11/5/2011 1:56:00 AM
Carbon disulfide	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Carbon tetrachloride	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Chlorobenzene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Chloroethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Chloroform	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Chloromethane	ND	3.0	Q	µg/L	1	11/5/2011 1:56:00 AM
cis-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
cis-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Dibromochloromethane	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Ethylbenzene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
m,p-Xylene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Methylene chloride	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
o-Xylene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Styrene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Tetrachloroethene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Toluene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
trans-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
trans-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Trichloroethene	ND	3.0		µg/L	1	11/5/2011 1:56:00 AM
Vinyl chloride	ND	2.0		µg/L	1	11/5/2011 1:56:00 AM

Approved By: EZH

Date: 11/14/11

Page 5 of 8

Qualifiers: # Accreditation not offered by NYS DOH for this parameter
 ** Value exceeds Maximum Contaminant Value
 E Value above quantitation range
 J Analyte detected below quantitation limits
 Q Outlying QC recoveries were associated with this parameter

* Low Level
 B Analyte detected in the associated Method Blank
 H Holding times for preparation or analysis exceeded
 ND Not Detected at the Reporting Limit
 S Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist
Lab Order: U1110711
Project: Pownal Elementary School
Lab ID: U1110711-006

Client Sample ID: PES-8
Collection Date: 10/25/2011 4:45:00 PM
Matrix: GROUNDWATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
TCL VOLATILE ORGANICS BY METHOD 8260		8260B_TCL_W		Analyst: LEF		
1,1,1-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
1,1,2,2-Tetrachloroethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
1,1,2-Trichloroethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
1,1-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
1,1-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
1,2-Dichloroethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
1,2-Dichloropropane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
2-Butanone	ND	10		µg/L	1	11/5/2011 2:35:00 AM
2-Hexanone	ND	10		µg/L	1	11/5/2011 2:35:00 AM
4-Methyl-2-pentanone	ND	10		µg/L	1	11/5/2011 2:35:00 AM
Acetone	ND	10		µg/L	1	11/5/2011 2:35:00 AM
Benzene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Bromodichloromethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Bromoform	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Bromomethane	ND	3.0	Q	µg/L	1	11/5/2011 2:35:00 AM
Carbon disulfide	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Carbon tetrachloride	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Chlorobenzene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Chloroethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Chloroform	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Chloromethane	ND	3.0	Q	µg/L	1	11/5/2011 2:35:00 AM
cis-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
cis-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Dibromochloromethane	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Ethylbenzene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
m,p-Xylene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Methylene chloride	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
o-Xylene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Styrene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Tetrachloroethene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Toluene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
trans-1,2-Dichloroethene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
trans-1,3-Dichloropropene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Trichloroethene	ND	3.0		µg/L	1	11/5/2011 2:35:00 AM
Vinyl chloride	ND	2.0		µg/L	1	11/5/2011 2:35:00 AM

Approved By: CZA

Date: 11/14/11

Page 6 of 8

Qualifiers:

- # Accreditation not offered by NYS DOH for this parameter
- ** Value exceeds Maximum Contaminant Value
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Q Outlying QC recoveries were associated with this parameter

- * Low Level
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist
Lab Order: U1110711
Project: Pownal Elementary School
Lab ID: U1110711-007

Client Sample ID: FREY-DW
Collection Date: 10/25/2011 2:36:00 PM
Matrix: DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
PURGEABLE ORGANIC CMPDS BY METHOD 524.2				524.2_W		Analyst: JKS
1,1,1,2-Tetrachloroethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,1,1-Trichloroethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,1,2,2-Tetrachloroethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,1,2-Trichloroethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,1-Dichloroethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,1-Dichloroethene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,1-Dichloropropene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,2,3-Trichlorobenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,2,3-Trichloropropane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,2,4-Trichlorobenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,2,4-Trimethylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,2-Dichlorobenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,2-Dichloroethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,2-Dichloropropane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,3,5-Trimethylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,3-Dichlorobenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,3-Dichloropropane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
1,4-Dichlorobenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
2,2-Dichloropropane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
2-Chlorotoluene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
4-Chlorotoluene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
4-Isopropyltoluene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Benzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Bromobenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Bromochloromethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Bromodichloromethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Bromoform	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Bromomethane	ND	0.50	Q	µg/L	1	11/2/2011 3:44:00 PM
Carbon tetrachloride	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Chlorobenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Chloroethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Chloroform	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Chloromethane	0.51	0.50	Q	µg/L	1	11/2/2011 3:44:00 PM
cis-1,2-Dichloroethene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
cis-1,3-Dichloropropene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Dibromochloromethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Dibromomethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Dichlorodifluoromethane	ND	0.50	Q	µg/L	1	11/2/2011 3:44:00 PM
Ethylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM

Approved By: C24

Date: 11/14/11

Page 7 of 8

Qualifiers:

- # Accreditation not offered by NYS DOH for this parameter
- ** Value exceeds Maximum Contaminant Value
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Q Outlying QC recoveries were associated with this parameter

- * Low Level
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

Upstate Laboratories, Inc.

Analytical Report

Date: 14-Nov-11

CLIENT: Paul Miller Consulting Hydrologist
Lab Order: U1110711
Project: Pownal Elementary School
Lab ID: U1110711-007

Client Sample ID: FREY-DW
Collection Date: 10/25/2011 2:36:00 PM
Matrix: DRINKING WATER

Analyses	Result	Limit	Qual	Units	DF	Date Analyzed
PURGEABLE ORGANIC CMPDS BY METHOD 524.2				524.2_W		Analyst: JKS
Hexachlorobutadiene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Isopropylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
m,p-Xylene	ND	1.0		µg/L	1	11/2/2011 3:44:00 PM
Methylene chloride	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
n-Butylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
n-Propylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Naphthalene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
o-Xylene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
sec-Butylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Styrene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
tert-Butylbenzene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Tetrachloroethene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Toluene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
trans-1,2-Dichloroethene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
trans-1,3-Dichloropropene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Trichloroethene	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Trichlorofluoromethane	ND	0.50		µg/L	1	11/2/2011 3:44:00 PM
Vinyl chloride	ND	0.50	Q	µg/L	1	11/2/2011 3:44:00 PM

Approved By: CZH

Date: 11/14/11

Page 8 of 8

Qualifiers:

- # Accreditation not offered by NYS DOH for this parameter
- ** Value exceeds Maximum Contaminant Value
- E Value above quantitation range
- J Analyte detected below quantitation limits
- Q Outlying QC recoveries were associated with this parameter

- * Low Level
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- S Spike Recovery outside accepted recovery limits

