BAUSCH
& LOMB

Transmitted via E-mail and First-Class Mail

August 11, 2006

Frank Sowers, P.E.
Division of Environmental Remediation
New York State Department of Environmental Conservation
Region 8
6274 East Avon-Lima Road
Avon, NY 14414-9519

Re: Potential Vapor Pathway Evaluation
Carriage House Estate Properties
Former Bausch & Lomb Frame Center
Chili, New York

Dear Mr. Sowers:

This letter reports the results of Bausch & Lomb's potential vapor intrusion evaluation for the Carriage House Estate Properties located adjacent to the former Frame Center in Chili, New York (Figure 1). The Work Plan has been prepared in response to a February 27, 2006 letter from the New York State Department of Environmental Conservation/New York State Department of Health (NYSDEC/ NYSDOH, hereafter referred to as the Agencies), which requested that a vapor intrusion assessment be completed at the Carriage House Estate Properties, in the offsite area near the existing groundwater collection and treatment system (GWCTS) associated with the former Frame Center building.

Bausch & Lomb submitted a proposed Work Plan to the Agencies on June 1, 2006. The NYSDEC conditionally approved the proposed Work Plan in a June 16, 2006 letter, which is incorporated by reference. The sampling activities described herein were performed on June 21, 2006 to assess whether Site-related volatile organic compounds (VOCs) are locally present in subsurface vapor adjacent to residential lots on the Carriage House Estate Properties.

As further described below, this letter report:

- provides an overview of Site background information;
- describes the locations sampled, which are shown on Figure 1;
- summarizes the methods used to collect and analyze the subsurface vapor samples, with reference to the Work Plan;
- summarizes the subsurface vapor analytical results;
- provides the subsurface vapor analytical results; and
- transmits the Data Usability Summary Report (DUSR) for the analytical data obtained and the subsurface soil vapor sampling logs (Attachments 1 and 2, respectively).

Background

Per the Work Plan, subsurface vapors were sampled at two locations at the Carriage House Estate Properties. Due to the Site-specific hydrogeologic conditions, these sampling points were located hydraulically downgradient of the Site and slightly upgradient of the closest occupied structures on the Carriage House Estate Properties.

The hydraulic conductivity of the hydrostratigraphic units beneath the Carriage House Estate Properties increases downward, with the deep overburden/upper bedrock zones having a hydraulic conductivity more than one order of magnitude higher than the overlying material. Vertical migration of groundwater from the deeper zones to the upper zones is also inhibited by the lower hydraulic conductivity of the overlying unit. Combined with the expected decrease in vertical hydraulic conductivity, the vertical movement of groundwater from the deep units to the shallow units is limited.

Although Site-impacted groundwater flows offsite in the deep overburden/upper bedrock zones, groundwater sampling results document that the groundwater collected from the deep overburden/upper bedrock zone locally contains only low concentrations of VOCs. VOCs were not detected (at a 2 micrograms per liter [ug/L] detection limit) in shallow groundwater beneath the Carriage House Estate Properties, or in the groundwater samples from deep monitoring wells CH-3D and CH-8D. Monitoring wells CH-3D and CH-8D are both upgradient from occupied structures on the Carriage House Estate Properties and downgradient of extraction well EW-100. Extraction well EW-100, located approximately 130 feet from an occupied structure on the Carriage House Estate Properties, is an active pumping well and is used to hydraulically control the downgradient portion of the dissolved-phase VOCs.

Vapor Sampling Locations

As shown on Figure 1, two subsurface vapor sampling locations, CHSV-1 and CHSV-2, located between extraction well EW-100 and the buildings on lot numbers 201 and 209, respectively, were sampled. These subsurface vapor sampling locations were selected to be upgradient of the two closest structures on the Carriage House Estate Properties, which could be potential residential receptors of subsurface Site-related vapors, if these vapors are present in the vicinity of these structures.

At each location, the subsurface vapor sampling depth was determined based on field observations to meet the following criteria: at least 5 feet below ground surface (ft bgs), at least one foot above the water table, and at a depth comparable to foundation footers in the nearby structures. Prior to subsurface vapor sampling, groundwater levels were measured at monitoring wells CH-3S (6.3 ft bgs) and CH-8S (6.9 ft bgs). These measurements were consistent with the depth to water observed during soil sampling (approximately 7 ft bgs at CHSV-1, and 6 ft bgs at CHSV-2). The closest occupied structures have basements, with foundations estimated to be approximately 5 to 6 ft bgs. Therefore, the subsurface samples were collected at 6 ft bgs at CHSV-1 and at 5 ft bgs at CHSV-2.

Vapor Sampling and Analytical Methodologies

The methods for collecting subsurface vapor samples and use of a tracer gas are detailed in the Standard Operating Procedure (SOP) provided as Attachments 1 and 2 to Work Plan. The NYSDOH's draft Guidance for Evaluating Soil Vapor Intrusion in the State of New York was considered in the development of this SOP.

For this program, subsurface soil vapor sampling points were installed as temporary sampling points and each sample was collected over an approximate two-hour sample interval. A helium tracer gas was used during collection of the subsurface vapor samples to assess the potential for leakage of surface air along the sampling tools to the sampling point or into the sampling train during subsurface sampling. For this program, a to determine initial sample integrity, a field instrument was used to verify the vapor phase seal. As shown on the sampling logs included as Attachment 2, the helium concentrations measured beneath the shroud at each location were approximately 21% to 25%. Helium concentrations were measured in the sampling line prior to and following subsurface soil sampling. No evidence of helium leaks were detected in the field. As further discussed below, to provide additional quality assurance regarding the sample integrity, helium was also analyzed in the laboratory.

Samples (including a duplicate sample collected at the CHSV-1 location) were collected in laboratory batch-certified clean, passivated stainless-steel canisters and analyzed using the USEPA Compendium Method TO-15 for the Site-specific constituents of interest (COIs; i.e., 1,1,1-trichloroethane; 1,1-dichloroethane; cis-1,2-dichloroethene; Freon 113; trichloroethene, and vinyl chloride) and ASTM D1946 for the helium. Analyses were conducted by Severn Trent Laboratories, Inc. (STL) of Colchester, Vermont, an Environmental Laboratory Approval Program- (ELAP-) certified laboratory. A Category B-equivalent data package was obtained to facilitate completion of a DUSR, which is included as Attachment A.

Analytical Results

The VOC COIs were not detected in any of the subsurface vapor samples. However, helium was detected at an estimated concentration of 17% in the CHSV-2 subsurface vapor sample (the helium concentration beneath the shroud was approximately 25% at this location). Therefore, the CHSV-2 sample results are not considered usable, because although a helium leak was not observed during field screening, the sample results would be rejected based on the laboratory analytical result and the draft NYSDOH guidance. The results for CHSV-1 are useable and show no evidence of the potential for vapor intrusion of these site-specific COI at that location.

Due to the undetected helium leak at location CHSV-2, another subsurface vapor sample will be collected near this sampling location. The resampling is expected to occur in August, and the results will be presented to you in a summary letter report encompassing both the June and August offsite subsurface vapor sampling results.

Sincerely,

Frank Chiappone George M. Thomas, BBL For
Manager of Environmental Affairs

LM/plf
Attachments

cc: Ms. Deborah McNaughton, New York State Department of Health
Mr. Joseph Albert Monroe County Health Department
Mr. George Thomas, Blasland, Bouck & Lee, Inc.
Ms. Lynette Mokry, Blasland, Bouck & Lee, Inc.

Table

TABLE 1
SUBSURFACE VAPOR ANALYTICAL RESULTS
CARRIAGE HOUSE ESTATE PROPERTIES

FORMER BAUSCH & LOMB FRAME CENTER
CHILI, NEW YORK

	VI Sample Locations		
Location	**CHSV-1**	**CHSV-1 (DUP)**	**CHSV-2**
Sample Date	**6/21/06**	**6/21/06**	**6/21/06**
Area	**Carriage House**	**Carriage House**	**Carriage House**
VOCs			
1,1,1-Trichloroethane	2 U	2 U	2 U
1,1-Dichloroethane	2 U	2 U	2 U
cis-1,2-Dichloroethene	2 U	2 U	2 U
Freon 113	2 U	2 U	2 U
Trichloroethene	2 U	2 U	2 U
Vinyl chloride	2 U	2 U	2 U
Total VOCs	--	--	--
Tracer Gas (%)			
Helium (tracer gas)	3.7UJ	5.0J	17J

Notes:

-- = Not Detected.

U = The compound was analyzed for but not detected. The associated number is the quantitation limit.

J = The concentration is estimated.

Volatile organic compound (VOC) results in micrograms per cubic meter (ug/m3).

Figure

LEGEND

☒ SOIL VAPOR SAMPLING LOCATION

◕ MONITORING WELL INSTALLED IN SHALLOW OVERBURDEN

◒ MONITORING WELL INSTALLED AT BASE OF OVERBURDEN/TOP OF ROCK

◒ ABANDONED WELL (SEE NOTE 5)

□ CATCH BASIN

○ MANHOLE

◎ 6"ø EXTRACTION WELL

——— APPROXIMATE ADJACENT TRACT BOUNDARY

— —— — APPROXIMATE PROPOSED LOT BOUNDARY

— — — — APPROXIMATE EXISTING LOT BOUNDARY

— — — — APPROXIMATE EASEMENT BOUNDARY

—x—x— FENCE

ø RG&E POWER POLE

NOTES:

1. SITE PLAN FOR THE ONSITE AREAS COMPILED FROM EXISTING SITE PLANS PROVIDED BY BAUSCH & LOMB AND SITE SURVEYS TO LOCATE ALL MONITORING WELLS BY BB&L DATED 6/17/92, REVISED 4/13/94, 8/13/98, 10/28-29/98, AND 10/11/00.
2. LOCATIONS OF PROPERTY LINES, SUBSURFACE UTILITIES AND LIMITS OF BUILDINGS AND PARKING AREAS ARE APPROXIMATE.
3. ADJACENT PROPERTY INFORMATION FROM TRACT MAPS PREPARED BY LADIEU ASSOCIATES P.C.; LOT NUMBERS 101 TO 118 AND 201 TO 208 WERE DESIGNATED BY LADIEU ASSOCIATES P.C.; LOTS IDENTIFIED AS 301 TO 313 ARE IDENTIFIED HERE FOR CONVENIENCE ONLY.
4. AERIAL PHOTOGRAPH FROM NYS GIS CLEARINGHOUSE WEB SITE, DATED APRIL 2002.
5. MONITORING WELL CH-2 WAS DECOMMISSIONED ON 12/4/98 AS PER PROPERTY OWNER.

0 120' 240'

GRAPHIC SCALE

BAUSCH & LOMB INCORPORATED
FORMER FRAME CENTER
CHILI, NEW YORK

SUBSURFACE SOIL VAPOR SAMPLING

BBL®
an ARCADIS company

FIGURE
1

8/2/06 SYR-85-RCB L: ON=* OFF = REF*
F:\ACTIVE\-DWG\ACT\34219004\34219B01.DWG SAVED: 8/3/2006 3:45 PM LAYOUT: Layout1 PAGESETUP: ---- PENTABLE: PLTFULL.CTB PRINTED: 8/3/2006 4:12 PM BY: RBASSETT

PROJECTNAME: ----
XREFS: IMAGES:
W_1377~1.SID
W_1377~2.SID
W_1380~1.SID
W_1380~2.SID

Attachments

Attachment 1

DUSR

DATA USABILITY SUMMARY REPORT

BAUSCH & LOMB

SDG #NY114990

VOLATILE AND HELIUM ANALYSES

Analyses performed by:

Severn Trent Laboratories
Colchester, Vermont

Review performed by:

BBL®
an ARCADIS company

Syracuse, New York
Report #5954

Summary

The following is an assessment of the data package for sample delivery group (SDG) #NY114990 for sampling from the Bausch & Lomb Site. Included with this assessment are the data review check sheets used in the review of the package and corrected sample results. Analyses were performed on the following samples:

Sample ID	Lab ID	Matrix	Sample Date	Analysis				
				VOC	SVOC	PCB	MET	MISC
CHSV-1	673699	Air	6/21/2006	X				X
CHSV-2	673700	Air	6/21/2006	X				X
CHSV-DUP-1	673701	Air	6/21/2006	X				X

Notes:

1. Sample location CHSV-DUP-1 is the field duplicate of parent sample location CHSV-1.
2. Miscellaneous parameters include helium analysis.

VOLATILE ORGANIC COMPOUND (VOC) ANALYSES

Introduction

Analyses were performed according to United Stated Environmental Protection Agency (USEPA) Method TO-15. Data were reviewed in accordance with USEPA National Functional Guidelines of October 1999.

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and had already been subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with USEPA National Functional Guidelines:

U	The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
J	The compound was positively identified; however, the associated numerical value is an estimated concentration only.
B	The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.
N	The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification.
JN	The analysis indicates the presence of a compound for which there is presumptive evidence to make a tentative identification. The associated numerical value is an estimated concentration only.
E	The compound was quantitated above the calibration range.
D	Concentration is based on a diluted sample analysis.
UJ	The compound was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.
R	The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant quality control (QC) problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Data Assessment

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Method TO-15	Air	14 days from collection to analysis	Ambient temperature

All samples were analyzed within the specified holding times.

2. Blank Contamination

Quality assurance blanks (i.e., method, trip, and rinse blanks) are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure contamination of samples during shipment. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected compound in an associated blank (common laboratory contaminant compounds are calculated at ten times) is calculated for QA blanks containing concentrations greater than the method detection limit (MDL). The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL.

3. Mass Spectrometer Tuning

Mass spectrometer performance was acceptable.

System performance and column resolution were acceptable.

4. Calibration

Satisfactory instrument calibration is established to insure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument daily performance is satisfactory.

4.1 Initial Calibration

The method specifies percent relative standard deviation (%RSD) and relative response factor (RRF) limits for select compounds only. A technical review of the data applies limits to all compounds with no exceptions.

All target compounds associated with the initial calibration standards must exhibit a %RSD less than the control limit (30%) or a correlation coefficient greater than 0.99 and an RRF value greater than control limit (0.05).

4.2 Continuing Calibration

All target compounds associated with the continuing calibration standard must exhibit a percent difference (%D) less then the control limit (30%) and RRF value greater than control limit (0.05).

All compounds associated with the calibrations were within the specified control limits.

5. Surrogates / System Monitoring Compounds

All samples to be analyzed for organic compounds are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. VOC analysis requires that all surrogates associated with the analysis exhibit recoveries within the laboratory-established acceptance limits.

No surrogate analysis was included with this SDG.

6. Internal Standard Performance

Internal standard performance criteria insure that the GC/MS sensitivity and response are stable during every sample analysis. The criteria requires the internal standard compounds associated with the VOC exhibit area counts that are not greater than two times (+40%) or less than one-half (-40%) of the area counts of the associated continuing calibration standard.

All sample locations exhibited acceptable internal standard responses.

7. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analysis

MS/MSD data are used to assess the precision and accuracy of the analytical method. The compounds used to perform the MS/MSD analysis must exhibit a percent recovery within the laboratory-established acceptance limits. The relative percent difference (RPD) between the MS/MSD recoveries must exhibit an RPD within the laboratory-established acceptance limits.

> Note: The MS/MSD recovery control limits do not apply for MS/MSD performed on sample locations were the compound concentration detected in the parent sample exceeds the MS/MSD concentration by a factor of four or greater.

No MS/MSD analysis was included in this SDG.

8. Laboratory Control Sample (LCS) Analysis

The LCS analysis is used to assess the precision and accuracy of the analytical method independent of matrix interferences. The compounds associated with the LCS analysis must exhibit a percent recovery within the laboratory-established acceptance limits.

An LCS/LCSD (laboratory control sample duplicate) was included with this SDG.

All LCS/LCSD recoveries and RPD between LCS/LCSD recoveries were within control limits

9. Laboratory Duplicates (Laboratory Replicates)

The laboratory duplicate relative percent difference (RPD) criterion is applied when parent and duplicate sample concentrations are greater than or equal to 5 times the RL. A control limit of 20% for air matrices is applied when the criteria above is true. In the instance when the parent and/or duplicate sample concentrations are less than or equal to 5 times the RL, a control limit of one times the RL is applied for water matrices and two times the RL for soil matrices.

Sample ID / Duplicate ID	Compound	Sample Result ug/m3	Duplicate Result ug/m3	RPD
CHSV-DUP-1	All compounds	ND	ND	AC

ND = Not detected.

AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

The field duplicate RPD were acceptable.

10. Compound Identification

Compounds are identified on the GC/MS by using the analytes relative retention time and ion spectra.

No target compounds were identified in the samples.

11. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

HELIUM ANALYSES

Introduction

Analyses were performed according to the following methods:

Helium	ASTM D1946

The data review process is an evaluation of data on a technical basis rather than a determination of contract compliance. As such, the standards against which the data are being weighed may differ from those specified in the analytical method. It is assumed that the data package represents the best efforts of the laboratory and that it was already subjected to adequate and sufficient quality review prior to submission.

During the review process, laboratory qualified and unqualified data are verified against the supporting documentation. Based on this evaluation, qualifier codes may be added, deleted, or modified by the data reviewer. Results are qualified with the following codes in accordance with the USEPA National Functional Guidelines:

- Concentration (C) Qualifiers

U	The analyte was analyzed for but not detected. The associated value is the analyte instrument detection limit.
B	The reported value was obtained from a reading less than the contract-required detection limit (CRDL), but greater than or equal to the instrument detection limit (IDL).

- Quantitation (Q) Qualifiers

E	The reported value is estimated due to the presence of interference.
N	Spiked sample recovery is not within control limits.
*	Duplicate analysis is not within control limits.

- Validation Qualifiers

J	The analyte was positively identified; however, the associated numerical value is an estimated concentration only.
UJ	The analyte was not detected above the reported sample detection limit. However, the reported limit is approximate and may or may not represent the actual limit of detection.
R	The sample results are rejected.

Two facts should be noted by all data users. First, the "R" flag means that the associated value is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information as to whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data but any value potentially contains error.

Data Assessment

1. Holding Times

The specified holding times for the following methods are presented in the following table.

Method	Matrix	Holding Time	Preservation
Helium	Air	14 days from collection to analysis	Keep out of sunlight

The analyses that exceeded the holding time are presented in the following table.

Sample Locations	Method	Holding Time	Criteria
CHSV-1 CHSV-2 CHSV-DUP-1	Helium	15 days	14 days

Sample results associated with sample locations analyzed by analytical method SM 4500-CO2-D were qualified, as specified in the table below. All other holding times were met.

Criteria	Qualification	
	Detected Analytes	Non-detect Analytes
Analysis completed less than two times holding time	J	UJ
Analysis completed greater than two times holding time	J	R

2. Blank Contamination

Quality assurance (QA) blanks (i.e., method or rinse blanks), are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks (including initial and continuing calibration blanks, and preparation blanks) measure laboratory contamination. Rinse blanks measure contamination of samples during field operations.

A blank action level (BAL) of five times the concentration of a detected analyte in an associated blank is calculated for QA blanks containing concentrations greater than the IDL. The BAL is compared to the associated sample results to determine the appropriate qualification of the sample results, if needed.

All compounds associated with the QA blanks exhibited a concentration less than the MDL.

3. Calibration

Satisfactory instrument calibration is established to provide that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument's continuing performance is satisfactory.

All initial and continuing calibration verification standard recoveries were within the control limit.

4. Field Duplicate Analysis

Field duplicate analysis is used to assess the precision and accuracy of the field sampling procedures and analytical method.

Sample ID / Duplicate ID	Compound	Sample Result ug/m3	Duplicate Result ug/m3	RPD
CHSV-1 / SSV-DUP-1	Helium	ND (3.7)	5.0	29.9%

ND = Not detected.
AC = The field duplicate RPD is acceptable when the RPD between parent sample and field duplicate sample is less than one times the RL and where the parent sample and/or duplicate concentration is less than five times the RL.

The field duplicate RPD exhibited unacceptable results. Data for helium were qualified as estimated associated with sample locations CHSV-1 and CHSV-DUP-1.

5. System Performance and Overall Assessment

Overall system performance was acceptable. Other than for those deviations specifically mentioned in this review, the overall data quality is within the guidelines specified in the method.

CORRECTED SAMPLE ANALYSIS DATA SHEETS

TO-14/15
Result Summary

CLIENT SAMPLE NO.

CHSV-1

Lab Name: STL Burlington

SDG Number: NY114990

Case Number:

Sample Matrix: AIR

Lab Sample No.: 673699

Date Analyzed: 07/03/2006

Date Received: 06/26/2006

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Vinyl Chloride	75-01-4	0.20	U	0.20	0.51	U	0.51
Freon TF	76-13-1	0.20	U	0.20	1.5	U	1.5
cis-1,2-Dichloroethene	156-59-2	0.20	U	0.20	0.79	U	0.79
1,1,1-Trichloroethane	71-55-6	0.20	U	0.20	1.1	U	1.1
1,2-Dichloroethane	107-06-2	0.20	U	0.20	0.81	U	0.81
Trichloroethene	79-01-6	0.20	U	0.20	1.1	U	1.1

TO-14/15
Result Summary

CLIENT SAMPLE NO.

CHSV-2

Lab Name: STL Burlington

SDG Number: NY114990

Case Number:

Sample Matrix: AIR

Lab Sample No.: 673700

Date Analyzed: 07/03/2006

Date Received: 06/26/2006

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Vinyl Chloride	75-01-4	0.20	U	0.20	0.51	U	0.51
Freon TF	76-13-1	0.20	U	0.20	1.5	U	1.5
cis-1,2-Dichloroethene	156-59-2	0.20	U	0.20	0.79	U	0.79
1,1,1-Trichloroethane	71-55-6	0.20	U	0.20	1.1	U	1.1
1,2-Dichloroethane	107-06-2	0.20	U	0.20	0.81	U	0.81
Trichloroethene	79-01-6	0.20	U	0.20	1.1	U	1.1

TO-14/15
Result Summary

CLIENT SAMPLE NO.

CHSV-DUP-1

Lab Name: STL Burlington

SDG Number: NY114990

Case Number:

Sample Matrix: AIR

Lab Sample No.: 673701

Date Analyzed: 07/03/2006

Date Received: 06/26/2006

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Vinyl Chloride	75-01-4	0.20	U	0.20	0.51	U	0.51
Freon TF	76-13-1	0.20	U	0.20	1.5	U	1.5
cis-1,2-Dichloroethene	156-59-2	0.20	U	0.20	0.79	U	0.79
1,1,1-Trichloroethane	71-55-6	0.20	U	0.20	1.1	U	1.1
1,2-Dichloroethane	107-06-2	0.20	U	0.20	0.81	U	0.81
Trichloroethene	79-01-6	0.20	U	0.20	1.1	U	1.1

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

BLAB02 SAMPLE NO.

CHSV-1

Lab Name: STL BURLINGTON Contract: 26000

Lab Code: STLVT Case No.: 26000 SAS No.: SDG No.: NY114990

Matrix: (soil/water) AIR Lab Sample ID: 673699

Sample wt/vol: ______ (g/mL) ML Lab File ID: 06JUL061109-R011

Level: (low/med) LOW Date Received: 06/26/06

% Moisture: not dec. ________ Date Analyzed: 07/06/06

GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 2.1

Soil Extract Volume:________(uL) Soil Aliquot Volume: ________(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) %.V/V	Q
7440-59-7	-------Helium	3.7	U J

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

BLAB02 SAMPLE NO.

CHSV-2

Lab Name: STL BURLINGTON Contract: 26000

Lab Code: STLVT Case No.: 26000 SAS No.: SDG No.: NY114990

Matrix: (soil/water) AIR Lab Sample ID: 673700

Sample wt/vol: ______ (g/mL) ML Lab File ID: 06JUL061109-R021

Level: (low/med) LOW Date Received: 06/26/06

% Moisture: not dec. ________ Date Analyzed: 07/06/06

GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.6

Soil Extract Volume:________(uL) Soil Aliquot Volume: ________(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) %.V/V	Q
7440-59-7	Helium	17	J

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

BLAB02 SAMPLE NO.

CHSV-DUP-1

Lab Name: STL BURLINGTON Contract: 26000

Lab Code: STLVT Case No.: 26000 SAS No.: SDG No.: NY114990

Matrix: (soil/water) AIR Lab Sample ID: 673701

Sample wt/vol: ______ (g/mL) ML Lab File ID: 06JUL061109-R031

Level: (low/med) LOW Date Received: 06/26/06

% Moisture: not dec. ________ Date Analyzed: 07/06/06

GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.7

Soil Extract Volume:________(uL) Soil Aliquot Volume: ________(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) %.V/V	Q
7440-59-7	Helium	5.0	J

FORM I VOA

CORRECTED SAMPLE ANALYSIS DATA SHEETS

TO-14/15
Result Summary

CLIENT SAMPLE NO.

CHSV-1

Lab Name: STL Burlington

SDG Number: NY114990

Case Number:

Sample Matrix: AIR

Lab Sample No.: 673699

Date Analyzed: 07/03/2006

Date Received: 06/26/2006

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Vinyl Chloride	75-01-4	0.20	U	0.20	0.51	U	0.51
Freon TF	76-13-1	0.20	U	0.20	1.5	U	1.5
cis-1,2-Dichloroethene	156-59-2	0.20	U	0.20	0.79	U	0.79
1,1,1-Trichloroethane	71-55-6	0.20	U	0.20	1.1	U	1.1
1,2-Dichloroethane	107-06-2	0.20	U	0.20	0.81	U	0.81
Trichloroethene	79-01-6	0.20	U	0.20	1.1	U	1.1

TO-14/15
Result Summary

CLIENT SAMPLE NO.

CHSV-2

Lab Name: STL Burlington

SDG Number: NY114990

Case Number:

Sample Matrix: AIR

Lab Sample No.: 673700

Date Analyzed: 07/03/2006

Date Received: 06/26/2006

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Vinyl Chloride	75-01-4	0.20	U	0.20	0.51	U	0.51
Freon TF	76-13-1	0.20	U	0.20	1.5	U	1.5
cis-1,2-Dichloroethene	156-59-2	0.20	U	0.20	0.79	U	0.79
1,1,1-Trichloroethane	71-55-6	0.20	U	0.20	1.1	U	1.1
1,2-Dichloroethane	107-06-2	0.20	U	0.20	0.81	U	0.81
Trichloroethene	79-01-6	0.20	U	0.20	1.1	U	1.1

TO-14/15
Result Summary

CLIENT SAMPLE NO.

CHSV-DUP-1

Lab Name: STL Burlington

SDG Number: NY114990

Case Number:

Sample Matrix: AIR

Lab Sample No.: 673701

Date Analyzed: 07/03/2006

Date Received: 06/26/2006

Target Compound	CAS Number	Results in ppbv	Q	RL in ppbv	Results in ug/m3	Q	RL in ug/m3
Vinyl Chloride	75-01-4	0.20	U	0.20	0.51	U	0.51
Freon TF	76-13-1	0.20	U	0.20	1.5	U	1.5
cis-1,2-Dichloroethene	156-59-2	0.20	U	0.20	0.79	U	0.79
1,1,1-Trichloroethane	71-55-6	0.20	U	0.20	1.1	U	1.1
1,2-Dichloroethane	107-06-2	0.20	U	0.20	0.81	U	0.81
Trichloroethene	79-01-6	0.20	U	0.20	1.1	U	1.1

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

BLAB02 SAMPLE NO.

CHSV-1

Lab Name: STL BURLINGTON Contract: 26000

Lab Code: STLVT Case No.: 26000 SAS No.: SDG No.: NY114990

Matrix: (soil/water) AIR Lab Sample ID: 673699

Sample wt/vol: _____ (g/mL) ML Lab File ID: 06JUL061109-R011

Level: (low/med) LOW Date Received: 06/26/06

% Moisture: not dec. ________ Date Analyzed: 07/06/06

GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 2.1

Soil Extract Volume:________(uL) Soil Aliquot Volume: ________(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) %.V/V	Q
7440-59-7	-------Helium	3.7	U J

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

BLABO2 SAMPLE NO.

CHSV-2

Lab Name: STL BURLINGTON Contract: 26000

Lab Code: STLVT Case No.: 26000 SAS No.: SDG No.: NY114990

Matrix: (soil/water) AIR Lab Sample ID: 673700

Sample wt/vol: _____ (g/mL) ML Lab File ID: 06JUL061109-R021

Level: (low/med) LOW Date Received: 06/26/06

% Moisture: not dec. ________ Date Analyzed: 07/06/06

GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.6

Soil Extract Volume:________(uL) Soil Aliquot Volume: ________(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) %.V/V	Q
7440-59-7-------	Helium	17	J

FORM 1
VOLATILE ORGANICS ANALYSIS DATA SHEET

BLAB02 SAMPLE NO.

CHSV-DUP-1

Lab Name: STL BURLINGTON Contract: 26000

Lab Code: STLVT Case No.: 26000 SAS No.: SDG No.: NY114990

Matrix: (soil/water) AIR Lab Sample ID: 673701

Sample wt/vol: _____ (g/mL) ML Lab File ID: 06JUL061109-R031

Level: (low/med) LOW Date Received: 06/26/06

% Moisture: not dec. ________ Date Analyzed: 07/06/06

GC Column: CTR-1 ID: 6.35 (mm) Dilution Factor: 1.7

Soil Extract Volume:________(uL) Soil Aliquot Volume: ________(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) %.V/V	Q
7440-59-7	Helium	5.0	J

Attachment 2

Sampling Logs

File 34219 #4.04

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Soil Gas Sample Collection Log

Sample ID: CHSV-1 / CHSV-DUP-1

Client:	B&L	**Date/Day:**	6/21/06
Project:	CARRIAGE HOUSE ESTATES	**Weather:**	CLEAR SKY
Location:	~~34219~~	**Temperature:**	80°F
Project #:	34219.	**Wind Speed/Direction:**	60 ft/min to the East
Samplers:	ASA, LGT	**Subcontractor:**	—
Logged By:	ASA, LGT	**Equipment:**	—
Coordinates:	see notes	**Moisture Content of Sampling Zone (circle one):**	[✓ Dry] / Moist
Sampling Depth:	6.0 bgs		
Probe (circle one):	Permanent / [✓ Temporary]	**Approximate Purge Volume:**	110 ml
Time of Collection:	START: 1243 END: 1438	**Background PID Ambient Air Reading:**	0 ppb

Nearby Groundwater Monitoring Wells/Water Levels:

Well ID	Depth to Groundwater (feet)
CH-8S	BGS - 6.85' TIC - 6.29'
CH-3S	BGS - 6.25' TIC - 5.79
—	—

SUMMA Canister Information

Size (circle one): 1 L [✓ 6 L]

Canister ID: CHSV-1 : 3233 / CH DUP-1 : 4220

Flow Controller ID: CHSV-1 : 3774 / CH DUP : 2804

Tracer Gas Information (if applicable)

Tracer Gas: He

Canister Pressure (inches Hg):

Reported By Laboratory	Measured Prior to Sample Collection	Measured Following Sample Collection
CH SV-1 -30.2 CH DUP -30.2	CHSV-1 -29.5 CH DUP -30 (+)	CHSV-1 -6.0 CH DUP -4.0

Tracer Gas Concentration (if applicable):

Measured in Purge Effluent	Measured in 'Concentrated' Area Prior to Sample Collection	Measured in 'Concentrated' Area Following Sample Collection
~~CHSV-1~~ 0.0%	~~CHS~~ 24.2% ~~CH DUP -30 (+)~~	21.3%

General Observations/Notes:

PURGE EFFLUENT - 198 ~~ppb~~ ppb
POST PURGE EFFLUENT 0% He ~~ppb~~ ppb

Approximating One-Well Volume (for purging):
When using 1¼-inch "Dummy Point" and a 6-inch sampling interval, the sampling space will have a volume of approximately 150 mL.
Each foot of ¼-inch tubing will have a volume of approximately 10 mL.

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Soil Gas Sample Collection Log

Sample ID: CHSV-2

Client:	bbl	**Date/Day:**	6/21/06
Project:	SV Sampling	**Weather:**	CLEAR SKY – 3
Location:	CARRIAGE HOUSE ESTATES	**Temperature:**	70°F
Project #:	34219	**Wind Speed/Direction:**	60 ft/min to the East
Samplers:	ASA, LGT	**Subcontractor:**	—
Logged By:	ASA, LGT	**Equipment:**	—
Coordinates:	See notes	**Moisture Content of Sampling Zone (circle one):**	[✓ Dry] / Moist
Sampling Depth:	5 bgs		
Probe (circle one):	Permanent / [✓ Temporary]	**Approximate Purge Volume:**	110 ml
Time of Collection:	START TIME: 1046 ~~1036~~ END: 1237	**Background PID Ambient Air Reading:**	0 ppb

Nearby Groundwater Monitoring Wells/Water Levels:

Well ID	Depth to Groundwater (feet)
CH-8S	bgs – 6.85 TIC – 6.29
CH-3S	bgs – 6.25 TIC – 5.79
—	—

SUMMA Canister Information

Size (circle one): 1 L [✓ 6 L]

Canister ID: 3669

Flow Controller ID: 2811

Tracer Gas Information (if applicable)

Tracer Gas: He

Canister Pressure (inches Hg):		
Reported By Laboratory	**Measured Prior to Sample Collection**	**Measured Following Sample Collection**
-30.2 ~~mm/Hg~~	-27.5 ~~24.5~~	-2.0

Tracer Gas Concentration (if applicable):		
Measured in Purge Effluent	**Measured in 'Concentrated' Area Prior to Sample Collection**	**Measured in 'Concentrated' Area Following Sample Collection**
0%	24.9%	23.3%

General Observations/Notes:

PURGE EFFLUENT – 229 ppm
POST PURGE EFFLUENT – 0 % He

Approximating One-Well Volume (for purging):
When using 1¼-inch "Dummy Point" and a 6-inch sampling interval, the sampling space will have a volume of approximately 150 mL.
Each foot of ¼-inch tubing will have a volume of approximately 10 mL.