Groundwater & Environmental Services, Inc.

LOWER HUDSON VALLEY OFFICE

June 4, 2015

Ms. Jamie Verrigni
New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial Bureau C
625 Broadway – 11th Floor
Albany, New York 12233-7014

Re: Soil Vapor Intrusion Investigation Summary
Orangetown Shopping Center
1-45 Orangetown Shopping Center
Orangeburg, New York
NYSDEC Site Number C344066

Dear Ms. Verrigni:

Groundwater & Environmental Services, Inc. (GES) on behalf of UB Orangeburg, LLC has prepared this *Soil Vapor Intrusion Investigation Summary* which outlines the investigation activities completed at three of the tenant spaces (the New China House Restaurant and two vacant spaces which were formerly occupied by Sparkle Cleaners and the Deli Spot) located within building #2 of the Orangetown Shopping Center (the "site").

All monitoring and sampling activities were completed on April 28, 2015 in accordance with the approved *Revised Soil Vapor Intrusion Investigation Work Plan* (Work Plan) which was submitted to the New York State Department of Environmental Conservation (NYSDEC) on March 26, 2015. Any modifications to the Work Plan were communicated to the NYSDEC and approved via email prior to the start of work.

If you have any questions and/or comments regarding this submittal, please contact the undersigned at 866-839-5195, extensions 3862 and 3833, respectively.

Sincerely,

Christina Andreotto
Staff Geologist

Karen Bourque
Senior Project Manager

Attachment

cc: Monica Roth, UB Orangeburg, LLC
Stephan Rapaglia, UB Orangeburg, LLC (e-copy)
Tom Myers, UB Orangeburg, LLC (e-copy)
Renata Ockerby, New York State Department of Health
James Candiloro, New York State Department of Environmental Conservation
Hilton Soniker, Esq., JLJ Management

Soil Vapor Intrusion Investigation Summary
June 2015

Orangetown Shopping Center

NYSDEC Site #C344066
1-45 Orangetown Shopping Center
Orangeburg, New York

Prepared for:

UB Orangeburg, LLC
321 Railroad Avenue
Greenwich, CT 06830

Prepared by:

Groundwater & Environmental Services, Inc.
16 Mount Ebo Road South, Suite 21
Brewster, New York 10509

Soil Vapor Intrusion Investigation Summary Report

Orangetown Shopping Center
1-45 Orangetown Shopping Center
Orangeburg, New York
NYSDEC Site #C344066

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1.0 OBJECTIVE

The objective of this report is to summarize the soil vapor intrusion investigation completed on April 28, 2015 at three of the tenant spaces (the New China House Restaurant and two vacant spaces which were formerly occupied by Sparkle Cleaners and the Deli Spot) located within building #2 of the Orangetown Shopping Center (the "site"). All work was completed in accordance with the *Revised Soil Vapor Intrusion Investigation Work Plan* (Work Plan) submitted to the New York State Department of Environmental Conservation (NYSDEC) on March 26, 2015 and approved on March 27, 2015. In addition, any proposed modifications to the Work Plan were communicated to the NYSDEC via email and approved prior to commencement of field activities. All correspondences with the NYSDEC are included as **Appendix A**.

This investigation was conducted for the purpose of evaluating the potential of soil vapor intrusion in the tenant spaces located within Building #2 at the site in support of the potential shutdown of the subsurface depressurization system (SSDS) currently in operation at the site. A site location map and a site map indicating pertinent site features are presented as **Figures 1** and **2**.

1.1 Background Information

The subject site is a 1.2-acre portion of the shopping plaza, located near the southeast corner of the parcel. The shopping plaza is located at the southeast corner of Orangeburg and Dutch Hill Roads in Orangeburg, New York, and is comprised of an 11-acre parcel that contains several commercial buildings. The site has been utilized as farmland, a camp, an amphitheater, and the current retail shopping center. The plaza is situated in a suburban area of mixed land use, and is surrounded predominantly by commercial and residential properties. It is served by a public water supply system. There had previously been a dry cleaner operating at the shopping center since approximately 1966. The Sparkle Cleaners, which operated as a dry cleaning facility within building #2, is currently inactive and the tenant space remains vacant to date. Investigations performed to date have confirmed the presence of contamination caused by the release of dry cleaning fluids.

In January 2007, JLJ Management Company entered into Brownfield Cleanup Agreement (BCA) #A3-0563-0906BCA with the NYSDEC to remediate a 1.2-acre portion of the 11-acre property. This BCA required the Remedial Party, JLJ Management Group, to investigate and remediate contaminated media at the site.

An environmental easement (EE) for the site was executed by the NYSDEC on September 16, 2011. The site is being managed by GES with the approved Site Management Plan (SMP), Remedial Action Work Plan (RAWP) and Final Engineering Report (FER) completed by Kleinfelder, Inc. and approved by the NYSDEC in December of 2011.

A property transfer of the shopping center was completed on March 28, 2012. UB Orangeburg, LLC acquired the property from JLJ Management Company, Inc.

2.0 SCOPE OF WORK

All activities described in this report were completed in accordance with published NYSDOH guidance for indoor air and vapor intrusion evaluation of the Property. Field activities included a pre-sampling inspection, a chemical inventory, and collection samples over an 8-hour period from previously installed sub-slab vapor points. Laboratory analysis and reporting followed these field activities.

3.0 PRE-SAMPLING REQUIREMENTS

3.1 Pre-sampling Inspection and Preparation of Property

On April 28, 2015, Groundwater & Environmental Services, Inc. (GES) conducted a pre-sampling inspection within the three tenant spaces (the New China House Restaurant and two vacant spaces which were formerly occupied by Sparkle Cleaners and the Deli Spot) to determine the type of structure, floor layout and physical conditions of the buildings being studied and to identify conditions that may affect or interfere with the planned testing. This information along with information on sources of potential indoor contamination are identified on the NYSDOH Indoor Air Quality Questionnaire and Building Inventory forms, which are provided as **Appendix B**. GES also utilized a photo-ionization detector (PID) to evaluate and determine any potential interference. Items that were evaluated during the building inventory included but were not limited to the use or storage of chemical products. Potential interferences are noted on the NYSDOH Indoor Air Quality Questionnaire and Building Inventory forms.

3.2 Product Inventories

Because some consumer products contain ingredients which can contribute to levels of VOCs in the air, a product inventory was completed prior to completion of the air sampling activities on April 28, 2015 to provide an accurate assessment of the potential contribution of noted products. Each room in the three tenant spaces (the New China House Restaurant and two vacant spaces which were formerly occupied by Sparkle Cleaners and the Deli Spot) was inspected and the products containing or potentially containing VOCs were listed on the Products Inventory Form (attached) along with PID readings obtained near such products. In addition, the known volatile ingredients were also recorded for each product. The product inventory is included on the attached NYSDOH Indoor Air Quality Questionnaire and Building Inventory forms (**Appendix B**).

4.0 SOIL VAPOR INTRUSION INVESTIGATION

On March 27, 2015, approximately four weeks prior to conducting the soil vapor intrusion investigation, GES shut down the active sub-slab depressurization systems (SSDSs). On April 28, 2015, upon completion of the soil vapor intrusion investigation, the SSDSs were re-activated.

4.1 Work Plan Deviations

In the Work Plan submitted to the NYSDEC on March 26, 2015, GES proposed installation of six temporary vapor points which would be utilized in collection of the sub-slab air samples. However, as the three tenant spaces scheduled to be sampled already contained multiple permanent sub-slab monitoring and vapor extraction points, it was determined that these existing points could be utilized to complete the sub-slab sampling without further disturbance to the property. The NYSDEC approved this deviation via email on April 21 and 23, 2015. The approximate locations of the points utilized for sub-slab sampling are shown on **Figure 3** and a copy of the email correspondence is provided in **Appendix A**.

4.2 Quality Assurance/Quality Control

Care was taken during all aspects of the sample collection to ensure that high quality data was obtained. Sub-slab samples were collected from the previously installed sub-slab vapor points at the approximate locations shown on **Figure 3**. To verify the integrity of the sample vapor points, a tracer gas was used to test the seal. On April 28, 2015, prior to sampling, the sub-slab vapor points were first purged of three times the volume of the sampling point using a GILIAN personal air sampling system and a flow module (vacuum pump) set at a maximum flow rate of 0.2 liters per minute. Helium tracer gas was then used to confirm an adequate seal was in place at all locations prior to collection of the soil gas samples.

4.3 Sub-Slab and Ambient Air Sample Collection

Once the helium tracer tests were complete and it was confirmed that each point was adequately sealed, sub-slab vapor and ambient air samples were collected using SUMMA canisters equipped with 8-hour regulators. Upon completion of the 8-hour sampling period, each sample collection apparatus was stored according to the sample collection method protocol and delivered to Accutest Laboratories of Dayton, New Jersey under proper chain of custody for analysis of VOCs via Environmental Protection Agency (EPA) Methods VTO15NYLL or VTO15NYSVLL.

To characterize contaminant concentration trends and potential exposures, ambient air and sub-slab vapor samples were collected from the approximate locations shown on the attached **Figure 3** and as summarized below in text and table format:

Former Deli Spot: Vapor extraction well VP-1 and sub-slab monitoring point SSD-MP-2.

Former Sparkle Cleaners: Vapor extraction wells VP-5 and VP-6.

New China House (Restaurant): Sub-slab monitoring point SSD-MP-5 and vapor extraction well VP-9.

Ambient Outdoor Sample: Sample taken outside the building to the east of the three tenant spaces.

MONITORING LOCATIONS

Sample Location	Sample Identification	Sample Description
Former Deli Spot	Deli VP-1	Sub-slab
Former Deli Spot	Deli VP-1 Ambient	Ambient
Former Deli Spot	Deli SSD-MP-2	Sub-slab
Former Deli Spot	Deli SSD-MP-2 Ambient	Ambient
Former Sparkle Cleaners	Sparkle VP-5	Sub-slab
Former Sparkle Cleaners	Sparkle VP-5 Ambient	Ambient
Former Sparkle Cleaners	Sparkle VP-6	Sub-slab
Former Sparkle Cleaners	Sparkle VP-6 Ambient	Ambient
New China House (Restaurant)	China SSD-MP-5	Sub-slab
New China House (Restaurant)	China SSD-MP-5 Ambient	Ambient
New China House (Restaurant)	China VP-9	Sub-slab
New China House (Restaurant)	China VP-9 Ambient	Ambient
Outside (east of building)	Outside Ambient	Ambient

4.4 Sample Analysis

Laboratory analytical results indicated detections of individual VOCs above laboratory detection limits in all of the sub-slab and ambient air samples collected. The analytical data is summarized on **Tables 1** and **2** and the laboratory analytical report is included as **Appendix C**. In addition, a data usability summary report (DUSR) for all samples was completed by RemVer of Colchester, Connecticut and is provided as **Appendix D**.

Laboratory analytical results for the constituents of concern (COCs), carbon tetrachloride, tetrachloroethene (PCE), 1,1,1-trichloroethane (1,1,1-TCA), and trichloroethene (TCE), were then compared to the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, section 3.4.2, Indoor Air Matrices 1 and 2 (attached as **Appendix E**). Based on the comparison of the analytical results to the matrices, GES determined that no further action was required at each of the sampled locations as detailed in the table below:

CONSTITUENTS OF CONCERN TABLE

Samples		**Chemical Compound**				**Action Required**
Sample Location	Sample Type	Carbon Tetrachloride	1,1,1-TCA	PCE	TCE	
Deli VP-1	Ambient	ND	ND	0.41	ND	No Further Action
	Sub-slab	ND	ND	0.31	ND	
Deli SSD-MP-2	Ambient	ND	ND	ND	ND	No Further Action
	Sub-slab	ND	ND	ND	ND	
China SSD-MP-5	Ambient	ND	ND	2.0	ND	No Further Action
	Sub-slab	0.75	ND	2.0	ND	
China VP-9	Ambient	ND	ND	2.7	ND	No Further Action
	Sub-slab	0.61	ND	1.8	ND	
Sparkle VP-6	Ambient	ND	ND	0.38	ND	No Further Action
	Sub-slab	ND	ND	0.5	ND	
Sparkle VP-5	Ambient	ND	ND	0.51	ND	No Further Action
	Sub-slab	ND	ND	0.63	ND	

Notes:
1. All compounds reported in ug/m^3.
2. Refer to **Tables 1** and **2** for a complete list of sampled locations and analytical compounds.
3. Refer to **Appendix E** for detailed descriptions of the required monitoring or remedial actions.

5.0 CONCLUSIONS / RECOMMENDATIONS

On April 28, 2015, a soil vapor intrusion investigation was completed at three of the tenant spaces (the New China House Restaurant and two vacant spaces which were formerly occupied by Sparkle Cleaners and the Deli Spot) located within building #2 of the Orangetown Shopping Center (the "site"). This investigation was conducted for the purpose of evaluating the potential of soil vapor intrusion in the three tenant spaces in support of the potential shutdown of the SSDS currently in operation at the site.

Laboratory analytical results indicated detections of individual VOCs above laboratory detection limits in the sub-slab and ambient air samples collected; however, results for the COCs, carbon tetrachloride, PCE, 1,1,1-TCA, and TCE, were then compared to the NYSDOH *Guidance for Evaluating Soil Vapor Intrusion in the State of New York*, section 3.4.2, Indoor Air Matrices 1 and 2. Based on the comparison of the analytical results to the matrices, GES determined that no further action was required at each of the sampled locations.

Based on the results of this SVI investigation, GES recommends temporary shut-down of the SSDS currently in operation at the site. Upon completion of SSDS shut-down, GES will conduct four quarters of air monitoring utilizing a photo-ionization detector (PID) to determine whether permanent system shut-down is feasible. In addition, following four quarters of groundwater monitoring and sampling, GES will evaluate whether additional remediation is necessary or propose closure.

Prepared By:

Christina Andreotto 6/4/15

Christina Andreotto Date
Staff Geologist

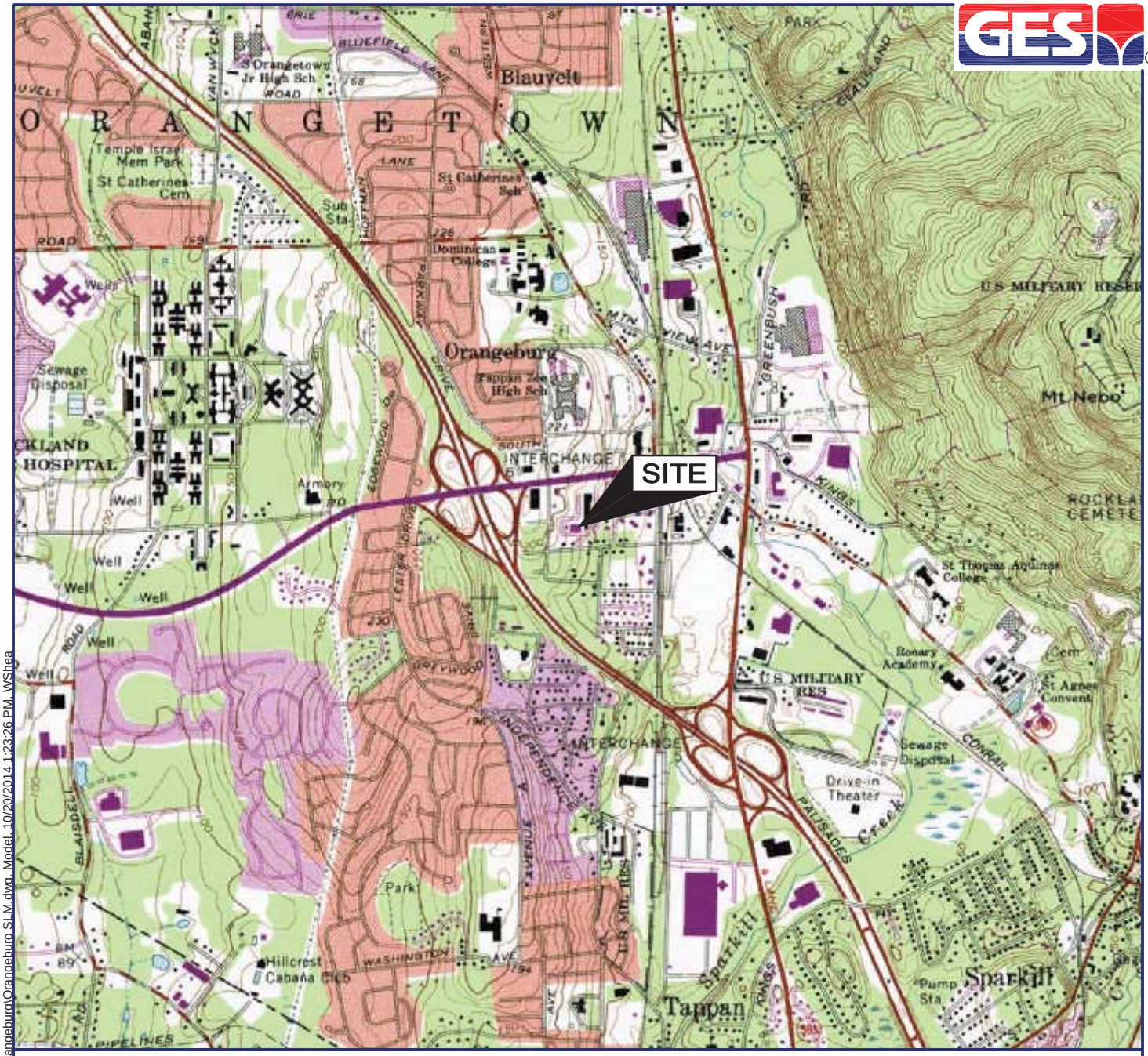
Reviewed By:

Karen Bourque 6/4/15

Karen Bourque Date
Senior Project Manager

FIGURES

Site Location Map
Site Map
Sub-Slab and Ambient Air Sampling Locations



SOURCE: USGS 7.5 MINUTE SERIES
TOPOGRAPHIC QUADRANGLE 1979
NYACK, NEW YORK
CONTOUR INTERVAL = 10'

QUADRANGLE LOCATION

DRAFTED BY: W.G.S. (N.J.)	SITE LOCATION MAP
CHECKED BY: CA	UB ORANGEBURG, LLC 1-45 ORANGETOWN SHOPPING CENTER ORANGEBURG, NEW YORK
REVIEWED BY: KB	Groundwater & Environmental Services, Inc. 16 MT. EBO ROAD SOUTH, SUITE 21, BREWSTER, NEW YORK 10509
NORTH	SCALE IN FEET: 0 — 2000 / DATE: 10-20-14 / FIGURE: 1

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LEGEND

- PROPERTY BOUNDARY
- CHAIN LINK FENCE
- CATCH BASIN
- UTILITY MANHOLE
- UTILITY POLE
- LIGHT POLE
- FIRE HYDRANT
- MONITORING WELL
- INJECTION WELL
- DESTROYED MONITORING WELL
- PIEZOMETER
- SOIL VAPOR EXTRACTION WELL
- UNDERGROUND SANITARY SEWER LINE
- OVERHEAD UTILITIES

DRAFTED BY: W.G.S. (N.J.)	SITE MAP
CHECKED BY: CA	UB ORANGEBURG, LLC 1-45 ORANGETOWN SHOPPING CENTER ORANGEBURG, NEW YORK
REVIEWED BY: KB	Groundwater & Environmental Services, Inc. 16 MT. EBO ROAD SOUTH, SUITE 21, BREWSTER, NEW YORK 10509
NORTH	SCALE IN FEET: 0 APPROXIMATE 50 / DATE: 10-20-14 / FIGURE: 2

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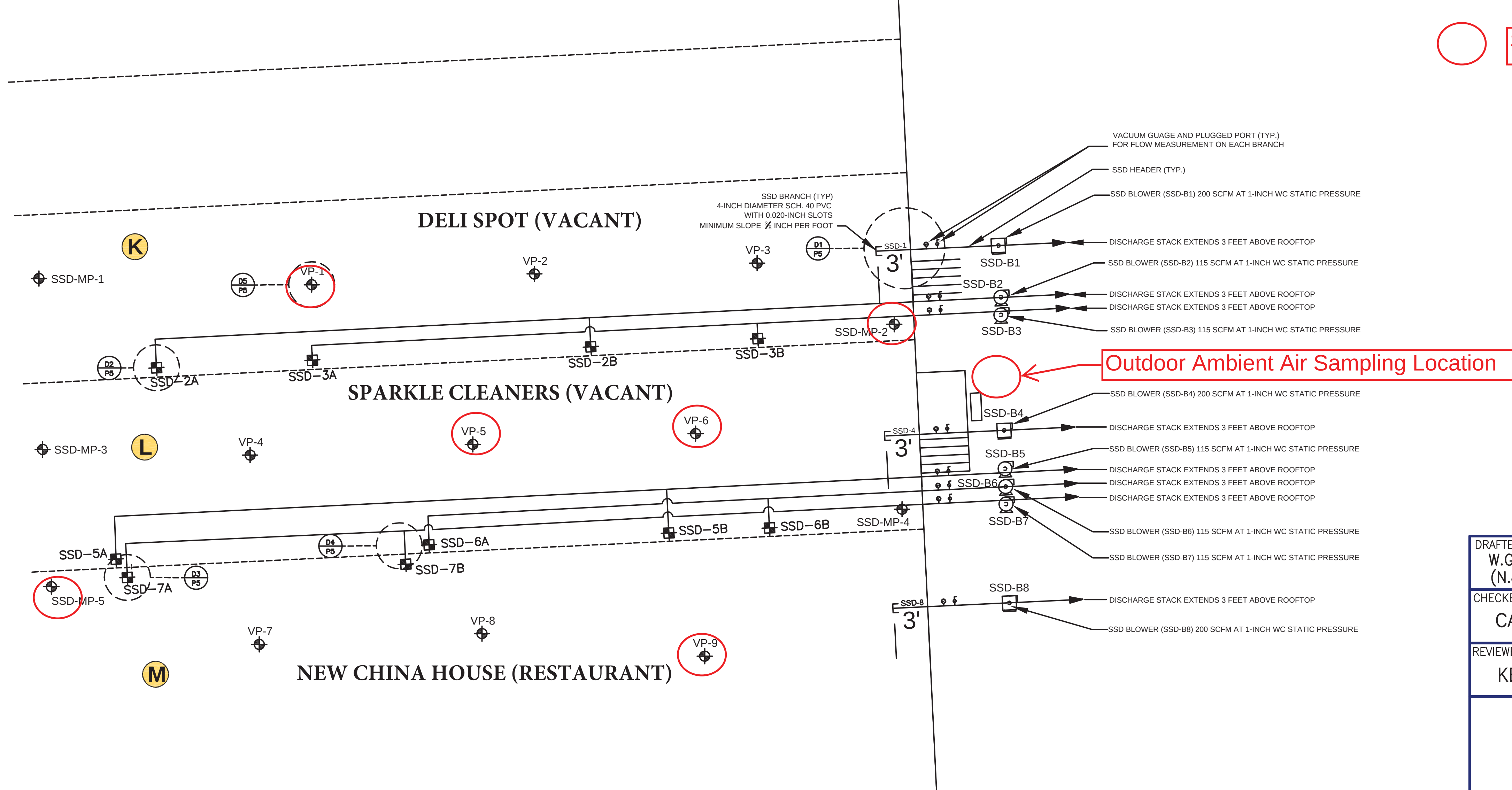
ONE STORY STUCCO STORE FRONT **(BUILDING #2)**



SOURCE:

1. LAND LINK SURVEYORS P.C. SURVEY MAP DATED NOVEMBER 4, 2003.
2. SURVEY AMENDED TO SHOW NEW CERTIFICATION JUNE 1, 2005.
3. SURVEY AMENDED WELL LOCATION DECEMBER 19, 2007.
4. ADDITIONAL WELLS MW10, MW12, AND MW13 LOCATED DECEMBER 27, 2007.
5. FIGURE GENERATED FROM KLEINFELDER ENGINEERING FIGURE DATED JULY 15, 2011.

GES®

LEGEND

- SSD-MP-6 — SUB-SLAB MONITORING PORT
- SUB-SLAB VAPOR EXTRACTION WELL
- D1/P5 — DETAIL NUMBER / PLATE NUMBER
- SSD BLOWER (115 SCFM)
- SSD BLOWER (200 SCFM)
- VACUUM GAUGE
- PLUGGED PORT

COMMERCIAL STORE ID TABLE (BUILDING #2)

- K — FORMER THE DELI SPOT
- L — FORMER SPARKLE CLEANERS
- M — NEW CHINA HOUSE

Sub-slab and/or ambient air sampling locations

NOTES:

1. THE EXTRACTION PIPING INSIDE THE BUILDING IS ROUTED ABOVE THE SUB-CEILING OR ALONG THE EXTERIOR WALL.
2. DISCHARGE STACKS EXTEND 3 FEET ABOVE THE ROOFTOP (TYP.).

DRAFTED BY: W.G.S. (N.J.)	Sub-Slab and Ambient Air Sampling Locations
CHECKED BY: CA	UB ORANGEBURG, LLC 1-45 ORANGETOWN SHOPPING CENTER ORANGEBURG, NEW YORK
REVIEWED BY: KB	Groundwater & Environmental Services, Inc. 16 MT. EBO ROAD SOUTH, SUITE 21, BREWSTER, NEW YORK 10509
	NOT TO SCALE / DATE 10-24-14 / FIGURE 3

M:\Graphics\1100-Patterson-LHV\Misc\Urstadt Biddle Properties\Orangeburg\Engineering\Orangeburg (KLF-details).dwg, B- (3), 10/24/2014 10:14:39 AM, WShea

TABLES

GC/MS Volatiles (TO-15)
Constituents of Concern

Table 1
GC/MS Volatiles (TO-15) - ug/m3

UB Orangeburg
1-45 Orangetown Shopping Center
Orangeburg, New York

Client Sample ID:	DELI VP-1	DELI VP-1 AMBIENT	DELI SSD-MP-2	DELI SSD-MP-2 AMBIENT	CHINA SSD-MP-5	CHINA SSD-MP-5 AMBIENT	CHINA VP-9	CHINA VP-9 AMBIENT	SPARKLE VP-6	SPARKLE VP-6 AMBIENT	SPARKLE VP-5	SPARKLE VP-5 AMBIENT	OUTSIDE AMBIENT	REGULATORY GUIDANCE		
Lab Sample ID:	JB93613-1	JB93613-2	JB93613-3	JB93613-4	JB93613-5	JB93613-6	JB93613-7	JB93613-8	JB93613-10	JB93613-11	JB93613-12	JB93613-13	JB93613-9			
Date Sampled:	4/28/2015	4/28/2015	4/28/2015	4/28/2015	2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015			
Matrix:	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Ambient Air	NYSDOH 2003 Soil Vapor Indoor 95th Percentile (1)	NYSDOH 2003 Soil Vapor Intrusion Air Guidance Value (2)	EPA 2001 BASE 90th Percentile (3)
	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.			
Acetone	50.1	44.2	60.3	53.9	103	73.9	109	70.3	64.9	19	70.8	18	7.6	140	NS	98.9
1,3-Butadiene	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.49)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.44)	ND (0.44)	NS	NS	<3.0
Benzene	0.89	0.73	2.5	3.5	1.6	0.64	1.2	ND (0.64)	0.93	ND (0.64)	0.99	ND (0.64)	ND (0.64)	29	NS	9.4
Bromodichloromethane	ND (0.67)	ND (0.67)	ND (0.67)	ND (0.67)	ND (0.74)	ND (0.67)	ND (0.67)	ND (0.67)	ND (0.67)	ND (0.67)	ND (0.67)	ND (0.67)	ND (0.67)	NS	NS	NS
Bromoform	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.44)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.41)	ND (0.41)	NS	NS	NS
Bromomethane	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.85)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	ND (0.78)	0.9	NS	<1.7
Bromoethene	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.96)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	NS	NS	NS
Benzyl Chloride	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.1)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NS	NS	<6.8
Carbon disulfide	ND (0.62)	ND (0.62)	ND (0.62)	ND (0.62)	ND (0.69)	0.62	10	1	ND (0.62)	ND (0.62)	ND (0.62)	ND (0.62)	ND (0.62)	NS	NS	4.2
Chlorobenzene	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (1.0)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	<0.25	NS	<0.9
Chloroethane	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.58)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	ND (0.53)	0.6	NS	<1.1
Chloroform	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	1.1	ND (0.98)	ND (0.98)	0.98	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	ND (0.98)	4.6	NS	1.1
Chloromethane	0.62	1.7	1.7	1.6	2.3	1.5	1.2	1.7	0.83	1.5	0.99	1.5	1.6	5.2	NS	3.7
3-Chloropropene	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.69)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	ND (0.63)	NS	NS	NS
2-Chlorotoluene	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.1)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NS	NS	NS
Carbon tetrachloride	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.75	ND (0.25)	0.61	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	1.1	NS	<1.3
Cyclohexane	11	12	12	7.2	3	1	2.3	0.93	2.1	ND (0.69)	2.1	ND (0.69)	ND (0.69)	19	NS	NS
1,1-Dichloroethane	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.89)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	<0.25	NS	<0.7
1,1-Dichloroethylene	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.87)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	<0.25	NS	<1.4
1,2-Dibromoethane	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.85)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	<0.25	NS	<1.5
1,2-Dichloroethane	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.89)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	ND (0.81)	<0.25	NS	<0.9
1,2-Dichloropropane	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (1.0)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	ND (0.92)	<0.25	NS	<1.6
1,4-Dioxane	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.79)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	NS	NS	NS
Dichlorodifluoromethane	2.5	2.9	2.9	2.6	3.8	2.5	3.1	2.8	2.8	2.8	2.8	2.6	2.7	26	NS	16.5
Dibromochloromethane	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.94)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	NS	NS	NS
trans-1,2-Dichloroethylene	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.87)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	NS	NS	NS
cis-1,2-Dichloroethylene	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.87)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	1.2	NS	<1.9
cis-1,3-Dichloropropene	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (1.0)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	<0.25	NS	<2.3
m-Dichlorobenzene	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.66)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	1	NS	<2.4
o-Dichlorobenzene	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.26)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.24)	ND (0.24)	0.9	NS	<1.2
p-Dichlorobenzene	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.66)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	ND (0.60)	2.6	NS	5.5
trans-1,3-Dichloropropene	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (1.0)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	ND (0.91)	<0.25	NS	<1.3
Ethanol	74.1	35	84.4 E	59.4	203 E	339 E	187 E	290 E	92.9 E	24.1	104 E	26	2.8	NS	NS	210
Ethylbenzene	1.8	1	2	10	1.2	1.1	0.91	1	0.91	ND (0.87)	ND (0.87)	ND (0.87)	ND (0.87)	13.0	NS	5.7
Ethyl Acetate	4.7	3.6	4	72.7	6.8	11	3.5	4.7	2.7	5	4	1.9	2.3	NS	NS	5.4
4-Ethyltoluene	1.3	ND (0.98)	2.1	1.4	2.3	ND (0.98)	2	ND (0.98)	2.2	ND (0.98)	1.6	ND (0.98)	ND (0.98)	NS	NS	NS
Freon 113	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	0.92	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	ND (0.77)	NS	NS	3.5
Freon 114	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.77)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NS	NS	NS
Heptane	1.2	ND (0.82)	3.4	4.1	2.5	1.8	1.8	1.8	0.86	ND (0.82)	0.86	ND (0.82)	ND (0.82)	NS	NS	NS
Hexachlorobutadiene	ND (0.96)	ND (0.96)	ND (0.96)	ND (0.96)	ND (1.0)	ND (0.96)	ND (0.96)	ND (0.96)	ND (0.96)	ND (0.96)	ND (0.96)	ND (0.96)	ND (0.96)	11.0	NS	<6.8
Hexane	3	2.4	7.4	10	6	1.5	3.1	2.1	2.8	1.9	3.1	2.1	1.2	NS	NS	NS
2-Hexanone	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.90)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	NS	NS	NS
Isopropyl Alcohol	15	2.7	16	132 E	31.7	4.7	48.4	4.4	15	2.7	17	2.3	1	NS	NS	250
Methylene chloride	1.6	1.6	1.6	1.9	7.6	1.4	1.9	2.2	2.2	1.1	1.9	2.1	1.4	45.0	60	10
Methyl ethyl ketone	8	2.2	6.5	2.3	13	3.2	9.4	2.3	5.6	2.3	6.8	1.3	1.3	39.0	NS	NS

Table 1
GC/MS Volatiles (TO-15) - ug/m3

UB Orangeburg
1-45 Orangetown Shopping Center
Orangeburg, New York

Client Sample ID:	DELI VP-1	DELI VP-1 AMBIENT	DELI SSD-MP-2	DELI SSD-MP-2 AMBIENT	CHINA SSD-MP-5	CHINA SSD-MP-5 AMBIENT	CHINA VP-9	CHINA VP-9 AMBIENT	SPARKLE VP-6	SPARKLE VP-6 AMBIENT	SPARKLE VP-5	SPARKLE VP-5 AMBIENT	OUTSIDE AMBIENT	REGULATORY GUIDANCE		
Lab Sample ID:	JB93613-1	JB93613-2	JB93613-3	JB93613-4	JB93613-5	JB93613-6	JB93613-7	JB93613-8	JB93613-10	JB93613-11	JB93613-12	JB93613-13	JB93613-9			
Date Sampled:	4/28/2015	4/28/2015	4/28/2015	4/28/2015	2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015			
Matrix:	Soil Vapor	Ambient Air	Soil Vapor	Ambient Air	Soil Vapor	Ambient Air	Soil Vapor	Ambient Air	Soil Vapor	Ambient Air	Soil Vapor	Ambient Air	Ambient Air	NYSDOH 2003 Soil Vapor Indoor 95th Percentile (1)	NYSDOH 2003 Soil Vapor Intrusion Air Guidance Value (2)	EPA 2001 BASE 90th Percentile (3)
	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.			
Methyl Isobutyl Ketone	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.90)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	5.3	NS	NS
Methyl Tert Butyl Ether	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.79)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	ND (0.72)	71.0	NS	11.5
Methylmethacrylate	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.90)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	ND (0.82)	1.1	NS	NS
Propylene	ND (0.86)	ND (0.86)	1.1	1.5	5.3	ND (0.86)	2.1	ND (0.86)	0.98	ND (0.86)	1.1	ND (0.86)	ND (0.86)	NS	NS	NS
Styrene	ND (0.85)	1.2	ND (0.85)	ND (0.85)	3.7	5.1	2.7	4.7	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	ND (0.85)	2.3	NS	1.9
1,1,1-Trichloroethane	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.60)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	6.9	NS	20.6
1,1,2,2-Tetrachloroethane	ND (0.69)	ND (0.69)	ND (0.69)	ND (0.69)	ND (0.76)	ND (0.69)	ND (0.69)	ND (0.69)	ND (0.69)	ND (0.69)	ND (0.69)	ND (0.69)	ND (0.69)	<0.25	NS	NS
1,1,2-Trichloroethane	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.60)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	<0.25	NS	<1.5
1,2,4-Trichlorobenzene	ND (0.74)	ND (0.74)	ND (0.74)	ND (0.74)	ND (0.82)	ND (0.74)	ND (0.74)	ND (0.74)	ND (0.74)	ND (0.74)	ND (0.74)	ND (0.74)	ND (0.74)	6.3	NS	<6.8
1,2,4-Trimethylbenzene	3.1	1.4	4.8	4.2	6.9	4.5	4.9	4.2	5.4	ND (0.98)	3.7	ND (0.98)	ND (0.98)	18	NS	9.5
1,3,5-Trimethylbenzene	1.2	ND (0.98)	1.7	1	2.6	1.8	2	1.6	2	ND (0.98)	1.5	ND (0.98)	ND (0.98)	6.5	NS	NS
2,2,4-Trimethylpentane	2.5	ND (0.93)	3.2	3.2	4.1	ND (0.93)	3.1	ND (0.93)	1.9	ND (0.93)	2.1	ND (0.93)	ND (0.93)	NS	NS	NS
Tertiary Butyl Alcohol	1.4	ND (0.61)	ND (0.61)	ND (0.61)	9.7	9.1	4.2	8.5	ND (0.61)	0.79	3.3	0.7	ND (0.61)	NS	NS	NS
Tetrachloroethylene	0.31	0.41	ND (0.27)	ND (0.27)	2	2	1.8	2.7	0.5	0.38	0.63	0.51	ND (0.27)	4.1	30	15.9
Tetrahydrofuran	11	ND (0.59)	11	ND (0.59)	20	ND (0.59)	15	ND (0.59)	8.8	ND (0.59)	10	ND (0.59)	ND (0.59)	9.4	NS	NS
Toluene	4.5	3.7	12	18	29	33	22	30	4.5	3	3.8	2.2	1.2	110	NS	43
Trichloroethylene	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	0.8	5	4.2
Trichlorofluoromethane	1.5	1.6	1.7	1.4	2.4	1.4	1.8	1.6	1.5	1.5	1.6	1.5	1.6	30	NS	18.1
Vinyl chloride	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	<0.25	NS	<1.9
Vinyl Acetate	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.77)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	ND (0.70)	NS	NS	NS
m,p-Xylene	8.3	5.6	9.6	46	4.8	4.8	3.8	4.1	4.3	1.5	2.5	1.2	ND (0.87)	21.0	NS	22.2
o-Xylene	3.8	2.4	3.3	7.8	2.1	2.1	1.6	2	2.1	ND (0.87)	1.2	ND (0.87)	ND (0.87)	13.0	NS	7.9
Xylenes (total)	12	8.3	13	54.3	6.9	6.9	5.2	6.1	6.5	2.2	3.7	1.8	ND (0.87)	NS	NS	NS

Results and Standards expressed in micrograms per cubic meter (µg/m3)
NS = No Standard
ND = Not detected above laboratory reporting limits
E = The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
B = Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
(1) 95th percentile indoor air values from "Table C1. NYSDOH 2003: Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes', published in the NYSDOH Soil Vapor Intrusion Guidance Document, Appendix C" (October 2006)
(2) NYSDOH Air Guidance Values (AGVs) presented in the Final Guidance for evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 ("NYSDOH Vapor Intrusion Guidance Document"); however, Tetrachloroethene (PCE) guidance was revised to 30 ug/m3 in September of 2013
(3) 90th percentile indoor air values from "Table C-2. EPA 2001: Building Assessment and Survey Evaluation (BASE) Database, SUMMA canister method" published in the NYSDOH Soil Vapor Intrusion Guidance Document, Appendix C" (October 2006)

Table 2
Constituents of Concern - ug/m3

UB Orangeburg
1-45 Orangetown Shopping Center
Orangeburg, New York

Client Sample ID:	DELI VP-1	DELI VP-1 AMBIENT	DELI SSD-MP-2	DELI SSD-MP-2 AMBIENT	CHINA SSD-MP-5	CHINA SSD-MP-5 AMBIENT	CHINA VP-9	CHINA VP-9 AMBIENT	SPARKLE VP-6	SPARKLE VP-6 AMBIENT	SPARKLE VP-5	SPARKLE VP-5 AMBIENT	OUTSIDE AMBIENT	REGULATORY GUIDANCE		
Lab Sample ID:	JB93613-1	JB93613-2	JB93613-3	JB93613-4	JB93613-5	JB93613-6	JB93613-7	JB93613-8	JB93613-10	JB93613-11	JB93613-12	JB93613-13	JB93613-9			
Date Sampled:	4/28/2015	4/28/2015	4/28/2015	4/28/2015	2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	4/28/2015	NYSDOH 2003 Soil Vapor Indoor 95th Percentile (1)	NYSDOH 2003 Soil Vapor Intrusion Air Guidance Value (2)	EPA 2001 BASE 90th Percentile (3)
Matrix:	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Sub Slab	Ambient Air	Ambient Air			
	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.	Comp.			
Carbon tetrachloride	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	0.75	ND (0.25)	0.61	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	ND (0.25)	1.1	NS	<1.3
1,1-Dichloroethylene	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.87)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	<0.25	NS	<1.4
trans-1,2-Dichloroethylene	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.87)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	NS	NS	NS
cis-1,2-Dichloroethylene	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.87)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	ND (0.79)	1.2	NS	<1.9
1,1,1-Trichloroethane	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.60)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	ND (0.55)	6.9	NS	20.6
Tetrachloroethylene	0.31	0.41	ND (0.27)	ND (0.27)	2.0	2.0	1.8	2.7	0.50	0.38	0.63	0.51	ND (0.27)	4.1	30	15.9
Trichloroethylene	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.23)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	ND (0.21)	0.8	5	4.2
Vinyl chloride	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.11)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	<0.25	NS	<1.9

Results and Standards expressed in micrograms per cubic meter (µg/m3)
NS = No Standard
ND = Not detected above laboratory reporting limits
E = The concentration indicated for this analyte is an estimated value above the calibration range of the instrument. This value is considered an estimate.
B = Analyte is found in the associated analysis batch blank. For volatiles, methylene chloride and acetone are common lab contaminants. Data users should consider anything <10x the blank value as artifact.
(1) 95th percentile indoor air values from "Table C1. NYSDOH 2003: Study of Volatile Organic Chemicals in Air of Fuel Oil Heated Homes', published in the NYSDOH Soil Vapor Intrusion Guidance Document, Appendix C" (October 2006)
(2) NYSDOH Air Guidance Values (AGVs) presented in the Final Guidance for evaluating Soil Vapor Intrusion in the State of New York, dated October 2006 ("NYSDOH Vapor Intrusion Guidance Document"); however, Tetrachloroethene (PCE) guidance was revised to 30 ug/m3 in September of 2013
(3) 90th percentile indoor air values from "Table C-2. EPA 2001: Building Assessment and Survey Evaluation (BASE) Database, SUMMA canister method" published in the NYSDOH Soil Vapor Intrusion Guidance Document, Appendix C" (October 2006)

APPENDIX A

NYSDEC Correspondences

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Remedial Bureau C
625 Broadway, 11th Floor, Albany, NY 12233-7014
P: (518) 402-9662 I F: (518) 402-9679
www.dec.ny.gov

March 27, 2015

Karen Bourque
Groundwater & Environmental Services, Inc.
16 Mt. Ebo South, Suite 21
Brewster, NY 10509

Re: Orangetown Shopping Center
Site ID No. C344066
Orangetown, Rockland County
Revised Soil Vapor Intrusion Work Plan

Dear Ms. Bourque:

The New York State Department of Environmental Conservation (Department) and the New York State Department of health (NYSDOH) have reviewed the revised soil vapor intrusion (SVI) work plan for the Orangetown Shopping Center site, dated March 26, 2015, which was prepared by Groundwater & Environmental Services, Inc. (GES) on behalf of UB Orangeburg, LLC. The SVI work plan is hereby approved.

If you have any questions or comments please feel free to contact me at (518)402-9662 or jamie.verrigni@dec.ny.gov.

Sincerely,

Jamie Verrigni
Project Manager
Remedial Bureau C
Division of Environmental Remediation

ec: Jamie Verrigni
James Candiloro
Maureen Schuck – NYSDOH
Renata Ockerby – NYSDOH
Karen Bourque – GES – Kbourque@gesonline.com
Monica Roth – UB Orangeburg, LLC – mroth@ubproperties.com
Stephan Rapaglia – UB Orangeburg, LLC – srapaglia@ubproperties.com
Tom Myers – UB Orangeburg, LLC – tmyers@ubproperties.com

Christina Andreotto

From: Verrigni, Jamie L (DEC) <jamie.verrigni@dec.ny.gov>
Sent: Thursday, April 23, 2015 11:43 AM
To: Karen Bourque
Cc: Christina Andreotto; Ockerby, Renata E (HEALTH); Candiloro, James (DEC)
Subject: RE: For Your Approval: Orangeburg Soil Vapor Intrusion Investigation Work Plan - Deviation Request

Karen,

After reviewing the Figure, the Department and NYSDOH recommend that you utilize VP-5 or VP-6, which are more centrally located in the tenant unit.

Thanks,
Jamie

Jamie Verrigni
Environmental Engineer, Division of Environmental Remediation

New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233
P: (518) 402-9662 | F: (518) 402-9679 | jamie.verrigni@dec.ny.gov

www.dec.ny.gov |

From: Karen Bourque [mailto:KBourque@gesonline.com]
Sent: Thursday, April 23, 2015 10:13 AM
To: Verrigni, Jamie L (DEC)
Cc: Christina Andreotto; Ockerby, Renata E (HEALTH); Candiloro, James (DEC)
Subject: RE: For Your Approval: Orangeburg Soil Vapor Intrusion Investigation Work Plan - Deviation Request

Jamie

Thank you. Please confirm that we can utilize the VP points as well as the SSD-MP in lieu of installing new temporary points. I have attached the figure for your reference. We are specifically looking to utilize VP-4, VP-5 or VP-6 located near the center of the Sparkle Cleaners.

Thanks
Karen

Karen A. Bourque
Sr. Project Manager
Groundwater & Environmental Services, Inc.
16 Mt. Ebo South, Suite 21

Brewster, New York 10509
Phone - (866) 839-5195 ext. 3833
Cell - (203)731-9329
866-902-2187 *please use a cover page with my name included for incoming faxes!
kbourque@gesonline.com

Please consider the environment before printing

From: Verrigni, Jamie L (DEC) [mailto:jamie.verrigni@dec.ny.gov]
Sent: Tuesday, April 21, 2015 2:53 PM
To: Karen Bourque
Cc: Christina Andreotto; Ockerby, Renata E (HEALTH); Candiloro, James (DEC)
Subject: RE: For Your Approval: Orangeburg Soil Vapor Intrusion Investigaton Work Plan - Deviation Request

Karen,

The Department and NYSDOH have reviewed your request for modification to the SVI investigation Work Plan and are ok with using five out of the six permanent sub-slab monitoring points, the exception being SSD-MP4. The Sparkle Cleaners Unit should have a sub-slab point towards the center of the Unit.

If you have any questions, please feel free to contact me.

Jamie

Jamie Verrigni
Environmental Engineer, Division of Environmental Remediation

New York State Department of Environmental Conservation
625 Broadway, Albany, NY 12233
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www.dec.ny.gov |

From: Karen Bourque [mailto:KBourque@gesonline.com]
Sent: Monday, April 20, 2015 10:31 AM
To: Verrigni, Jamie L (DEC)
Cc: Christina Andreotto
Subject: For Your Approval: Orangeburg Soil Vapor Intrusion Investigaton Work Plan - Deviation Request

Jamie –

GES is in the process of planning the completion of the SVI activities at the Orangetown Shopping Center in Orangeburg New York. As you are aware, GES maintains a sub-slab depressurization system (SSDS) at the site. There are currently sub-slab monitoring points associated with the system located in all three of the tenant spaces where the soil vapor intrusion work is scheduled to be completed. GES, on behalf of UB Orangeburg LLC, would like to utilize the existing points rather than install 6 temporary points in the tenant spaces. Each permanent monitoring point has been installed

beneath the building slab and will be tested with a helium trace test per the approved work plan. Upon completion of helium tracer testing, GES will complete the 8-hour soil vapor intrusion investigation per the approved Work Plan. Upon completion of work, the points will remain in place as they will continue to be utilized as monitoring points for the SSDS.

Please let me know if we have approval to modify the approved Workplan to include the changes noted above. I have attached a figure showing the location of the possible SDS points that can be used. Note that only 2 points within each store front will be used.

Thank you in advance,
Karen

Karen Bourque
GES, Inc.
16 Mt. Ebo Road South, Ste. 21
Brewster, New York
Phone - 866-839-5195 ext. 3833
Cell - 203-731-9329

APPENDIX B

NYSDOH Indoor Air Quality Questionnaire and Building Inventory Form

Appendix B
Indoor air quality questionnaire and building inventory

As discussed in Section 2.11, products in buildings should be inventoried every time indoor air is sampled to provide an accurate assessment of the potential contribution of volatile chemicals. In addition, the type of structure, floor layout and physical conditions of the building being studied should be noted to identify (and minimize) conditions that may interfere with the proposed testing.

Toward this end, a blank copy of the NYSDOH Center for Environmental Health's Indoor Air Quality Questionnaire and Building Inventory is provided in this appendix. Also provided is an example that demonstrates how the form should be completed properly.

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NEW YORK STATE DEPARTMENT OF HEALTH
INDOOR AIR QUALITY QUESTIONNAIRE AND BUILDING INVENTORY
CENTER FOR ENVIRONMENTAL HEALTH

This form must be completed for each residence involved in indoor air testing.

Preparer's Name Gregg Marcinkowski Date/Time Prepared 4/28/2015

Preparer's Affiliation GES/Consultant Phone No. 866-839-5195

Purpose of Investigation SVI Investigation

1. OCCUPANT:

Interviewed: Y / (N)

Last Name: _____ First Name: New China Restaurant & Two Vacant Spaces

Address: 13 Orangetown Shopping Center, Orangeburg, NY

County: Rockland

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location 3-4 Age of Occupants _____

2. OWNER OR LANDLORD: (Check if same as occupant____)

Interviewed: Y / (N)

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

Residential	School	(Commercial/Multi-use)
Industrial	Church	Other: _____

If the property is residential, type? (Circle appropriate response)

Ranch	2-Family	3-Family
Raised Ranch	Split Level	Colonial
Cape Cod	Contemporary	Mobile Home
Duplex	Apartment House	Townhouses/Condos
Modular	Log Home	Other: Strip mall on slab

If multiple units, how many? 3

If the property is commercial, type?

Business Type(s) 2 vacant spaces and 1 Chinese restaurant

Does it include residences (i.e., multi-use)? Y / (N) If yes, how many? _____

Other characteristics:

Number of floors 1 Building age 1966

Is the building insulated? (Y) / N How air tight? Tight / (Average) / Not Tight

4. AIRFLOW

Use air current tubes or tracer smoke to evaluate airflow patterns and qualitatively describe:

Airflow between floors

Air flow directions indicated on the site Floor Plans (page 6).

Airflow near source

Outdoor air infiltration

Infiltration into air ducts

5. BASEMENT AND CONSTRUCTION CHARACTERISTICS (Circle all that apply)

a. Above grade construction:	wood frame	(concrete)	stone	brick
b. Basement type: NA	full	crawlspace	slab	other N/A
c. Basement floor: NA	concrete	dirt	stone	other N/A
d. Basement floor: NA	uncovered	covered	covered with N/A	
e. Concrete floor:	(unsealed)	(sealed)	sealed with _____	
f. Foundation walls:	Poured	(block)	stone	other _____
g. Foundation walls:	unsealed	(sealed)	sealed with Paint	
h. The basement is: NA	wet	damp	dry	moldy
i. The basement is: NA	finished	unfinished	partially finished	
j. Sump present?	Y / (N)			
k. Water in sump?	Y / (N) / not applicable			

Basement/Lowest level depth below grade: N/A (feet)

Identify potential soil vapor entry points and approximate size (e.g., cracks, utility ports, drains)

None apparent.

6. HEATING, VENTING and AIR CONDITIONING (Circle all that apply)

Type of heating system(s) used in this building: (circle all that apply – note primary)

(Hot air circulation)	Heat pump	Hot water baseboard	
Space Heaters	Stream radiation	Radiant floor	
Electric baseboard	Wood stove	Outdoor wood boiler	Other _____

The primary type of fuel used is:

(Natural Gas)	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: Electric

Boiler/furnace located in:	Basement	Outdoors	Main Floor	Other None
Air conditioning:	Central Air	Window units	(Open Windows)	None

Are there air distribution ducts present? Y / N

Describe the supply and cold air return ductwork, and its condition where visible, including whether there is a cold air return and the tightness of duct joints. Indicate the locations on the floor plan diagram.

Air ducts visible in the vacant spaces, however, nothing was running at the time of the inspection.

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never **– N/A**

Level	**General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)**
Basement	N/A
1st Floor	Retail spaces (Chinese Restaurant) and vacant spaces
2nd Floor	N/A
3rd Floor	N/A
4th Floor	N/A

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage? Y / N

b. Does the garage have a separate heating unit? Y / N / NA

c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / NA Please specify Gasoline & generator

d. Has the building ever had a fire? Y / N When?

e. Is a kerosene or unvented gas space heater present? Y / N Where?

f. Is there a workshop or hobby/craft area? Y / N Where & Type? Vacant space used as work area

g. Is there smoking in the building? Y / N How frequently? All-day

h. Have cleaning products been used recently? Y / N When & Type?

i. Have cosmetic products been used recently? Y / N When & Type?

j. Has painting/staining been done in the last 6 months? Y / N Where & When?
Front of buildings (within last few weeks)

k. Is there new carpet, drapes or other textiles? Y / N Where & When? _____

l. Have air fresheners been used recently? Y / N When & Type? _____

m. Is there a kitchen exhaust fan? Y / N If yes, where vented? Outside

n. Is there a bathroom exhaust fan? Y / N If yes, where vented? Outside

o. Is there a clothes dryer? Y / N If yes, is it vented outside? Y / N

p. Has there been a pesticide application? Y / N When & Type? _____

Are there odors in the building? Y / N
If yes, please describe: _____

Do any of the building occupants use solvents at work? Y / N
(e.g., chemical manufacturing or laboratory, auto mechanic or auto body shop, painting, fuel oil delivery, boiler mechanic, pesticide application, cosmetologist

If yes, what types of solvents are used? _____

If yes, are their clothes washed at work? Y / N

Do any of the building occupants regularly use or work at a dry-cleaning service? (Circle appropriate response)

Yes, use dry-cleaning regularly (weekly) No
Yes, use dry-cleaning infrequently (monthly or less) Unknown
Yes, work at a dry-cleaning service

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive
Note- SVE system inactive at the time of testing

9. WATER AND SEWAGE

Water Supply: Public Water Drilled Well Driven Well Dug Well Other: _____

Sewage Disposal: Public sewer Septic Tank Leach Field Dry Well Other: _____

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

b. Residents choose to: remain in home relocate to friends/family relocate to hotel/motel

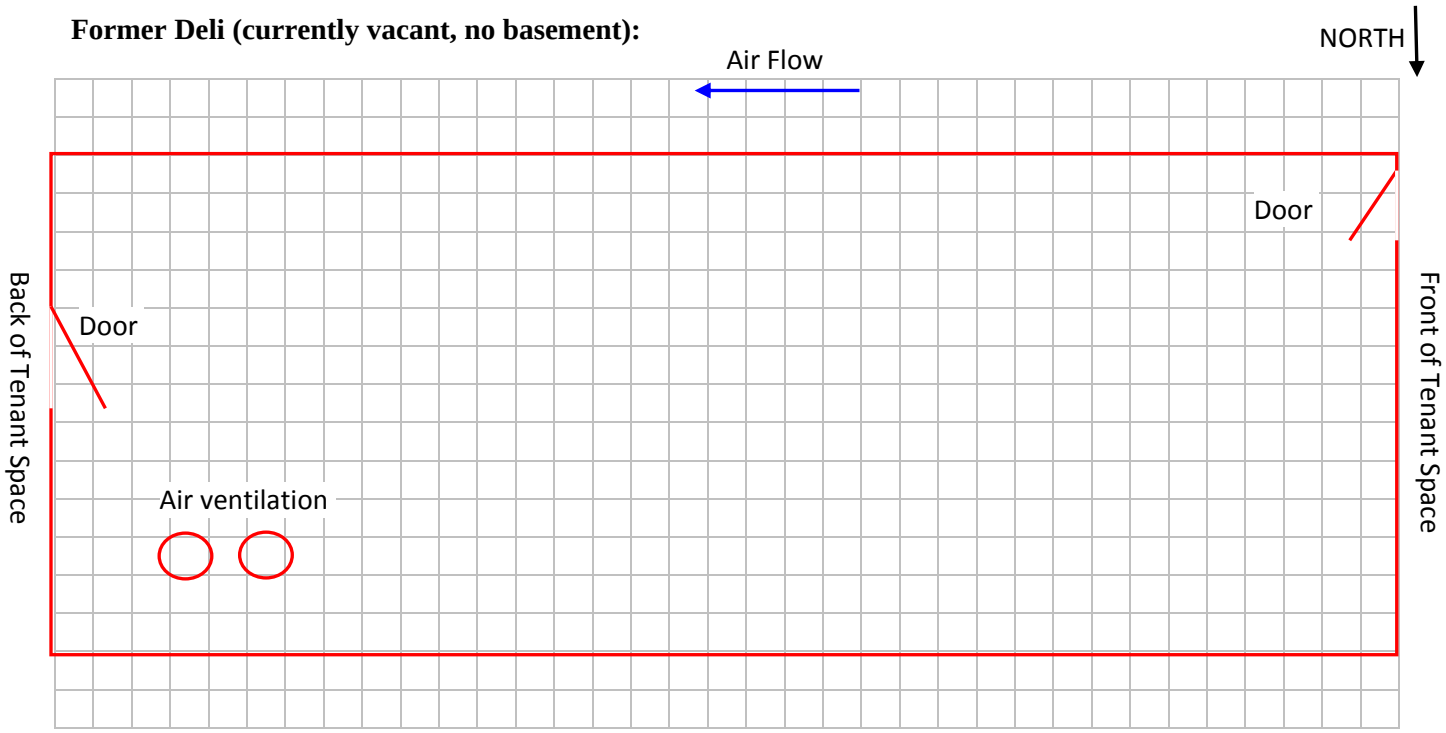
c. Responsibility for costs associated with reimbursement explained? Y / N

d. Relocation package provided and explained to residents? Y / N

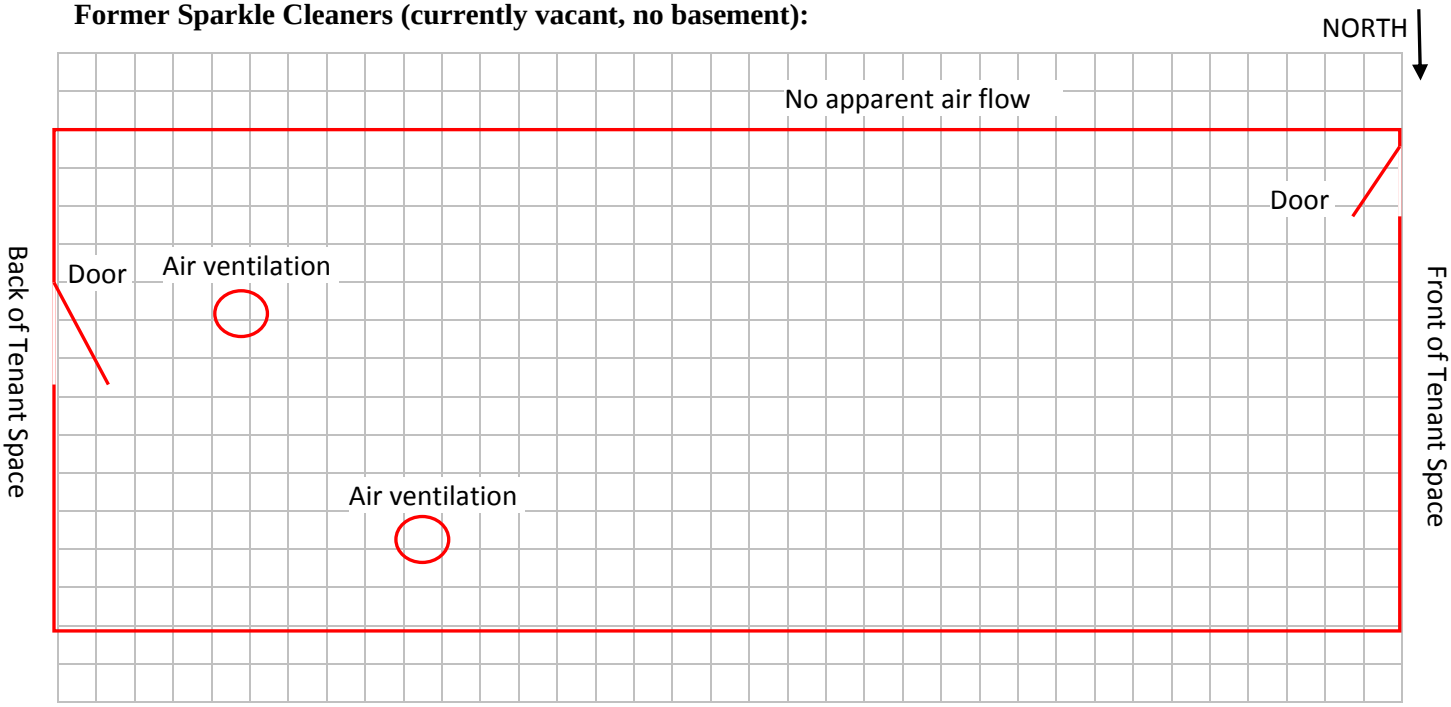
11. FLOOR PLANS

Draw a plan view sketch of the basement and first floor of the building. Indicate air sampling locations, possible indoor air pollution sources and PID meter readings. If the building does not have a basement, please note.

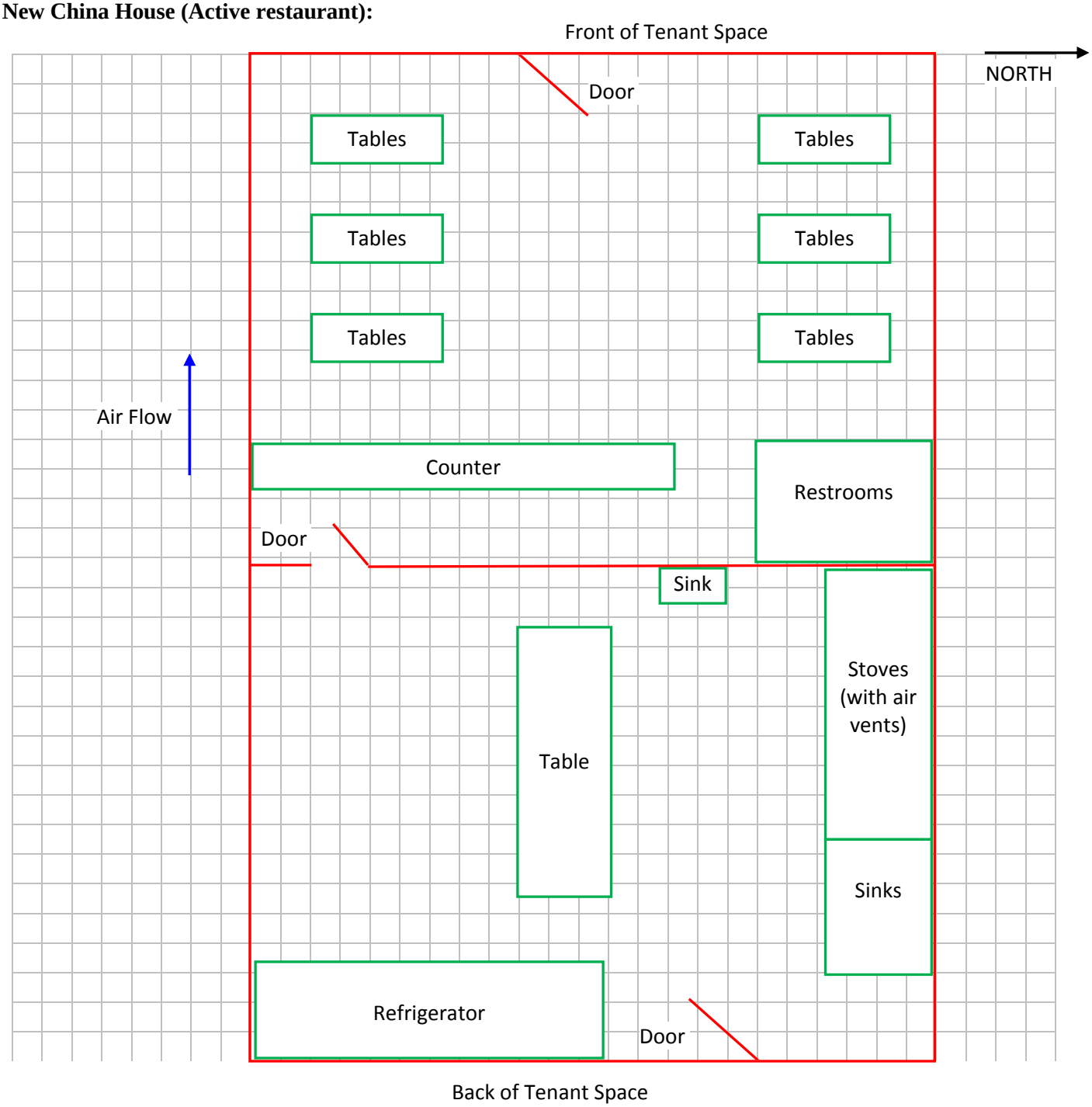
Former Deli (currently vacant, no basement):



Former Sparkle Cleaners (currently vacant, no basement):



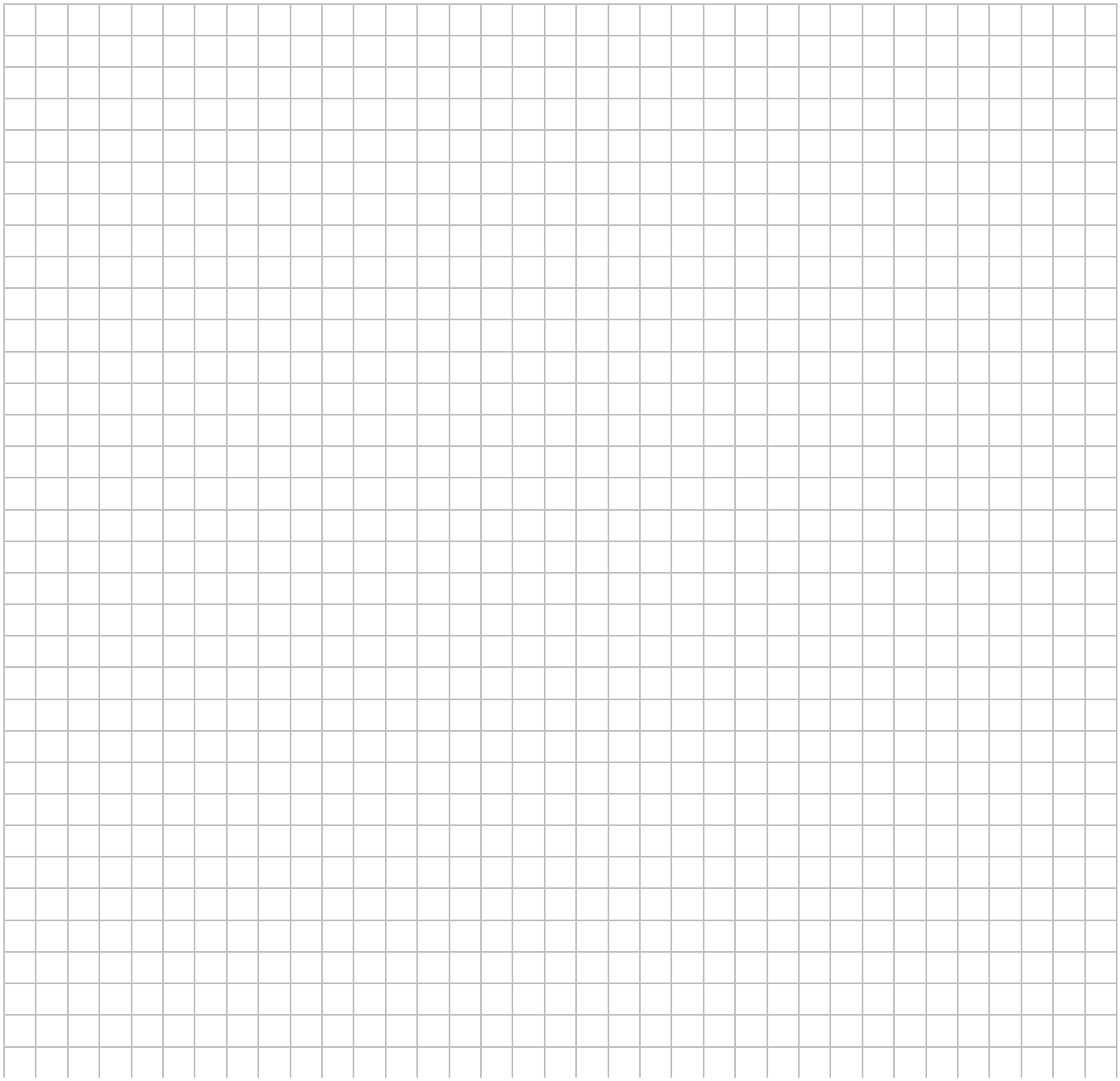
New China House (Active restaurant):



12. OUTDOOR PLOT (See Site Map)

Draw a sketch of the area surrounding the building being sampled. If applicable, provide information on spill locations, potential air contamination sources (industries, gas stations, repair shops, landfills, etc.), outdoor air sampling location(s) and PID meter readings.

Also indicate compass direction, wind direction and speed during sampling, the locations of the well and septic system, if applicable, and a qualifying statement to help locate the site on a topographic map.



LEGEND

- PROPERTY BOUNDARY
- CHAIN LINK FENCE
- CATCH BASIN
- UTILITY MANHOLE
- UTILITY POLE
- LIGHT POLE
- FIRE HYDRANT
- MONITORING WELL
- INJECTION WELL
- DESTROYED MONITORING WELL
- PIEZOMETER
- SOIL VAPOR EXTRACTION WELL
- UNDERGROUND SANITARY SEWER LINE
- OVERHEAD UTILITIES

DRAFTED BY: W.G.S. (N.J.)	SITE MAP
CHECKED BY: CA	UB ORANGEBURG, LLC 1-45 ORANGETOWN SHOPPING CENTER ORANGEBURG, NEW YORK
REVIEWED BY: KB	Groundwater & Environmental Services, Inc. 16 MT. EBO ROAD SOUTH, SUITE 21, BREWSTER, NEW YORK 10509
NORTH	SCALE IN FEET: 0 APPROXIMATE 50 / DATE: 10-20-14 / FIGURE

M:\Graphics\1100-Patterson-LHV\Misc\Urstadt Biddle Properties\Orangeburg\Orangeburg SM.dwg, B-50, 10/20/2014 2:19:57 PM, WShea

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APPENDIX C

Laboratory Analytical Report

New Jersey
ACCUTEST LABORATORIES

05/13/15

Technical Report for

Groundwater & Environmental Services

Orangeburg UB, Orangeburg, NY

Urstadt - Orangetown Shopping Center

Accutest Job Number: JB93613

Sampling Date: 04/28/15

Report to:

Groundwater & Environmental Services

CAndreotto@gesonline.com

ATTN: Christina Andreotto

Total number of pages in report: **54**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Matt Cordova 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, DE, FL, IL, IN, KS, KY, LA, MA, MD, MI, MT, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TN, VA, WV, DoD ELAP (L-A-B L2248)

Sections: 1 2 3 4 5

Table of Contents

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Sample Summary

Groundwater & Environmental Services

Job No: JB93613

Orangeburg UB, Orangeburg, NY
Project No: Urstadt - Orangetown Shopping Center

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JB93613-1	04/28/15	16:54	GM	04/30/15	AIR	Soil Vapor Comp.	DELI VP-1
JB93613-2	04/28/15	16:58	GM	04/30/15	AIR	Ambient Air Comp.	DELI VP-1 AMBIENT
JB93613-3	04/28/15	17:06	GM	04/30/15	AIR	Soil Vapor Comp.	DELI SSD-MP-2
JB93613-4	04/28/15	17:07	GM	04/30/15	AIR	Ambient Air Comp.	DELI SSD-MP-2 AMBIENT
JB93613-5	04/28/15	18:18	GM	04/30/15	AIR	Soil Vapor Comp.	CHINA SSD-MP-5
JB93613-6	04/28/15	18:20	GM	04/30/15	AIR	Ambient Air Comp.	CHINA SSD-MP-5 AMBIENT
JB93613-7	04/28/15	18:27	GM	04/30/15	AIR	Soil Vapor Comp.	CHINA VP-9
JB93613-8	04/28/15	18:28	GM	04/30/15	AIR	Ambient Air Comp.	CHINA VP-9 AMBIENT
JB93613-9	04/28/15	18:33	GM	04/30/15	AIR	Ambient Air Comp.	OUTSIDE AMBIENT
JB93613-10	04/28/15	18:45	GM	04/30/15	AIR	Soil Vapor Comp.	SPARKLE VP-6
JB93613-11	04/28/15	18:45	GM	04/30/15	AIR	Ambient Air Comp.	SPARKLE VP-6 AMBIENT
JB93613-12	04/28/15	18:55	GM	04/30/15	AIR	Soil Vapor Comp.	SPARKLE VP-5
JB93613-13	04/28/15	18:56	GM	04/30/15	AIR	Ambient Air Comp.	SPARKLE VP-5 AMBIENT

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Groundwater & Environmental Services	**Job No**	JB93613
Site:	Orangeburg UB, Orangeburg, NY	**Report Date**	5/13/2015 11:00:34 A

On 04/30/2015, 13 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories. Samples were intact and chemically preserved, unless noted below. An Accutest Job Number of JB93613 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method TO-15

Matrix: AIR **Batch ID:** V5W442

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93590-1DUP were used as the QC samples indicated.
- Sample(s) JB93613-4, JB93613-8 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range.

Matrix: AIR **Batch ID:** V5W443

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JB93613-3DUP were used as the QC samples indicated.
- Sample(s) JB93613-10, JB93613-12, JB93613-3, JB93613-5, JB93613-6, JB93613-7 have compounds reported with "E" qualifiers indicating estimated value exceeding calibration range.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB93613-1	**DELI VP-1**					
Acetone		21.1	0.20		ppbv	TO-15
Benzene		0.28	0.20		ppbv	TO-15
Chloromethane		0.30	0.20		ppbv	TO-15
Cyclohexane		3.1	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.51	0.20		ppbv	TO-15
Ethanol		39.3	0.50		ppbv	TO-15
Ethylbenzene		0.42	0.20		ppbv	TO-15
Ethyl Acetate		1.3	0.20		ppbv	TO-15
4-Ethyltoluene		0.27	0.20		ppbv	TO-15
Heptane		0.29	0.20		ppbv	TO-15
Hexane		0.85	0.20		ppbv	TO-15
Isopropyl Alcohol		6.3	0.20		ppbv	TO-15
Methylene chloride		0.45	0.20		ppbv	TO-15
Methyl ethyl ketone		2.7	0.20		ppbv	TO-15
1,2,4-Trimethylbenzene		0.63	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene		0.24	0.20		ppbv	TO-15
2,2,4-Trimethylpentane		0.53	0.20		ppbv	TO-15
Tertiary Butyl Alcohol		0.47	0.20		ppbv	TO-15
Tetrachloroethylene		0.046	0.040		ppbv	TO-15
Tetrahydrofuran		3.7	0.20		ppbv	TO-15
Toluene		1.2	0.20		ppbv	TO-15
Trichlorofluoromethane		0.27	0.10		ppbv	TO-15
m,p-Xylene		1.9	0.20		ppbv	TO-15
o-Xylene		0.87	0.20		ppbv	TO-15
Xylenes (total)		2.8	0.20		ppbv	TO-15
Acetone		50.1	0.48		ug/m3	TO-15
Benzene		0.89	0.64		ug/m3	TO-15
Chloromethane		0.62	0.41		ug/m3	TO-15
Cyclohexane		11	0.69		ug/m3	TO-15
Dichlorodifluoromethane		2.5	0.99		ug/m3	TO-15
Ethanol		74.1	0.94		ug/m3	TO-15
Ethylbenzene		1.8	0.87		ug/m3	TO-15
Ethyl Acetate		4.7	0.72		ug/m3	TO-15
4-Ethyltoluene		1.3	0.98		ug/m3	TO-15
Heptane		1.2	0.82		ug/m3	TO-15
Hexane		3.0	0.70		ug/m3	TO-15
Isopropyl Alcohol		15	0.49		ug/m3	TO-15
Methylene chloride		1.6	0.69		ug/m3	TO-15
Methyl ethyl ketone		8.0	0.59		ug/m3	TO-15
1,2,4-Trimethylbenzene		3.1	0.98		ug/m3	TO-15
1,3,5-Trimethylbenzene		1.2	0.98		ug/m3	TO-15
2,2,4-Trimethylpentane		2.5	0.93		ug/m3	TO-15
Tertiary Butyl Alcohol		1.4	0.61		ug/m3	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Tetrachloroethylene	0.31	0.27		ug/m3	TO-15
Tetrahydrofuran	11	0.59		ug/m3	TO-15
Toluene	4.5	0.75		ug/m3	TO-15
Trichlorofluoromethane	1.5	0.56		ug/m3	TO-15
m,p-Xylene	8.3	0.87		ug/m3	TO-15
o-Xylene	3.8	0.87		ug/m3	TO-15
Xylenes (total)	12	0.87		ug/m3	TO-15
JB93613-2 DELI VP-1 AMBIENT					
Acetone	18.6	0.20		ppbv	TO-15
Benzene	0.23	0.20		ppbv	TO-15
Chloromethane	0.81	0.20		ppbv	TO-15
Cyclohexane	3.5	0.20		ppbv	TO-15
Dichlorodifluoromethane	0.58	0.20		ppbv	TO-15
Ethanol	18.6	0.50		ppbv	TO-15
Ethylbenzene	0.23	0.20		ppbv	TO-15
Ethyl Acetate	1.0	0.20		ppbv	TO-15
Hexane	0.69	0.20		ppbv	TO-15
Isopropyl Alcohol	1.1	0.20		ppbv	TO-15
Methylene chloride	0.45	0.20		ppbv	TO-15
Methyl ethyl ketone	0.76	0.20		ppbv	TO-15
Styrene	0.28	0.20		ppbv	TO-15
1,2,4-Trimethylbenzene	0.29	0.20		ppbv	TO-15
Tetrachloroethylene	0.061	0.040		ppbv	TO-15
Toluene	0.97	0.20		ppbv	TO-15
Trichlorofluoromethane	0.28	0.10		ppbv	TO-15
m,p-Xylene	1.3	0.20		ppbv	TO-15
o-Xylene	0.56	0.20		ppbv	TO-15
Xylenes (total)	1.9	0.20		ppbv	TO-15
Acetone	44.2	0.48		ug/m3	TO-15
Benzene	0.73	0.64		ug/m3	TO-15
Chloromethane	1.7	0.41		ug/m3	TO-15
Cyclohexane	12	0.69		ug/m3	TO-15
Dichlorodifluoromethane	2.9	0.99		ug/m3	TO-15
Ethanol	35.0	0.94		ug/m3	TO-15
Ethylbenzene	1.0	0.87		ug/m3	TO-15
Ethyl Acetate	3.6	0.72		ug/m3	TO-15
Hexane	2.4	0.70		ug/m3	TO-15
Isopropyl Alcohol	2.7	0.49		ug/m3	TO-15
Methylene chloride	1.6	0.69		ug/m3	TO-15
Methyl ethyl ketone	2.2	0.59		ug/m3	TO-15
Styrene	1.2	0.85		ug/m3	TO-15
1,2,4-Trimethylbenzene	1.4	0.98		ug/m3	TO-15
Tetrachloroethylene	0.41	0.27		ug/m3	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Toluene		3.7	0.75		ug/m3	TO-15
Trichlorofluoromethane		1.6	0.56		ug/m3	TO-15
m,p-Xylene		5.6	0.87		ug/m3	TO-15
o-Xylene		2.4	0.87		ug/m3	TO-15
Xylenes (total)		8.3	0.87		ug/m3	TO-15
JB93613-3	**DELI SSD-MP-2**					
Acetone		25.4	0.20		ppbv	TO-15
Benzene		0.78	0.20		ppbv	TO-15
Chloromethane		0.80	0.20		ppbv	TO-15
Cyclohexane		3.5	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.58	0.20		ppbv	TO-15
Ethanol		44.8 E	0.50		ppbv	TO-15
Ethylbenzene		0.47	0.20		ppbv	TO-15
Ethyl Acetate		1.1	0.20		ppbv	TO-15
4-Ethyltoluene		0.42	0.20		ppbv	TO-15
Heptane		0.84	0.20		ppbv	TO-15
Hexane		2.1	0.20		ppbv	TO-15
Isopropyl Alcohol		6.7	0.20		ppbv	TO-15
Methylene chloride		0.46	0.20		ppbv	TO-15
Methyl ethyl ketone		2.2	0.20		ppbv	TO-15
Propylene		0.65	0.50		ppbv	TO-15
1,2,4-Trimethylbenzene		0.98	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene		0.34	0.20		ppbv	TO-15
2,2,4-Trimethylpentane		0.69	0.20		ppbv	TO-15
Tetrahydrofuran		3.6	0.20		ppbv	TO-15
Toluene		3.2	0.20		ppbv	TO-15
Trichlorofluoromethane		0.30	0.10		ppbv	TO-15
m,p-Xylene		2.2	0.20		ppbv	TO-15
o-Xylene		0.75	0.20		ppbv	TO-15
Xylenes (total)		2.9	0.20		ppbv	TO-15
Acetone		60.3	0.48		ug/m3	TO-15
Benzene		2.5	0.64		ug/m3	TO-15
Chloromethane		1.7	0.41		ug/m3	TO-15
Cyclohexane		12	0.69		ug/m3	TO-15
Dichlorodifluoromethane		2.9	0.99		ug/m3	TO-15
Ethanol		84.4 E	0.94		ug/m3	TO-15
Ethylbenzene		2.0	0.87		ug/m3	TO-15
Ethyl Acetate		4.0	0.72		ug/m3	TO-15
4-Ethyltoluene		2.1	0.98		ug/m3	TO-15
Heptane		3.4	0.82		ug/m3	TO-15
Hexane		7.4	0.70		ug/m3	TO-15
Isopropyl Alcohol		16	0.49		ug/m3	TO-15
Methylene chloride		1.6	0.69		ug/m3	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Methyl ethyl ketone	6.5	0.59		ug/m3	TO-15
Propylene	1.1	0.86		ug/m3	TO-15
1,2,4-Trimethylbenzene	4.8	0.98		ug/m3	TO-15
1,3,5-Trimethylbenzene	1.7	0.98		ug/m3	TO-15
2,2,4-Trimethylpentane	3.2	0.93		ug/m3	TO-15
Tetrahydrofuran	11	0.59		ug/m3	TO-15
Toluene	12	0.75		ug/m3	TO-15
Trichlorofluoromethane	1.7	0.56		ug/m3	TO-15
m,p-Xylene	9.6	0.87		ug/m3	TO-15
o-Xylene	3.3	0.87		ug/m3	TO-15
Xylenes (total)	13	0.87		ug/m3	TO-15
JB93613-4 DELI SSD-MP-2 AMBIENT					
Acetone	22.7	0.20		ppbv	TO-15
Benzene	1.1	0.20		ppbv	TO-15
Chloromethane	0.76	0.20		ppbv	TO-15
Cyclohexane	2.1	0.20		ppbv	TO-15
Dichlorodifluoromethane	0.52	0.20		ppbv	TO-15
Ethanol	31.5	0.50		ppbv	TO-15
Ethylbenzene	2.4	0.20		ppbv	TO-15
Ethyl Acetate	20.2	0.20		ppbv	TO-15
4-Ethyltoluene	0.29	0.20		ppbv	TO-15
Heptane	1.0	0.20		ppbv	TO-15
Hexane	2.9	0.20		ppbv	TO-15
Isopropyl Alcohol	53.6 E	0.20		ppbv	TO-15
Methylene chloride	0.55	0.20		ppbv	TO-15
Methyl ethyl ketone	0.77	0.20		ppbv	TO-15
Propylene	0.85	0.50		ppbv	TO-15
1,2,4-Trimethylbenzene	0.85	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene	0.21	0.20		ppbv	TO-15
2,2,4-Trimethylpentane	0.68	0.20		ppbv	TO-15
Toluene	4.7	0.20		ppbv	TO-15
Trichlorofluoromethane	0.25	0.10		ppbv	TO-15
m,p-Xylene	10.6	0.20		ppbv	TO-15
o-Xylene	1.8	0.20		ppbv	TO-15
Xylenes (total)	12.5	0.20		ppbv	TO-15
Acetone	53.9	0.48		ug/m3	TO-15
Benzene	3.5	0.64		ug/m3	TO-15
Chloromethane	1.6	0.41		ug/m3	TO-15
Cyclohexane	7.2	0.69		ug/m3	TO-15
Dichlorodifluoromethane	2.6	0.99		ug/m3	TO-15
Ethanol	59.4	0.94		ug/m3	TO-15
Ethylbenzene	10	0.87		ug/m3	TO-15
Ethyl Acetate	72.7	0.72		ug/m3	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
4-Ethyltoluene	1.4	0.98		ug/m3	TO-15
Heptane	4.1	0.82		ug/m3	TO-15
Hexane	10	0.70		ug/m3	TO-15
Isopropyl Alcohol	132 E	0.49		ug/m3	TO-15
Methylene chloride	1.9	0.69		ug/m3	TO-15
Methyl ethyl ketone	2.3	0.59		ug/m3	TO-15
Propylene	1.5	0.86		ug/m3	TO-15
1,2,4-Trimethylbenzene	4.2	0.98		ug/m3	TO-15
1,3,5-Trimethylbenzene	1.0	0.98		ug/m3	TO-15
2,2,4-Trimethylpentane	3.2	0.93		ug/m3	TO-15
Toluene	18	0.75		ug/m3	TO-15
Trichlorofluoromethane	1.4	0.56		ug/m3	TO-15
m,p-Xylene	46.0	0.87		ug/m3	TO-15
o-Xylene	7.8	0.87		ug/m3	TO-15
Xylenes (total)	54.3	0.87		ug/m3	TO-15
JB93613-5 CHINA SSD-MP-5					
Acetone	43.2	0.43		ppbv	TO-15
Benzene	0.50	0.22		ppbv	TO-15
Chloroform	0.22	0.22		ppbv	TO-15
Chloromethane	1.1	0.22		ppbv	TO-15
Carbon tetrachloride	0.12	0.043		ppbv	TO-15
Cyclohexane	0.86	0.22		ppbv	TO-15
Dichlorodifluoromethane	0.77	0.22		ppbv	TO-15
Ethanol	108 E	1.1		ppbv	TO-15
Ethylbenzene	0.27	0.22		ppbv	TO-15
Ethyl Acetate	1.9	0.22		ppbv	TO-15
4-Ethyltoluene	0.47	0.22		ppbv	TO-15
Freon 113	0.12	0.11		ppbv	TO-15
Heptane	0.62	0.22		ppbv	TO-15
Hexane	1.7	0.22		ppbv	TO-15
Isopropyl Alcohol	12.9	0.22		ppbv	TO-15
Methylene chloride	2.2	0.22		ppbv	TO-15
Methyl ethyl ketone	4.3	0.22		ppbv	TO-15
Propylene	3.1	0.54		ppbv	TO-15
Styrene	0.86	0.22		ppbv	TO-15
1,2,4-Trimethylbenzene	1.4	0.22		ppbv	TO-15
1,3,5-Trimethylbenzene	0.52	0.22		ppbv	TO-15
2,2,4-Trimethylpentane	0.87	0.22		ppbv	TO-15
Tertiary Butyl Alcohol	3.2	0.22		ppbv	TO-15
Tetrachloroethylene	0.29	0.043		ppbv	TO-15
Tetrahydrofuran	6.7	0.22		ppbv	TO-15
Toluene	7.8	0.22		ppbv	TO-15
Trichlorofluoromethane	0.43	0.11		ppbv	TO-15

Summary of Hits

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Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
m,p-Xylene		1.1	0.22		ppbv	TO-15
o-Xylene		0.48	0.22		ppbv	TO-15
Xylenes (total)		1.6	0.22		ppbv	TO-15
Acetone		103	1.0		ug/m3	TO-15
Benzene		1.6	0.70		ug/m3	TO-15
Chloroform		1.1	1.1		ug/m3	TO-15
Chloromethane		2.3	0.45		ug/m3	TO-15
Carbon tetrachloride		0.75	0.27		ug/m3	TO-15
Cyclohexane		3.0	0.76		ug/m3	TO-15
Dichlorodifluoromethane		3.8	1.1		ug/m3	TO-15
Ethanol		203 E	2.1		ug/m3	TO-15
Ethylbenzene		1.2	0.96		ug/m3	TO-15
Ethyl Acetate		6.8	0.79		ug/m3	TO-15
4-Ethyltoluene		2.3	1.1		ug/m3	TO-15
Freon 113		0.92	0.84		ug/m3	TO-15
Heptane		2.5	0.90		ug/m3	TO-15
Hexane		6.0	0.78		ug/m3	TO-15
Isopropyl Alcohol		31.7	0.54		ug/m3	TO-15
Methylene chloride		7.6	0.76		ug/m3	TO-15
Methyl ethyl ketone		13	0.65		ug/m3	TO-15
Propylene		5.3	0.93		ug/m3	TO-15
Styrene		3.7	0.94		ug/m3	TO-15
1,2,4-Trimethylbenzene		6.9	1.1		ug/m3	TO-15
1,3,5-Trimethylbenzene		2.6	1.1		ug/m3	TO-15
2,2,4-Trimethylpentane		4.1	1.0		ug/m3	TO-15
Tertiary Butyl Alcohol		9.7	0.67		ug/m3	TO-15
Tetrachloroethylene		2.0	0.29		ug/m3	TO-15
Tetrahydrofuran		20	0.65		ug/m3	TO-15
Toluene		29	0.83		ug/m3	TO-15
Trichlorofluoromethane		2.4	0.62		ug/m3	TO-15
m,p-Xylene		4.8	0.96		ug/m3	TO-15
o-Xylene		2.1	0.96		ug/m3	TO-15
Xylenes (total)		6.9	0.96		ug/m3	TO-15
JB93613-6	**CHINA SSD-MP-5 AMBIENT**					
Acetone		31.1	0.20		ppbv	TO-15
Benzene		0.20	0.20		ppbv	TO-15
Carbon disulfide		0.20	0.20		ppbv	TO-15
Chloromethane		0.75	0.20		ppbv	TO-15
Cyclohexane		0.29	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.51	0.20		ppbv	TO-15
Ethanol		180 E	2.0		ppbv	TO-15
Ethylbenzene		0.26	0.20		ppbv	TO-15
Ethyl Acetate		3.0	0.20		ppbv	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Heptane	0.43	0.20		ppbv	TO-15
Hexane	0.43	0.20		ppbv	TO-15
Isopropyl Alcohol	1.9	0.20		ppbv	TO-15
Methylene chloride	0.39	0.20		ppbv	TO-15
Methyl ethyl ketone	1.1	0.20		ppbv	TO-15
Styrene	1.2	0.20		ppbv	TO-15
1,2,4-Trimethylbenzene	0.92	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene	0.37	0.20		ppbv	TO-15
Tertiary Butyl Alcohol	3.0	0.20		ppbv	TO-15
Tetrachloroethylene	0.30	0.040		ppbv	TO-15
Toluene	8.8	0.20		ppbv	TO-15
Trichlorofluoromethane	0.25	0.10		ppbv	TO-15
m,p-Xylene	1.1	0.20		ppbv	TO-15
o-Xylene	0.49	0.20		ppbv	TO-15
Xylenes (total)	1.6	0.20		ppbv	TO-15
Acetone	73.9	0.48		ug/m3	TO-15
Benzene	0.64	0.64		ug/m3	TO-15
Carbon disulfide	0.62	0.62		ug/m3	TO-15
Chloromethane	1.5	0.41		ug/m3	TO-15
Cyclohexane	1.0	0.69		ug/m3	TO-15
Dichlorodifluoromethane	2.5	0.99		ug/m3	TO-15
Ethanol	339 E	3.8		ug/m3	TO-15
Ethylbenzene	1.1	0.87		ug/m3	TO-15
Ethyl Acetate	11	0.72		ug/m3	TO-15
Heptane	1.8	0.82		ug/m3	TO-15
Hexane	1.5	0.70		ug/m3	TO-15
Isopropyl Alcohol	4.7	0.49		ug/m3	TO-15
Methylene chloride	1.4	0.69		ug/m3	TO-15
Methyl ethyl ketone	3.2	0.59		ug/m3	TO-15
Styrene	5.1	0.85		ug/m3	TO-15
1,2,4-Trimethylbenzene	4.5	0.98		ug/m3	TO-15
1,3,5-Trimethylbenzene	1.8	0.98		ug/m3	TO-15
Tertiary Butyl Alcohol	9.1	0.61		ug/m3	TO-15
Tetrachloroethylene	2.0	0.27		ug/m3	TO-15
Toluene	33	0.75		ug/m3	TO-15
Trichlorofluoromethane	1.4	0.56		ug/m3	TO-15
m,p-Xylene	4.8	0.87		ug/m3	TO-15
o-Xylene	2.1	0.87		ug/m3	TO-15
Xylenes (total)	6.9	0.87		ug/m3	TO-15
JB93613-7 CHINA VP-9					
Acetone	46.0	0.40		ppbv	TO-15
Benzene	0.39	0.20		ppbv	TO-15
Carbon disulfide	3.3	0.20		ppbv	TO-15

Summary of Hits

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Project: Orangeburg UB, Orangeburg, NY
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Lab Sample ID Client Sample ID Analyte	Result/ Qual	RL	MDL	Units	Method
Chloromethane	0.59	0.20		ppbv	TO-15
Carbon tetrachloride	0.097	0.040		ppbv	TO-15
Cyclohexane	0.67	0.20		ppbv	TO-15
Dichlorodifluoromethane	0.62	0.20		ppbv	TO-15
Ethanol	99.0 E	1.0		ppbv	TO-15
Ethylbenzene	0.21	0.20		ppbv	TO-15
Ethyl Acetate	0.97	0.20		ppbv	TO-15
4-Ethyltoluene	0.40	0.20		ppbv	TO-15
Heptane	0.44	0.20		ppbv	TO-15
Hexane	0.89	0.20		ppbv	TO-15
Isopropyl Alcohol	19.7	0.20		ppbv	TO-15
Methylene chloride	0.56	0.20		ppbv	TO-15
Methyl ethyl ketone	3.2	0.20		ppbv	TO-15
Propylene	1.2	0.50		ppbv	TO-15
Styrene	0.63	0.20		ppbv	TO-15
1,2,4-Trimethylbenzene	1.0	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene	0.41	0.20		ppbv	TO-15
2,2,4-Trimethylpentane	0.67	0.20		ppbv	TO-15
Tertiary Butyl Alcohol	1.4	0.20		ppbv	TO-15
Tetrachloroethylene	0.27	0.040		ppbv	TO-15
Tetrahydrofuran	5.0	0.20		ppbv	TO-15
Toluene	5.8	0.20		ppbv	TO-15
Trichlorofluoromethane	0.32	0.10		ppbv	TO-15
m,p-Xylene	0.88	0.20		ppbv	TO-15
o-Xylene	0.37	0.20		ppbv	TO-15
Xylenes (total)	1.2	0.20		ppbv	TO-15
Acetone	109	0.95		ug/m3	TO-15
Benzene	1.2	0.64		ug/m3	TO-15
Carbon disulfide	10	0.62		ug/m3	TO-15
Chloromethane	1.2	0.41		ug/m3	TO-15
Carbon tetrachloride	0.61	0.25		ug/m3	TO-15
Cyclohexane	2.3	0.69		ug/m3	TO-15
Dichlorodifluoromethane	3.1	0.99		ug/m3	TO-15
Ethanol	187 E	1.9		ug/m3	TO-15
Ethylbenzene	0.91	0.87		ug/m3	TO-15
Ethyl Acetate	3.5	0.72		ug/m3	TO-15
4-Ethyltoluene	2.0	0.98		ug/m3	TO-15
Heptane	1.8	0.82		ug/m3	TO-15
Hexane	3.1	0.70		ug/m3	TO-15
Isopropyl Alcohol	48.4	0.49		ug/m3	TO-15
Methylene chloride	1.9	0.69		ug/m3	TO-15
Methyl ethyl ketone	9.4	0.59		ug/m3	TO-15
Propylene	2.1	0.86		ug/m3	TO-15
Styrene	2.7	0.85		ug/m3	TO-15
1,2,4-Trimethylbenzene	4.9	0.98		ug/m3	TO-15

Summary of Hits

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Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
1,3,5-Trimethylbenzene		2.0	0.98		ug/m3	TO-15
2,2,4-Trimethylpentane		3.1	0.93		ug/m3	TO-15
Tertiary Butyl Alcohol		4.2	0.61		ug/m3	TO-15
Tetrachloroethylene		1.8	0.27		ug/m3	TO-15
Tetrahydrofuran		15	0.59		ug/m3	TO-15
Toluene		22	0.75		ug/m3	TO-15
Trichlorofluoromethane		1.8	0.56		ug/m3	TO-15
m,p-Xylene		3.8	0.87		ug/m3	TO-15
o-Xylene		1.6	0.87		ug/m3	TO-15
Xylenes (total)		5.2	0.87		ug/m3	TO-15
JB93613-8	**CHINA VP-9 AMBIENT**					
Acetone		29.6	0.20		ppbv	TO-15
Carbon disulfide		0.32	0.20		ppbv	TO-15
Chloroform		0.20	0.20		ppbv	TO-15
Chloromethane		0.80	0.20		ppbv	TO-15
Cyclohexane		0.27	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.57	0.20		ppbv	TO-15
Ethanol		154 E	0.50		ppbv	TO-15
Ethylbenzene		0.24	0.20		ppbv	TO-15
Ethyl Acetate		1.3	0.20		ppbv	TO-15
Heptane		0.43	0.20		ppbv	TO-15
Hexane		0.59	0.20		ppbv	TO-15
Isopropyl Alcohol		1.8	0.20		ppbv	TO-15
Methylene chloride		0.64	0.20		ppbv	TO-15
Methyl ethyl ketone		0.77	0.20		ppbv	TO-15
Styrene		1.1	0.20		ppbv	TO-15
1,2,4-Trimethylbenzene		0.85	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene		0.33	0.20		ppbv	TO-15
Tertiary Butyl Alcohol		2.8	0.20		ppbv	TO-15
Tetrachloroethylene		0.40	0.040		ppbv	TO-15
Toluene		7.9	0.20		ppbv	TO-15
Trichlorofluoromethane		0.28	0.10		ppbv	TO-15
m,p-Xylene		0.95	0.20		ppbv	TO-15
o-Xylene		0.46	0.20		ppbv	TO-15
Xylenes (total)		1.4	0.20		ppbv	TO-15
Acetone		70.3	0.48		ug/m3	TO-15
Carbon disulfide		1.0	0.62		ug/m3	TO-15
Chloroform		0.98	0.98		ug/m3	TO-15
Chloromethane		1.7	0.41		ug/m3	TO-15
Cyclohexane		0.93	0.69		ug/m3	TO-15
Dichlorodifluoromethane		2.8	0.99		ug/m3	TO-15
Ethanol		290 E	0.94		ug/m3	TO-15
Ethylbenzene		1.0	0.87		ug/m3	TO-15

Summary of Hits

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Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
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Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Ethyl Acetate		4.7	0.72		ug/m3	TO-15
Heptane		1.8	0.82		ug/m3	TO-15
Hexane		2.1	0.70		ug/m3	TO-15
Isopropyl Alcohol		4.4	0.49		ug/m3	TO-15
Methylene chloride		2.2	0.69		ug/m3	TO-15
Methyl ethyl ketone		2.3	0.59		ug/m3	TO-15
Styrene		4.7	0.85		ug/m3	TO-15
1,2,4-Trimethylbenzene		4.2	0.98		ug/m3	TO-15
1,3,5-Trimethylbenzene		1.6	0.98		ug/m3	TO-15
Tertiary Butyl Alcohol		8.5	0.61		ug/m3	TO-15
Tetrachloroethylene		2.7	0.27		ug/m3	TO-15
Toluene		30	0.75		ug/m3	TO-15
Trichlorofluoromethane		1.6	0.56		ug/m3	TO-15
m,p-Xylene		4.1	0.87		ug/m3	TO-15
o-Xylene		2.0	0.87		ug/m3	TO-15
Xylenes (total)		6.1	0.87		ug/m3	TO-15
JB93613-9	**OUTSIDE AMBIENT**					
Acetone		3.2	0.20		ppbv	TO-15
Chloromethane		0.76	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.55	0.20		ppbv	TO-15
Ethanol		1.5	0.50		ppbv	TO-15
Ethyl Acetate		0.63	0.20		ppbv	TO-15
Hexane		0.33	0.20		ppbv	TO-15
Isopropyl Alcohol		0.41	0.20		ppbv	TO-15
Methylene chloride		0.41	0.20		ppbv	TO-15
Methyl ethyl ketone		0.43	0.20		ppbv	TO-15
Toluene		0.33	0.20		ppbv	TO-15
Trichlorofluoromethane		0.28	0.10		ppbv	TO-15
Acetone		7.6	0.48		ug/m3	TO-15
Chloromethane		1.6	0.41		ug/m3	TO-15
Dichlorodifluoromethane		2.7	0.99		ug/m3	TO-15
Ethanol		2.8	0.94		ug/m3	TO-15
Ethyl Acetate		2.3	0.72		ug/m3	TO-15
Hexane		1.2	0.70		ug/m3	TO-15
Isopropyl Alcohol		1.0	0.49		ug/m3	TO-15
Methylene chloride		1.4	0.69		ug/m3	TO-15
Methyl ethyl ketone		1.3	0.59		ug/m3	TO-15
Toluene		1.2	0.75		ug/m3	TO-15
Trichlorofluoromethane		1.6	0.56		ug/m3	TO-15
JB93613-10	**SPARKLE VP-6**					
Acetone		27.3	0.20		ppbv	TO-15

Summary of Hits

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Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Benzene	0.29	0.20		ppbv	TO-15
Chloromethane	0.40	0.20		ppbv	TO-15
Cyclohexane	0.60	0.20		ppbv	TO-15
Dichlorodifluoromethane	0.56	0.20		ppbv	TO-15
Ethanol	49.3 E	0.50		ppbv	TO-15
Ethylbenzene	0.21	0.20		ppbv	TO-15
Ethyl Acetate	0.76	0.20		ppbv	TO-15
4-Ethyltoluene	0.44	0.20		ppbv	TO-15
Heptane	0.21	0.20		ppbv	TO-15
Hexane	0.80	0.20		ppbv	TO-15
Isopropyl Alcohol	6.3	0.20		ppbv	TO-15
Methylene chloride	0.63	0.20		ppbv	TO-15
Methyl ethyl ketone	1.9	0.20		ppbv	TO-15
Propylene	0.57	0.50		ppbv	TO-15
1,2,4-Trimethylbenzene	1.1	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene	0.40	0.20		ppbv	TO-15
2,2,4-Trimethylpentane	0.40	0.20		ppbv	TO-15
Tetrachloroethylene	0.073	0.040		ppbv	TO-15
Tetrahydrofuran	3.0	0.20		ppbv	TO-15
Toluene	1.2	0.20		ppbv	TO-15
Trichlorofluoromethane	0.27	0.10		ppbv	TO-15
m,p-Xylene	0.99	0.20		ppbv	TO-15
o-Xylene	0.48	0.20		ppbv	TO-15
Xylenes (total)	1.5	0.20		ppbv	TO-15
Acetone	64.9	0.48		ug/m3	TO-15
Benzene	0.93	0.64		ug/m3	TO-15
Chloromethane	0.83	0.41		ug/m3	TO-15
Cyclohexane	2.1	0.69		ug/m3	TO-15
Dichlorodifluoromethane	2.8	0.99		ug/m3	TO-15
Ethanol	92.9 E	0.94		ug/m3	TO-15
Ethylbenzene	0.91	0.87		ug/m3	TO-15
Ethyl Acetate	2.7	0.72		ug/m3	TO-15
4-Ethyltoluene	2.2	0.98		ug/m3	TO-15
Heptane	0.86	0.82		ug/m3	TO-15
Hexane	2.8	0.70		ug/m3	TO-15
Isopropyl Alcohol	15	0.49		ug/m3	TO-15
Methylene chloride	2.2	0.69		ug/m3	TO-15
Methyl ethyl ketone	5.6	0.59		ug/m3	TO-15
Propylene	0.98	0.86		ug/m3	TO-15
1,2,4-Trimethylbenzene	5.4	0.98		ug/m3	TO-15
1,3,5-Trimethylbenzene	2.0	0.98		ug/m3	TO-15
2,2,4-Trimethylpentane	1.9	0.93		ug/m3	TO-15
Tetrachloroethylene	0.50	0.27		ug/m3	TO-15
Tetrahydrofuran	8.8	0.59		ug/m3	TO-15
Toluene	4.5	0.75		ug/m3	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
Trichlorofluoromethane		1.5	0.56		ug/m3	TO-15
m,p-Xylene		4.3	0.87		ug/m3	TO-15
o-Xylene		2.1	0.87		ug/m3	TO-15
Xylenes (total)		6.5	0.87		ug/m3	TO-15
JB93613-11	**SPARKLE VP-6 AMBIENT**					
Acetone		8.0	0.20		ppbv	TO-15
Chloromethane		0.75	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.56	0.20		ppbv	TO-15
Ethanol		12.8	0.50		ppbv	TO-15
Ethyl Acetate		1.4	0.20		ppbv	TO-15
Hexane		0.55	0.20		ppbv	TO-15
Isopropyl Alcohol		1.1	0.20		ppbv	TO-15
Methylene chloride		0.33	0.20		ppbv	TO-15
Methyl ethyl ketone		0.78	0.20		ppbv	TO-15
Tertiary Butyl Alcohol		0.26	0.20		ppbv	TO-15
Tetrachloroethylene		0.056	0.040		ppbv	TO-15
Toluene		0.79	0.20		ppbv	TO-15
Trichlorofluoromethane		0.27	0.10		ppbv	TO-15
m,p-Xylene		0.35	0.20		ppbv	TO-15
Xylenes (total)		0.51	0.20		ppbv	TO-15
Acetone		19	0.48		ug/m3	TO-15
Chloromethane		1.5	0.41		ug/m3	TO-15
Dichlorodifluoromethane		2.8	0.99		ug/m3	TO-15
Ethanol		24.1	0.94		ug/m3	TO-15
Ethyl Acetate		5.0	0.72		ug/m3	TO-15
Hexane		1.9	0.70		ug/m3	TO-15
Isopropyl Alcohol		2.7	0.49		ug/m3	TO-15
Methylene chloride		1.1	0.69		ug/m3	TO-15
Methyl ethyl ketone		2.3	0.59		ug/m3	TO-15
Tertiary Butyl Alcohol		0.79	0.61		ug/m3	TO-15
Tetrachloroethylene		0.38	0.27		ug/m3	TO-15
Toluene		3.0	0.75		ug/m3	TO-15
Trichlorofluoromethane		1.5	0.56		ug/m3	TO-15
m,p-Xylene		1.5	0.87		ug/m3	TO-15
Xylenes (total)		2.2	0.87		ug/m3	TO-15
JB93613-12	**SPARKLE VP-5**					
Acetone		29.8	0.20		ppbv	TO-15
Benzene		0.31	0.20		ppbv	TO-15
Chloromethane		0.48	0.20		ppbv	TO-15
Cyclohexane		0.60	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.56	0.20		ppbv	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Client Sample ID / Analyte	Result/ Qual	RL	MDL	Units	Method
Ethanol	55.3 E	0.50		ppbv	TO-15
Ethyl Acetate	1.1	0.20		ppbv	TO-15
4-Ethyltoluene	0.32	0.20		ppbv	TO-15
Heptane	0.21	0.20		ppbv	TO-15
Hexane	0.87	0.20		ppbv	TO-15
Isopropyl Alcohol	6.9	0.20		ppbv	TO-15
Methylene chloride	0.55	0.20		ppbv	TO-15
Methyl ethyl ketone	2.3	0.20		ppbv	TO-15
Propylene	0.65	0.50		ppbv	TO-15
1,2,4-Trimethylbenzene	0.76	0.20		ppbv	TO-15
1,3,5-Trimethylbenzene	0.30	0.20		ppbv	TO-15
2,2,4-Trimethylpentane	0.45	0.20		ppbv	TO-15
Tertiary Butyl Alcohol	1.1	0.20		ppbv	TO-15
Tetrachloroethylene	0.093	0.040		ppbv	TO-15
Tetrahydrofuran	3.5	0.20		ppbv	TO-15
Toluene	1.0	0.20		ppbv	TO-15
Trichlorofluoromethane	0.28	0.10		ppbv	TO-15
m,p-Xylene	0.58	0.20		ppbv	TO-15
o-Xylene	0.27	0.20		ppbv	TO-15
Xylenes (total)	0.85	0.20		ppbv	TO-15
Acetone	70.8	0.48		ug/m3	TO-15
Benzene	0.99	0.64		ug/m3	TO-15
Chloromethane	0.99	0.41		ug/m3	TO-15
Cyclohexane	2.1	0.69		ug/m3	TO-15
Dichlorodifluoromethane	2.8	0.99		ug/m3	TO-15
Ethanol	104 E	0.94		ug/m3	TO-15
Ethyl Acetate	4.0	0.72		ug/m3	TO-15
4-Ethyltoluene	1.6	0.98		ug/m3	TO-15
Heptane	0.86	0.82		ug/m3	TO-15
Hexane	3.1	0.70		ug/m3	TO-15
Isopropyl Alcohol	17	0.49		ug/m3	TO-15
Methylene chloride	1.9	0.69		ug/m3	TO-15
Methyl ethyl ketone	6.8	0.59		ug/m3	TO-15
Propylene	1.1	0.86		ug/m3	TO-15
1,2,4-Trimethylbenzene	3.7	0.98		ug/m3	TO-15
1,3,5-Trimethylbenzene	1.5	0.98		ug/m3	TO-15
2,2,4-Trimethylpentane	2.1	0.93		ug/m3	TO-15
Tertiary Butyl Alcohol	3.3	0.61		ug/m3	TO-15
Tetrachloroethylene	0.63	0.27		ug/m3	TO-15
Tetrahydrofuran	10	0.59		ug/m3	TO-15
Toluene	3.8	0.75		ug/m3	TO-15
Trichlorofluoromethane	1.6	0.56		ug/m3	TO-15
m,p-Xylene	2.5	0.87		ug/m3	TO-15
o-Xylene	1.2	0.87		ug/m3	TO-15
Xylenes (total)	3.7	0.87		ug/m3	TO-15

Summary of Hits

Job Number: JB93613
Account: Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Collected: 04/28/15

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JB93613-13	**SPARKLE VP-5 AMBIENT**					
Acetone		7.7	0.20		ppbv	TO-15
Chloromethane		0.74	0.20		ppbv	TO-15
Dichlorodifluoromethane		0.52	0.20		ppbv	TO-15
Ethanol		13.8	0.50		ppbv	TO-15
Ethyl Acetate		0.54	0.20		ppbv	TO-15
Hexane		0.59	0.20		ppbv	TO-15
Isopropyl Alcohol		0.93	0.20		ppbv	TO-15
Methylene chloride		0.61	0.20		ppbv	TO-15
Methyl ethyl ketone		0.44	0.20		ppbv	TO-15
Tertiary Butyl Alcohol		0.23	0.20		ppbv	TO-15
Tetrachloroethylene		0.075	0.040		ppbv	TO-15
Toluene		0.58	0.20		ppbv	TO-15
Trichlorofluoromethane		0.27	0.10		ppbv	TO-15
m,p-Xylene		0.28	0.20		ppbv	TO-15
Xylenes (total)		0.41	0.20		ppbv	TO-15
Acetone		18	0.48		ug/m3	TO-15
Chloromethane		1.5	0.41		ug/m3	TO-15
Dichlorodifluoromethane		2.6	0.99		ug/m3	TO-15
Ethanol		26.0	0.94		ug/m3	TO-15
Ethyl Acetate		1.9	0.72		ug/m3	TO-15
Hexane		2.1	0.70		ug/m3	TO-15
Isopropyl Alcohol		2.3	0.49		ug/m3	TO-15
Methylene chloride		2.1	0.69		ug/m3	TO-15
Methyl ethyl ketone		1.3	0.59		ug/m3	TO-15
Tertiary Butyl Alcohol		0.70	0.61		ug/m3	TO-15
Tetrachloroethylene		0.51	0.27		ug/m3	TO-15
Toluene		2.2	0.75		ug/m3	TO-15
Trichlorofluoromethane		1.5	0.56		ug/m3	TO-15
m,p-Xylene		1.2	0.87		ug/m3	TO-15
Xylenes (total)		1.8	0.87		ug/m3	TO-15

New Jersey ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	DELI VP-1		
Lab Sample ID:	JB93613-1	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A227	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11307.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	21.1	0.20	ppbv		50.1	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.28	0.20	ppbv		0.89	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.30	0.20	ppbv		0.62	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	3.1	0.20	ppbv		11	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.51	0.20	ppbv		2.5	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DELI VP-1		
Lab Sample ID:	JB93613-1	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A227	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	39.3	0.50	ppbv		74.1	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	0.42	0.20	ppbv		1.8	0.87	ug/m3
141-78-6	88	Ethyl Acetate	1.3	0.20	ppbv		4.7	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.27	0.20	ppbv		1.3	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	0.29	0.20	ppbv		1.2	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.85	0.20	ppbv		3.0	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	6.3	0.20	ppbv		15	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.45	0.20	ppbv		1.6	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	2.7	0.20	ppbv		8.0	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	ND	0.50	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.63	0.20	ppbv		3.1	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.24	0.20	ppbv		1.2	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.53	0.20	ppbv		2.5	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.47	0.20	ppbv		1.4	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.046	0.040	ppbv		0.31	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	3.7	0.20	ppbv		11	0.59	ug/m3
108-88-3	92.14	Toluene	1.2	0.20	ppbv		4.5	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.27	0.10	ppbv		1.5	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	1.9	0.20	ppbv		8.3	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.87	0.20	ppbv		3.8	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	2.8	0.20	ppbv		12	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DELI VP-1 AMBIENT		
Lab Sample ID:	JB93613-2	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A235	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11297.D	1	05/01/15	ML	n/a	n/a	V5W442
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	18.6	0.20	ppbv		44.2	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.23	0.20	ppbv		0.73	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.81	0.20	ppbv		1.7	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	3.5	0.20	ppbv		12	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.58	0.20	ppbv		2.9	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: DELI VP-1 AMBIENT
Lab Sample ID: JB93613-2
Matrix: AIR - Ambient Air Comp. Summa ID: A235
Method: TO-15
Project: Orangeburg UB, Orangeburg, NY

Date Sampled: 04/28/15
Date Received: 04/30/15
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	18.6	0.50	ppbv		35.0	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	0.23	0.20	ppbv		1.0	0.87	ug/m3
141-78-6	88	Ethyl Acetate	1.0	0.20	ppbv		3.6	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	ND	0.20	ppbv		ND	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.69	0.20	ppbv		2.4	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	1.1	0.20	ppbv		2.7	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.45	0.20	ppbv		1.6	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.76	0.20	ppbv		2.2	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	ND	0.50	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	0.28	0.20	ppbv		1.2	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.29	0.20	ppbv		1.4	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.20	ppbv		ND	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.20	ppbv		ND	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.061	0.040	ppbv		0.41	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	0.97	0.20	ppbv		3.7	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.28	0.10	ppbv		1.6	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	1.3	0.20	ppbv		5.6	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.56	0.20	ppbv		2.4	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	1.9	0.20	ppbv		8.3	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DELI SSD-MP-2		
Lab Sample ID:	JB93613-3	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A444	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11308.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	25.4	0.20	ppbv		60.3	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.78	0.20	ppbv		2.5	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.80	0.20	ppbv		1.7	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	3.5	0.20	ppbv		12	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.58	0.20	ppbv		2.9	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: DELI SSD-MP-2
Lab Sample ID: JB93613-3
Matrix: AIR - Soil Vapor Comp. Summa ID: A444
Method: TO-15
Project: Orangeburg UB, Orangeburg, NY

Date Sampled: 04/28/15
Date Received: 04/30/15
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	44.8	0.50	ppbv	E	84.4	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	0.47	0.20	ppbv		2.0	0.87	ug/m3
141-78-6	88	Ethyl Acetate	1.1	0.20	ppbv		4.0	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.42	0.20	ppbv		2.1	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	0.84	0.20	ppbv		3.4	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	2.1	0.20	ppbv		7.4	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	6.7	0.20	ppbv		16	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.46	0.20	ppbv		1.6	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	2.2	0.20	ppbv		6.5	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	0.65	0.50	ppbv		1.1	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.98	0.20	ppbv		4.8	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.34	0.20	ppbv		1.7	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.69	0.20	ppbv		3.2	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.20	ppbv		ND	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.040	ppbv		ND	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	3.6	0.20	ppbv		11	0.59	ug/m3
108-88-3	92.14	Toluene	3.2	0.20	ppbv		12	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.30	0.10	ppbv		1.7	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	2.2	0.20	ppbv		9.6	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.75	0.20	ppbv		3.3	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	2.9	0.20	ppbv		13	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	101%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DELI SSD-MP-2 AMBIENT		
Lab Sample ID:	JB93613-4	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A1044	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11298.D	1	05/01/15	ML	n/a	n/a	V5W442
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	22.7	0.20	ppbv		53.9	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	1.1	0.20	ppbv		3.5	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.76	0.20	ppbv		1.6	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	2.1	0.20	ppbv		7.2	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.52	0.20	ppbv		2.6	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DELI SSD-MP-2 AMBIENT		
Lab Sample ID:	JB93613-4	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A1044	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	31.5	0.50	ppbv		59.4	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	2.4	0.20	ppbv		10	0.87	ug/m3
141-78-6	88	Ethyl Acetate	20.2	0.20	ppbv		72.7	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.29	0.20	ppbv		1.4	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	1.0	0.20	ppbv		4.1	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	2.9	0.20	ppbv		10	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	53.6	0.20	ppbv	E	132	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.55	0.20	ppbv		1.9	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.77	0.20	ppbv		2.3	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	0.85	0.50	ppbv		1.5	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.85	0.20	ppbv		4.2	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.21	0.20	ppbv		1.0	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.68	0.20	ppbv		3.2	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.20	ppbv		ND	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.040	ppbv		ND	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	4.7	0.20	ppbv		18	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.25	0.10	ppbv		1.4	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	10.6	0.20	ppbv		46.0	0.87	ug/m3
95-47-6	106.2	o-Xylene	1.8	0.20	ppbv		7.8	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	12.5	0.20	ppbv		54.3	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA SSD-MP-5		
Lab Sample ID:	JB93613-5	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A630	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11310.D	2.15	05/01/15	ML	n/a	n/a	V5W443
Run #2	5W11326.D	2.15	05/02/15	ML	n/a	n/a	V5W443

	Initial Volume
Run #1	800 ml
Run #2	400 ml

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	43.2 [a]	0.43	ppbv		103 [a]	1.0	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.22	ppbv		ND	0.49	ug/m3
71-43-2	78.11	Benzene	0.50	0.22	ppbv		1.6	0.70	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.11	ppbv		ND	0.74	ug/m3
75-25-2	252.8	Bromoform	ND	0.043	ppbv		ND	0.44	ug/m3
74-83-9	94.94	Bromomethane	ND	0.22	ppbv		ND	0.85	ug/m3
593-60-2	106.9	Bromoethene	ND	0.22	ppbv		ND	0.96	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.22	ppbv		ND	1.1	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.22	ppbv		ND	0.69	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.22	ppbv		ND	1.0	ug/m3
75-00-3	64.52	Chloroethane	ND	0.22	ppbv		ND	0.58	ug/m3
67-66-3	119.4	Chloroform	0.22	0.22	ppbv		1.1	1.1	ug/m3
74-87-3	50.49	Chloromethane	1.1	0.22	ppbv		2.3	0.45	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.22	ppbv		ND	0.69	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.22	ppbv		ND	1.1	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.12	0.043	ppbv		0.75	0.27	ug/m3
110-82-7	84.16	Cyclohexane	0.86	0.22	ppbv		3.0	0.76	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.22	ppbv		ND	0.89	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.22	ppbv		ND	0.87	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.11	ppbv		ND	0.85	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.22	ppbv		ND	0.89	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.22	ppbv		ND	1.0	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.22	ppbv		ND	0.79	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.77	0.22	ppbv		3.8	1.1	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.11	ppbv		ND	0.94	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.22	ppbv		ND	0.87	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.22	ppbv		ND	0.87	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.22	ppbv		ND	1.0	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.11	ppbv		ND	0.66	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.043	ppbv		ND	0.26	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.11	ppbv		ND	0.66	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.22	ppbv		ND	1.0	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CHINA SSD-MP-5
Lab Sample ID: JB93613-5
Matrix: AIR - Soil Vapor Comp. Summa ID: A630
Method: TO-15
Project: Orangeburg UB, Orangeburg, NY

Date Sampled: 04/28/15
Date Received: 04/30/15
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	108 [a]	1.1	ppbv	E	203 [a]	2.1	ug/m3
100-41-4	106.2	Ethylbenzene	0.27	0.22	ppbv		1.2	0.96	ug/m3
141-78-6	88	Ethyl Acetate	1.9	0.22	ppbv		6.8	0.79	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.47	0.22	ppbv		2.3	1.1	ug/m3
76-13-1	187.4	Freon 113	0.12	0.11	ppbv		0.92	0.84	ug/m3
76-14-2	170.9	Freon 114	ND	0.11	ppbv		ND	0.77	ug/m3
142-82-5	100.2	Heptane	0.62	0.22	ppbv		2.5	0.90	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.097	ppbv		ND	1.0	ug/m3
110-54-3	86.17	Hexane	1.7	0.22	ppbv		6.0	0.78	ug/m3
591-78-6	100	2-Hexanone	ND	0.22	ppbv		ND	0.90	ug/m3
67-63-0	60.1	Isopropyl Alcohol	12.9	0.22	ppbv		31.7	0.54	ug/m3
75-09-2	84.94	Methylene chloride	2.2	0.22	ppbv		7.6	0.76	ug/m3
78-93-3	72.11	Methyl ethyl ketone	4.3	0.22	ppbv		13	0.65	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.22	ppbv		ND	0.90	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.22	ppbv		ND	0.79	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.22	ppbv		ND	0.90	ug/m3
115-07-1	42	Propylene	3.1	0.54	ppbv		5.3	0.93	ug/m3
100-42-5	104.1	Styrene	0.86	0.22	ppbv		3.7	0.94	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.11	ppbv		ND	0.60	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.11	ppbv		ND	0.76	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.11	ppbv		ND	0.60	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.11	ppbv		ND	0.82	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	1.4	0.22	ppbv		6.9	1.1	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.52	0.22	ppbv		2.6	1.1	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.87	0.22	ppbv		4.1	1.0	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	3.2	0.22	ppbv		9.7	0.67	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.29	0.043	ppbv		2.0	0.29	ug/m3
109-99-9	72.11	Tetrahydrofuran	6.7	0.22	ppbv		20	0.65	ug/m3
108-88-3	92.14	Toluene	7.8	0.22	ppbv		29	0.83	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.043	ppbv		ND	0.23	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.43	0.11	ppbv		2.4	0.62	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.043	ppbv		ND	0.11	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.22	ppbv		ND	0.77	ug/m3
	106.2	m,p-Xylene	1.1	0.22	ppbv		4.8	0.96	ug/m3
95-47-6	106.2	o-Xylene	0.48	0.22	ppbv		2.1	0.96	ug/m3
1330-20-7	106.2	Xylenes (total)	1.6	0.22	ppbv		6.9	0.96	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%	99%	65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA SSD-MP-5		
Lab Sample ID:	JB93613-5	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A630	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA SSD-MP-5 AMBIENT		
Lab Sample ID:	JB93613-6	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A469	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11299.D	1	05/01/15	ML	n/a	n/a	V5W442
Run #2	5W11315.D	1	05/01/15	ML	n/a	n/a	V5W443

	Initial Volume
Run #1	400 ml
Run #2	100 ml

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	31.1	0.20	ppbv		73.9	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.20	0.20	ppbv		0.64	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	0.20	0.20	ppbv		0.62	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.75	0.20	ppbv		1.5	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.29	0.20	ppbv		1.0	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.51	0.20	ppbv		2.5	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA SSD-MP-5 AMBIENT		
Lab Sample ID:	JB93613-6	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A469	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	180 [a]	2.0	ppbv	E	339 [a]	3.8	ug/m3
100-41-4	106.2	Ethylbenzene	0.26	0.20	ppbv		1.1	0.87	ug/m3
141-78-6	88	Ethyl Acetate	3.0	0.20	ppbv		11	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	0.43	0.20	ppbv		1.8	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.43	0.20	ppbv		1.5	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	1.9	0.20	ppbv		4.7	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.39	0.20	ppbv		1.4	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	1.1	0.20	ppbv		3.2	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	ND	0.50	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	1.2	0.20	ppbv		5.1	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.92	0.20	ppbv		4.5	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.37	0.20	ppbv		1.8	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	3.0	0.20	ppbv		9.1	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.30	0.040	ppbv		2.0	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	8.8	0.20	ppbv		33	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.25	0.10	ppbv		1.4	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	1.1	0.20	ppbv		4.8	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.49	0.20	ppbv		2.1	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	1.6	0.20	ppbv		6.9	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%	100%	65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA SSD-MP-5 AMBIENT		
Lab Sample ID:	JB93613-6	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A469	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA VP-9		
Lab Sample ID:	JB93613-7	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A773	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11311.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2	5W11327.D	1	05/02/15	ML	n/a	n/a	V5W443

	Initial Volume
Run #1	400 ml
Run #2	200 ml

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	46.0 [a]	0.40	ppbv		109 [a]	0.95	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.39	0.20	ppbv		1.2	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	3.3	0.20	ppbv		10	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.59	0.20	ppbv		1.2	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	0.097	0.040	ppbv		0.61	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.67	0.20	ppbv		2.3	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.62	0.20	ppbv		3.1	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA VP-9		
Lab Sample ID:	JB93613-7	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A773	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	99.0 [a]	1.0	ppbv	E	187 [a]	1.9	ug/m3
100-41-4	106.2	Ethylbenzene	0.21	0.20	ppbv		0.91	0.87	ug/m3
141-78-6	88	Ethyl Acetate	0.97	0.20	ppbv		3.5	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.40	0.20	ppbv		2.0	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	0.44	0.20	ppbv		1.8	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.89	0.20	ppbv		3.1	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	19.7	0.20	ppbv		48.4	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.56	0.20	ppbv		1.9	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	3.2	0.20	ppbv		9.4	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	1.2	0.50	ppbv		2.1	0.86	ug/m3
100-42-5	104.1	Styrene	0.63	0.20	ppbv		2.7	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	1.0	0.20	ppbv		4.9	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.41	0.20	ppbv		2.0	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.67	0.20	ppbv		3.1	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	1.4	0.20	ppbv		4.2	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.27	0.040	ppbv		1.8	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	5.0	0.20	ppbv		15	0.59	ug/m3
108-88-3	92.14	Toluene	5.8	0.20	ppbv		22	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.32	0.10	ppbv		1.8	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	0.88	0.20	ppbv		3.8	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.37	0.20	ppbv		1.6	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	1.2	0.20	ppbv		5.2	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	103%	101%	65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA VP-9		
Lab Sample ID:	JB93613-7	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A773	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	CHINA VP-9 AMBIENT		
Lab Sample ID:	JB93613-8	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A1198	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11300.D	1	05/01/15	ML	n/a	n/a	V5W442
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	29.6	0.20	ppbv		70.3	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	ND	0.20	ppbv		ND	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	0.32	0.20	ppbv		1.0	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	0.20	0.20	ppbv		0.98	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.80	0.20	ppbv		1.7	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.27	0.20	ppbv		0.93	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.57	0.20	ppbv		2.8	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: CHINA VP-9 AMBIENT
Lab Sample ID: JB93613-8
Matrix: AIR - Ambient Air Comp. Summa ID: A1198
Method: TO-15
Project: Orangeburg UB, Orangeburg, NY

Date Sampled: 04/28/15
Date Received: 04/30/15
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	154	0.50	ppbv	E	290	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	0.24	0.20	ppbv		1.0	0.87	ug/m3
141-78-6	88	Ethyl Acetate	1.3	0.20	ppbv		4.7	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	0.43	0.20	ppbv		1.8	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.59	0.20	ppbv		2.1	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	1.8	0.20	ppbv		4.4	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.64	0.20	ppbv		2.2	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.77	0.20	ppbv		2.3	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	ND	0.50	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	1.1	0.20	ppbv		4.7	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.85	0.20	ppbv		4.2	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.33	0.20	ppbv		1.6	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	2.8	0.20	ppbv		8.5	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.40	0.040	ppbv		2.7	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	7.9	0.20	ppbv		30	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.28	0.10	ppbv		1.6	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	0.95	0.20	ppbv		4.1	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.46	0.20	ppbv		2.0	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	1.4	0.20	ppbv		6.1	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	OUTSIDE AMBIENT		
Lab Sample ID:	JB93613-9	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A1168	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11312.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	3.2	0.20	ppbv		7.6	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	ND	0.20	ppbv		ND	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.76	0.20	ppbv		1.6	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.20	ppbv		ND	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.55	0.20	ppbv		2.7	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: OUTSIDE AMBIENT
Lab Sample ID: JB93613-9
Matrix: AIR - Ambient Air Comp. Summa ID: A1168
Method: TO-15
Project: Orangeburg UB, Orangeburg, NY

Date Sampled: 04/28/15
Date Received: 04/30/15
Percent Solids: n/a

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	1.5	0.50	ppbv		2.8	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.20	ppbv		ND	0.87	ug/m3
141-78-6	88	Ethyl Acetate	0.63	0.20	ppbv		2.3	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	ND	0.20	ppbv		ND	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.33	0.20	ppbv		1.2	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	0.41	0.20	ppbv		1.0	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.41	0.20	ppbv		1.4	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.43	0.20	ppbv		1.3	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	ND	0.50	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.20	ppbv		ND	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.20	ppbv		ND	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.20	ppbv		ND	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	ND	0.040	ppbv		ND	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	0.33	0.20	ppbv		1.2	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.28	0.10	ppbv		1.6	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	ND	0.20	ppbv		ND	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.20	ppbv		ND	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	ND	0.20	ppbv		ND	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	100%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-6		
Lab Sample ID:	JB93613-10	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A1176	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11316.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	27.3	0.20	ppbv		64.9	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.29	0.20	ppbv		0.93	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.40	0.20	ppbv		0.83	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.60	0.20	ppbv		2.1	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.56	0.20	ppbv		2.8	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-6		
Lab Sample ID:	JB93613-10	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A1176	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	49.3	0.50	ppbv	E	92.9	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	0.21	0.20	ppbv		0.91	0.87	ug/m3
141-78-6	88	Ethyl Acetate	0.76	0.20	ppbv		2.7	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.44	0.20	ppbv		2.2	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	0.21	0.20	ppbv		0.86	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.80	0.20	ppbv		2.8	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	6.3	0.20	ppbv		15	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.63	0.20	ppbv		2.2	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	1.9	0.20	ppbv		5.6	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	0.57	0.50	ppbv		0.98	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	1.1	0.20	ppbv		5.4	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.40	0.20	ppbv		2.0	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.40	0.20	ppbv		1.9	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	ND	0.20	ppbv		ND	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.073	0.040	ppbv		0.50	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	3.0	0.20	ppbv		8.8	0.59	ug/m3
108-88-3	92.14	Toluene	1.2	0.20	ppbv		4.5	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.27	0.10	ppbv		1.5	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	0.99	0.20	ppbv		4.3	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.48	0.20	ppbv		2.1	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	1.5	0.20	ppbv		6.5	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-6 AMBIENT		
Lab Sample ID:	JB93613-11	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A1060	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11317.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	8.0	0.20	ppbv		19	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	ND	0.20	ppbv		ND	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.75	0.20	ppbv		1.5	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.20	ppbv		ND	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.56	0.20	ppbv		2.8	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-6 AMBIENT		
Lab Sample ID:	JB93613-11	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A1060	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	12.8	0.50	ppbv		24.1	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.20	ppbv		ND	0.87	ug/m3
141-78-6	88	Ethyl Acetate	1.4	0.20	ppbv		5.0	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	ND	0.20	ppbv		ND	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.55	0.20	ppbv		1.9	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	1.1	0.20	ppbv		2.7	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.33	0.20	ppbv		1.1	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.78	0.20	ppbv		2.3	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	ND	0.50	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.20	ppbv		ND	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.20	ppbv		ND	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.26	0.20	ppbv		0.79	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.056	0.040	ppbv		0.38	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	0.79	0.20	ppbv		3.0	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.27	0.10	ppbv		1.5	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	0.35	0.20	ppbv		1.5	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.20	ppbv		ND	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	0.51	0.20	ppbv		2.2	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-5		
Lab Sample ID:	JB93613-12	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A872	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11318.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	29.8	0.20	ppbv		70.8	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	0.31	0.20	ppbv		0.99	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.48	0.20	ppbv		0.99	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	0.60	0.20	ppbv		2.1	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.56	0.20	ppbv		2.8	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-5		
Lab Sample ID:	JB93613-12	**Date Sampled:**	04/28/15
Matrix:	AIR - Soil Vapor Comp. Summa ID: A872	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	55.3	0.50	ppbv	E	104	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.20	ppbv		ND	0.87	ug/m3
141-78-6	88	Ethyl Acetate	1.1	0.20	ppbv		4.0	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	0.32	0.20	ppbv		1.6	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	0.21	0.20	ppbv		0.86	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.87	0.20	ppbv		3.1	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	6.9	0.20	ppbv		17	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.55	0.20	ppbv		1.9	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	2.3	0.20	ppbv		6.8	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	0.65	0.50	ppbv		1.1	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	0.76	0.20	ppbv		3.7	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	0.30	0.20	ppbv		1.5	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	0.45	0.20	ppbv		2.1	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	1.1	0.20	ppbv		3.3	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.093	0.040	ppbv		0.63	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	3.5	0.20	ppbv		10	0.59	ug/m3
108-88-3	92.14	Toluene	1.0	0.20	ppbv		3.8	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.28	0.10	ppbv		1.6	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	0.58	0.20	ppbv		2.5	0.87	ug/m3
95-47-6	106.2	o-Xylene	0.27	0.20	ppbv		1.2	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	0.85	0.20	ppbv		3.7	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	99%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-5 AMBIENT		
Lab Sample ID:	JB93613-13	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A208	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5W11319.D	1	05/01/15	ML	n/a	n/a	V5W443
Run #2							

	Initial Volume
Run #1	400 ml
Run #2	

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
67-64-1	58.08	Acetone	7.7	0.20	ppbv		18	0.48	ug/m3
106-99-0	54.09	1,3-Butadiene	ND	0.20	ppbv		ND	0.44	ug/m3
71-43-2	78.11	Benzene	ND	0.20	ppbv		ND	0.64	ug/m3
75-27-4	163.8	Bromodichloromethane	ND	0.10	ppbv		ND	0.67	ug/m3
75-25-2	252.8	Bromoform	ND	0.040	ppbv		ND	0.41	ug/m3
74-83-9	94.94	Bromomethane	ND	0.20	ppbv		ND	0.78	ug/m3
593-60-2	106.9	Bromoethene	ND	0.20	ppbv		ND	0.87	ug/m3
100-44-7	126	Benzyl Chloride	ND	0.20	ppbv		ND	1.0	ug/m3
75-15-0	76.14	Carbon disulfide	ND	0.20	ppbv		ND	0.62	ug/m3
108-90-7	112.6	Chlorobenzene	ND	0.20	ppbv		ND	0.92	ug/m3
75-00-3	64.52	Chloroethane	ND	0.20	ppbv		ND	0.53	ug/m3
67-66-3	119.4	Chloroform	ND	0.20	ppbv		ND	0.98	ug/m3
74-87-3	50.49	Chloromethane	0.74	0.20	ppbv		1.5	0.41	ug/m3
107-05-1	76.53	3-Chloropropene	ND	0.20	ppbv		ND	0.63	ug/m3
95-49-8	126.6	2-Chlorotoluene	ND	0.20	ppbv		ND	1.0	ug/m3
56-23-5	153.8	Carbon tetrachloride	ND	0.040	ppbv		ND	0.25	ug/m3
110-82-7	84.16	Cyclohexane	ND	0.20	ppbv		ND	0.69	ug/m3
75-34-3	98.96	1,1-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
75-35-4	96.94	1,1-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
106-93-4	187.9	1,2-Dibromoethane	ND	0.10	ppbv		ND	0.77	ug/m3
107-06-2	98.96	1,2-Dichloroethane	ND	0.20	ppbv		ND	0.81	ug/m3
78-87-5	113	1,2-Dichloropropane	ND	0.20	ppbv		ND	0.92	ug/m3
123-91-1	88.12	1,4-Dioxane	ND	0.20	ppbv		ND	0.72	ug/m3
75-71-8	120.9	Dichlorodifluoromethane	0.52	0.20	ppbv		2.6	0.99	ug/m3
124-48-1	208.3	Dibromochloromethane	ND	0.10	ppbv		ND	0.85	ug/m3
156-60-5	96.94	trans-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
156-59-2	96.94	cis-1,2-Dichloroethylene	ND	0.20	ppbv		ND	0.79	ug/m3
10061-01-5	111	cis-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3
541-73-1	147	m-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
95-50-1	147	o-Dichlorobenzene	ND	0.040	ppbv		ND	0.24	ug/m3
106-46-7	147	p-Dichlorobenzene	ND	0.10	ppbv		ND	0.60	ug/m3
10061-02-6	111	trans-1,3-Dichloropropene	ND	0.20	ppbv		ND	0.91	ug/m3

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SPARKLE VP-5 AMBIENT		
Lab Sample ID:	JB93613-13	**Date Sampled:**	04/28/15
Matrix:	AIR - Ambient Air Comp. Summa ID: A208	**Date Received:**	04/30/15
Method:	TO-15	**Percent Solids:**	n/a
Project:	Orangeburg UB, Orangeburg, NY		

VOA TO15 List

CAS No.	MW	Compound	Result	RL	Units	Q	Result	RL	Units
64-17-5	46.07	Ethanol	13.8	0.50	ppbv		26.0	0.94	ug/m3
100-41-4	106.2	Ethylbenzene	ND	0.20	ppbv		ND	0.87	ug/m3
141-78-6	88	Ethyl Acetate	0.54	0.20	ppbv		1.9	0.72	ug/m3
622-96-8	120.2	4-Ethyltoluene	ND	0.20	ppbv		ND	0.98	ug/m3
76-13-1	187.4	Freon 113	ND	0.10	ppbv		ND	0.77	ug/m3
76-14-2	170.9	Freon 114	ND	0.10	ppbv		ND	0.70	ug/m3
142-82-5	100.2	Heptane	ND	0.20	ppbv		ND	0.82	ug/m3
87-68-3	260.8	Hexachlorobutadiene	ND	0.090	ppbv		ND	0.96	ug/m3
110-54-3	86.17	Hexane	0.59	0.20	ppbv		2.1	0.70	ug/m3
591-78-6	100	2-Hexanone	ND	0.20	ppbv		ND	0.82	ug/m3
67-63-0	60.1	Isopropyl Alcohol	0.93	0.20	ppbv		2.3	0.49	ug/m3
75-09-2	84.94	Methylene chloride	0.61	0.20	ppbv		2.1	0.69	ug/m3
78-93-3	72.11	Methyl ethyl ketone	0.44	0.20	ppbv		1.3	0.59	ug/m3
108-10-1	100.2	Methyl Isobutyl Ketone	ND	0.20	ppbv		ND	0.82	ug/m3
1634-04-4	88.15	Methyl Tert Butyl Ether	ND	0.20	ppbv		ND	0.72	ug/m3
80-62-6	100.12	Methylmethacrylate	ND	0.20	ppbv		ND	0.82	ug/m3
115-07-1	42	Propylene	ND	0.50	ppbv		ND	0.86	ug/m3
100-42-5	104.1	Styrene	ND	0.20	ppbv		ND	0.85	ug/m3
71-55-6	133.4	1,1,1-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
79-34-5	167.9	1,1,2,2-Tetrachloroethane	ND	0.10	ppbv		ND	0.69	ug/m3
79-00-5	133.4	1,1,2-Trichloroethane	ND	0.10	ppbv		ND	0.55	ug/m3
120-82-1	181.5	1,2,4-Trichlorobenzene	ND	0.10	ppbv		ND	0.74	ug/m3
95-63-6	120.2	1,2,4-Trimethylbenzene	ND	0.20	ppbv		ND	0.98	ug/m3
108-67-8	120.2	1,3,5-Trimethylbenzene	ND	0.20	ppbv		ND	0.98	ug/m3
540-84-1	114.2	2,2,4-Trimethylpentane	ND	0.20	ppbv		ND	0.93	ug/m3
75-65-0	74.12	Tertiary Butyl Alcohol	0.23	0.20	ppbv		0.70	0.61	ug/m3
127-18-4	165.8	Tetrachloroethylene	0.075	0.040	ppbv		0.51	0.27	ug/m3
109-99-9	72.11	Tetrahydrofuran	ND	0.20	ppbv		ND	0.59	ug/m3
108-88-3	92.14	Toluene	0.58	0.20	ppbv		2.2	0.75	ug/m3
79-01-6	131.4	Trichloroethylene	ND	0.040	ppbv		ND	0.21	ug/m3
75-69-4	137.4	Trichlorofluoromethane	0.27	0.10	ppbv		1.5	0.56	ug/m3
75-01-4	62.5	Vinyl chloride	ND	0.040	ppbv		ND	0.10	ug/m3
108-05-4	86	Vinyl Acetate	ND	0.20	ppbv		ND	0.70	ug/m3
	106.2	m,p-Xylene	0.28	0.20	ppbv		1.2	0.87	ug/m3
95-47-6	106.2	o-Xylene	ND	0.20	ppbv		ND	0.87	ug/m3
1330-20-7	106.2	Xylenes (total)	0.41	0.20	ppbv		1.8	0.87	ug/m3

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	98%		65-128%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

New Jersey ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- Summa Canister and Flow Controller Log

AIR

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Air Sampling Field Data Sheet

FED-EX Tracking #

Bottle Order Control # DA-4-10-2015-33

PAGE 1 OF 2

Lab Quote #

Lab Job # JB93613

JB93613

Client / Reporting Information

Company Name: Ground water and Environmental Services

Address: 16 Mount Ebo Rds.

City: Brewster State: NY Zip: 10509

Project Contact: Karen Bourque E-mail: kbourque@gesonline.com

Phone #: 866-839-5195 ex3833 Fax #:

Sampler(s) Name(s): Gregg Marenkowski

Project Name: Urstadt - Orangetown Shopping Ctr.

Street: I-45 Orangetown Shopping Ctr.

City: Orangeburg State: NY

Project #:

Client Purchase Order #:

Weather Parameters

Temperature (Fahrenheit)

Start: 56° Maximum: 70°

Stop: 68° Minimum: 56°

Atmoshpheric Pressure (inches of Hg)

Start: 30.1 Maximum: 30.1

Stop: 30.1 Minimum: 30.1

Other weather comment:

Requested Analysis

Standard TO-15 Reporting List

Lab Sample #	Field ID / Point of Collection	Air Type: Indoor(I) Soil Vap(SV) Ambient(A)	Sampling Equipment Info: Canister Serial #	Canister Size 6L or 1L	Flow Controller Serial #	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.
1	Deli VP-1	SV	8227	6L	FC112	4/28/15	0854	>30	56°	GM	4/28/15	1654	8	68	GM
2	Deli VP-1 Ambient	A	A235	6L	FC712	4/28/15	0858	29	56°	GM		1658	8	68	
3	Deli SSD-MP-2	SV	A444	6L	FC596	4/28/15	0906	29	56°	GM		1706	8	68	
4	Deli SSD-MP-2 Ambient	A	A1044	6L	FC146	4/28/15	0907	>30	56	GM		1707	8.5	68	
5	China SSD-MP-5	SV	A630	6L	FC099	4/28/15	1018	28.5	56	GM		1818	16	68	
6	China SSD-MP-5 Ambient	A	A469	6L	FC105	4/28/15	1020	28.0	56	GM		1820	5.5	68	
7	China VP-9	SV	A773	6L	FC481	4/28/15	1027	>30	56	GM		1827	11	68	
8	China VP-9 Ambient	A	A1198	6L	FC478	4/28/15	1028	>30	56	GM		1828	8.5	68	
9	Outside Ambient	A	A1645	6L	FC480	4/28/15	1033	27.5	56	GM	↓	1833	7.5	68	↓

Turnaround Time (Business days)

Standard - 15 Days

10 Day

5 Day

3 Day

2 Day

1 Day

Other

Approved By:

Date:

Data Deliverable Information

All NJDEP TO-15 is mandatory Full T1

Comm A

Comm B

Reduced T2

Full T1

Other:

Comments / Remarks

INITIAL ASESSMENT NL 4A

LABEL VERIFICATION HL

SUMMA

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Laboratory: 1	Date Time: 4/17/15 15:40	Received By: 1 FedEx	Relinquished By: 2 FedEx	Date Time: 4/30/15 10:05	Received By: 2		
Relinquished by: 3 Gregg Marenkowski	Date Time: 4/28/15 2000	Received By: 3 GES Fridge	Relinquished By: 4	Date Time: 4-29-15 600	Received By: 4 FedEx		
Relinquished by: 5 FedEx	Date Time: 4/30/15 1005	Received By: 5 RP	Custody Seal #				

7734 8471 0373 seal # 991
7734 8610 8829 seal # 993
7734 8470 6186

7734 8470 1368

JB93613: Chain of Custody

Page 1 of 4

CHAIN OF CUSTODY

ACCUTEST LABORATORIES

Air Sampling Field Data Sheet

FED-EX Tracking #:
Bottle Order Control #: OA-4_10_2015-22
Lab Quote #:
Lab Job #: JB 93613

PAGE 2 OF 2

Client / Reporting Information

Company Name: Groundwater and Environmental Services
Address: 16 Mount Ebo Rd S.
City: Brewster State: NY Zip: 10509
Project Contact: Karen Bourque E-mail: Kbourque@gesonline.com
Phone #: 866-839-5195 Fax #: ex 3833
Sampler(s) Name(s): Gregg Marenkowski

Project Name: Urstadt - Orangetown Shopping Ctr.
Street: 1-450 Orangetown Shopping ctr.
City: Orangeburg State: NY
Project #:
Client Purchase Order #:

Weather Parameters

Temperature (Fahrenheit)
Start: 56° Maximum: 70°
Stop: 68° Minimum: 56°

Atmospheric Pressure (inches of Hg)
Start: 30in Maximum: 30in
Stop: 30in Minimum: 30in

Other weather comment:

Requested Analysis

Standard TO-15 Reporting List

Lab Sample #	Field ID / Point of Collection	Air Type: Indoor(I) Soil Vap(SV) Ambient(A)	Sampling Equipment Info: Canister Serial #	Canister Size 6L or 1L	Flow Controller Serial #	Start Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.	Stop Sampling Information: Date	Time (24hr clock)	Canister Pressure ("Hg)	Interior Temp (F)	Sampler Init.
10	Sparkle VP-6	SV	A1176	6L	FC630	4/28/15	1045	29	56	GM	4/28/15	1845	9	68	GM
11	Sparkle VP-6 Ambat	A	A1060	6L	FC417	4/28/15	1045	29.5	56	GM	"	1845	4.5	68	"
12	Sparkle VP-5	SV	A872	6L	FC622	4/28/15	1055	>30	56	GM	"	1855	9.5	68	"
13	Sparkle VP-5 Ambat	A	A208	6L	FC453	4/28/15	1056	28	56	GM	"	1856	7.5	68	"

Turnaround Time (Business days)

Standard - 15 Days
10 Day
5 Day
3 Day
2 Day
1 Day
Other

Approved By:
Date:

Data Deliverable Information

All NJDEP TO-15 is mandatory Full T1
Comm A
Comm B
Reduced T2
Full T1
Other:

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Laboratory: 1 Ray Mancuso	Date Time: 4/17/15 15:40	Received By: 1 FedEx	Relinquished By: 2 FedEx	Date Time:	Received By: 2
Relinquished by: 3 Gregg Marenkowski	Date Time: 4/28/15 2000	Received By: 3 GES Fridge	Relinquished By: 4	Date Time: 4-29-15 1400	Received By: 4 FedEx
Relinquished By: 5 FED EX	Date Time: 4-30-15 1005	Received By: 5	Custody Seal #		

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JB93613 **Client:** GES

Date / Time Received: 4/30/2015 10:05:00 AM **Project:** UASTADT-ORANGETOWN SHOPPING CENTER

No. Coolers: 0 **Airbill #'s:** 773484710373,773486108829,773484706186,7734 **Delivery Method:** FedEx

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:			

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☐		☑

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments 773484710373,773486108829,773484706186,773484697751,773484701368 FED-EX TRACKING #'S IF CUT OFF IN ABOVE FIELD.

1) -1 COC HAS SUMMA CANISTER # 8227, # ON CANISTER A227.

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, NJ 0
www/accutest.

JB93613: Chain of Custody
Page 3 of 4

Problem Resolution

Accutest Job Number: JB93613

CSR: _____ **Response Date:** 4/30/2015

Response: Proceed with analysis

JB93613: Chain of Custody
Page 4 of 4

Summa Canister and Flow Controller Log

Job Number: JB93613
Account: GESNYP Groundwater & Environmental Services
Project: Orangeburg UB, Orangeburg, NY
Received: 04/30/15

SUMMA CANISTERS

Shipping							Receiving						
Summa ID	L	Vac " Hg	Date Out	By	SCC Batch	SCC FileID	Sample Number	Date In	By	Vac " Hg	Pres psig	Final psig	Dil Fact
A227	6	29.4	04/17/15	RD	CP7676	5W10983.D	JB93613-1	04/30/15	RD	6.5			1
A235	6	29.4	04/17/15	RD	CP7676	5W10983.D	JB93613-2	04/30/15	RD	6.5			1
A444	6	29.4	04/17/15	RD	CP7664	3W46887.D	JB93613-3	04/30/15	RD	7			1
A1044	6	29.4	04/17/15	RD	CP7667	3W46882.D	JB93613-4	04/30/15	RD	0			1
A630	6	29.4	04/17/15	RD	CP7676	5W10983.D	JB93613-5	04/30/15	RD	15		1.1	2.16
A469	6	29.4	04/17/15	RD	CP7676	5W10983.D	JB93613-6	04/30/15	RD	4.5			1
A773	6	29.4	04/17/15	RD	CP7671	5W10849.D	JB93613-7	04/30/15	RD	7.5			1
A1198	6	29.4	04/17/15	RD	CP7663	5W10758.D	JB93613-8	04/30/15	RD	7			1
A1168	6	29.4	04/17/15	RD	CP7671	5W10849.D	JB93613-9	04/30/15	RD	6.5			1
A1176	6	29.4	04/17/15	RD	CP7676	5W10983.D	JB93613-10	04/30/15	RD	7			1
A1060	6	29.4	04/17/15	RD	CP7664	3W46887.D	JB93613-11	04/30/15	RD	4			1
A872	6	29.4	04/17/15	RD	CP7676	5W10983.D	JB93613-12	04/30/15	RD	7			1
A208	6	29.4	04/17/15	RD	CP7667	3W46882.D	JB93613-13	04/30/15	RD	7.5			1

FLOW CONTROLLERS / OTHER

Shipping					Receiving			
Flow Crtl ID	Date Out	By	cc/ min	Time hrs.	Date In	By	cc/ min	Equipment Type
FC099	04/17/15	RD	9.4	8	04/30/15	RD	9.4	Flow Controller
FC105	04/17/15	RD	9.4	8	04/30/15	RD	9.6	Flow Controller
FC112	04/17/15	RD	9.4	8	04/30/15	RD	9.5	Flow Controller
FC146	04/17/15	RD	9.4	8	04/30/15	RD	9.5	Flow Controller
FC417	04/17/15	RD	9.4	8	04/30/15	RD	9.5	Flow Controller
FC453	04/17/15	RD	9.4	8	04/30/15	RD	9.3	Flow Controller
FC478	04/17/15	RD	9.4	8	04/30/15	RD	9.4	Flow Controller
FC480	04/17/15	RD	9.4	8	04/30/15	RD	9.5	Flow Controller
FC481	04/17/15	RD	9.4	8	04/30/15	RD	9.4	Flow Controller
FC596	04/17/15	RD	9.4	8	04/30/15	RD	9.4	Flow Controller
FC622	04/17/15	RD	9.4	8	04/30/15	RD	9.5	Flow Controller
FC630	04/17/15	RD	9.4	8	04/30/15	RD	9.4	Flow Controller
FC712	04/17/15	RD	9.4	8	04/30/15	RD	9.4	Flow Controller

Accutest Bottle Order(s):
DA-4_10_2015-33

Prep Date	Room Temp(F)	Bar Pres "Hg
04/17/15	70	29.92

APPENDIX D

Data Usability Summary Report

Quality Assessment
Data Usability Summary Report

		RemVer Project #2014GE01 Client Project # 11022323-05-206	
Site:	Orangetown Shopping Center	**Site #:**	C344066
Client:	GES, Inc.	**Site Owner:**	UB Orangeburg, LLC (UBO)
Sample Delivery Group (SDG)	JB93613		
Sample Matrix:	☐ Drinking water ☐ Groundwater ☐ Surface water ☐ Soil ☐ Sediment ☒ Air ☐ Biota (tissue, type: _____) ☐ Other: _____		

Introduction

RemVer performed a data quality assessment (DQA) on the analytical data reported in Sample Delivery Groups (SDGs) #JB93613 for air samples. The DQA evaluated the performance of the analytical procedures and the quality of the resulting data. RemVer followed the requirements of the New York State Department of Environmental Conservation (NYSDEC) Data Usability Summary Report (DUSR) guidelines for an Analytical Services Protocol (ASP) Category B Data Deliverable. This report includes a narrative discussion of sample results qualified during the DQA. Table 1 describes qualification flags applied to the data either by Test America or during the DQA process.

Reported Methods

- ☐ Method 1311 TCLP
- ☐ Method 1312 SPLP
- ☐ Method 6010A, B & C / 6020 Trace Metals
- ☐ Method 7000 Metals
- ☐ Method 7196 Hexavalent Chromium (other:_____)
- ☐ Method 7470A or 7471 Mercury
- ☐ Method 8021 Volatile Organic Compounds (VOCs) GC
- ☐ Method 8081B Pesticides
- ☐ Method 8082 PCBs
- ☐ Method 8151 Chlorinated Herbicides
- ☐ Method 8260C VOCs GC/MS
- ☐ Method 8270D Semi-VOCs (sVOCs) GC/MS
- ☐ Method 9010/9012/9014 Cyanides (_____)
- ☐ Method TO-13A PAHs (air)
- ☒ Method TO-14A / -15 VOCs (air, summa) (_____)
- ☐ Method TO-17 VOCs (air, sorbent)
- ☐ Extractable Petroleum Hydrocarbons (EPH)
- ☐ Volatile Petroleum Hydrocarbons (VPH) Method
- ☐ EPH-total
- ☐ Other Methods:
  - Method 9060A Total Organic Carbon
  - Method MCAWW 300.0 Anions (IC)
  - Method RSK-175 Dissolved Gases
  - Method SM4500 Nitrite
  - Method 353 Nitrite & Nitrate

Quality Control Requirements Summary

- ☒ Duplicate (internal)
- ☐ Matrix Spike [MS] / Matrix Spike Duplicate [MSD]
- ☐ Trip Blank(s)
- ☐ Equipment, Method, &/or Rinsate Blank
- ☒ Other Field QC: Field notes regarding sampling
- ☐ Special QAPP Requirements: _____
  _____

Intended Use of Data under Review

The client collected air samples during a one-day collection event: April 28, 2015 at the referenced New York State Brownfields site. The site is under a Site Management Plan (SMP) that requires several kinds of monitoring. The sampling event provided gauging/biostimulant and quarterly groundwater monitoring (see §3.3 of Kleinfelder, 2011).

Significant Data Usability Issues Identified For SDG: #JB93613

Of the thirteen samples (six soil gas, six indoor ambient air, and one outdoor ambient) discussed herein, RemVer rejected no results, but flagged certain analytes as estimated due to the quality of the analysis and the results are acceptable for use. Some analytes had quality issues associated with results failing beyond the calibrated range requiring UJ/J flagging for certain analytes.

Please refer to the Lab Results and Data Usability Narrative section for further detail.

Detailed Quality Review

Field Notes Review

	Y	N	NA	COMMENTS
Sampling notes	☒	☐	☐	COC sheets only
Field meteorological data	☐	☐	☒	No review required under QAPP
Associated sampling location and plan included	☒	☐	☐	See RAP/QAPP
Associated drilling logs available, reviewed	☐	☐	☒	No review required under QAPP
Identification of QC samples in notes	☒	☐	☐	
Sampling instrument decontamination records	☐	☐	☒	No review required under QAPP
Sampling instrument calibration logs	☐	☐	☒	No review required under QAPP
Chain of custody included	☒	☐	☐	With analytical report
Notes include communication logs	☐	☒	☐	
Any corrective action (CA) reports	☐	☒	☐	If so, CA documentation of results required.
Any deviation from methods noted? If so, explain	☐	☒	☐	None
Any electronic data deliverables	☒	☐	☐	See Attachment #4
Sampling Report (by Field Team Leader)	☒	☐	☐	

Lab Report Contents (Test America SDG Report: #JB93613)

☒ SDG Narrative
☒ Contract Lab Sample Information Sheets
☒ Data Package Summary Forms
☒ Chain-of-Custody (COC) Forms
☒ Test Results (no tentatively identified compounds [TICs])
☒ Calibration standards
☒ Surrogate recoveries
☒ Blank results
☒ Spike recoveries
☒ Duplicate results
☒ Confirmation (lab check/QC) samples
☒ Internal standard area & retention time summary
☒ Chromatograms
☒ Raw data files
☒ Other specific information

The SDG reported on the following samples:

Sample ID	SDG #JB93613–Sample #	Matrix	Sampled	Received
Deli VP-1	#-1	SG	4/28/15	4/30/15
Deli VP-1 Ambient	#-2	IA	4/28/15	4/30/15
Deli SSD M-2	#-3	SG	4/28/15	4/30/15
Deli SSD M-2 Ambient	#-4	IA	4/28/15	4/30/15
China SSD M-5	#-5	SG	4/28/15	4/30/15
China SSD M-5 Ambient	#-6	IA	4/28/15	4/30/15
China VP-9	#-7	SG	4/28/15	4/30/15
China VP-9 Ambient	#-8	IA	4/28/15	4/30/15
Outside Ambient	#-9	OA	4/28/15	4/30/15
Sparkle VP-6	#-10	SG	4/28/15	4/30/15
Sparkle VP-6 Ambient	#-11	IA	4/28/15	4/30/15
Sparkle VP-5	#-12	SG	4/28/15	4/30/15
Sparkle VP-5 Ambient	#-13	IA	4/28/15	4/30/15

NOTES: SG = Soil Gas (Vapor) IA = Indoor Air OA = Outdoor Air

All samples associated with SDG #JB93613 were analyzed using USEPA Method TO-15.

Is the data package complete as defined under the requirements for the NYSDEC ASP Category B?		
Laboratory Report	Complete (Y/N)	Comments
JB93613	Y	Yes

Sample Preservation Requirements & Holding Times Met?			
Laboratory Report	Hold Times (Y/N)	Preservation (Y/N)	Exception Comment
JB93613	Y	Y	None

Do all QC data fall within the protocol required limits and specifications? *(1) blanks, (2) instrument tunings, (3) calibration standards, (4) calibration verifications, (5) surrogate recoveries, (6) spike recoveries, (7) replicate analyses, (8) laboratory controls, (9) and sample data*									
SDG	1	2	3	4	5	6	7	8	9
JB93613	☐	☐	☒	☐	☐	☐	☐	☐	☐
The narrative section, below, discusses these deficiencies in detail, see Attachment 2 as well.									

Have all of the data been generated using established and agreed upon analytical protocols?		
Laboratory Report	Protocols (Y/N)	Exception Comment
JB93613	Y	None

Do the raw data confirm the results provided in the data summary sheets and quality control verification forms?		
Laboratory Report	Confirmation (Y/N)	Exception Comment
JB93613	Y	None

Have the correct data qualifiers been used and are they consistent with the most current guidance?		
Laboratory Report	Qualifiers (Y/N)	Comment
JB93613	Y	The laboratory generally applied appropriate qualifiers. To prepare the DUSR, it was necessary to apply additional qualifications or adjust qualifications to certain results as shown in Attachments 3 and 4.

Have any quality control (QC) exceedances been specifically noted in this DUSR and the corresponding QC summary sheets from the data packages referenced?		
Laboratory Report	QC Exceedances Documented (Y/N)	Comment
JB93613	Y	Several data qualifications were applied as described below

Data Quality and Usability Narrative

Field Notes Inspection

The air samples came from a one-day collection event: April 28, 2015. There were no specific field notes beyond the COC.

Laboratory Report Inspection

The laboratory produced SDG report #JB93613 (dated 13 May 2015). The final reports contained the required data and information.

Chain of Custody (COC) Evaluation

GES produced one COC for the referenced fieldwork (#JB93613, single, two-page COC). The laboratory noted that COC listed Sample #-1 Summa Canister as #8227, whereas the Canister's actual identifying number was #A227. This has no impact to quality.

Sample Preservation & Holding Time Evaluation

Laboratory received the canister samples on 4/30/2015 @ 10:05 (designated as SDG-JB93613) in proper condition. All holding times and preservation requirements were met. There were no issues noted with the canisters nor the flow controllers.

Blank Evaluation

There were no associated blanks, other than the ambient indoor and outdoor air samples.

All laboratory method blanks performed within acceptable parameters.

Laboratory Control Samples (LCS)

The various LCS' were within the acceptable range for their particular analyses in SDG JB93613.

Surrogates

Surrogates added to a sample allow testing of preparatory and instrument behavior resulting in recoveries within appropriate method ranges for all analytes.

Site-Specific Matrix Spikes and Matrix Spike Duplicates

No matrix spike/matrix spike duplicate (MS/MSD) runs were required for the analyses per TO-15 Method.

Duplicates

The laboratory used internal duplicates for these VOC analytes; all duplicates met the RPD performance criteria of <20% (see below Attachment #2).

Tentatively Identified Compounds (TICs)

This SDG had no analysis of TICs.

Sample Result and Usability Evaluation

Due to certain sample issues or laboratory performance (result beyond calibration range), some results were qualified; however, the data are usable. No data received an R (rejected) flag. If an analyte was above the MDL but below the RL, then it was flagged as "UJ".

RemVer modified Test America's laboratory electronic data reports by adding quality flags, highlighted in yellow (see Attachment #4 [separate file]: Orangetown_2015Q2air_DUSR.xlsx [EXCEL file]).

References

Kleinfelder, 2011, *Site Management Plan, Orangetown Shopping Center, 1-45 Orangetown Shopping Center, Orangeburg, NY, NYSDEC Site #C344066*, Final, 21-November, 250p

NYSDEC, 2010, *Technical Guidance for Site Investigation and Remediation*, "DER-10," Division of Environmental Remediation: Albany, NY, May, 232p

NYSDEC, 2010, *Guidance for Data Deliverables and the Development of Data Usability Summary Reports*, Appendix 2B IN *Technical Guidance for Site Investigation and Remediation*, Division of Environmental Remediation: Albany, NY, May, 232p

USEPA, 2008, *Contract Laboratory Program National Functional Guidelines for Organic Data Review*, OSWER 9240.1-48, USEPA-540-R-08-01, Office of Superfund Remediation and Technology Innovation: Washington, DC, June, 225p

USEPA, 2010, *Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, OSWER 9240.1-51, USEPA-540-R-10-011, Office of Superfund Remediation and Technology Innovation: Washington, DC, January, 110p

USEPA, 2012, *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846*, Current Online Revision: http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm, accessed April 2012

Tables

1. Qualifier Flags

Attachments

1. Data Usability Reviewer Qualifications
2. DQA Detail Worksheet
3. DQA Non-Conformance Summary Workheet
4. Separate EXCEL File: Orangetown_2015Q2air_DUSR.xls [NOTE: RemVer modified the Test America work products by adding quality flags, which are in yellow highlight.]

Prepared by: Kurt A. Frantzen, PhD, CHMM
May 26, 2015

GES PO#543450

Table 1
Qualifier Flags

Qualifier	Quality Implication
U	Analyte analyzed for, but not detected above the sample's reported quantitation limit
J	Analyte positively identified at a numerical value that is the approximate concentration of the analyte in the sample
J +	Sample likely to have a high bias
J –	Sample likely to have a low bias
UJ	Analyte not detected above the sample quantitation limit; the associated quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample
N	The analysis indicates the present of an analyte for which there is presumptive evidence to make a "tentative identification."
NJ	The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
R	Sample result rejected due to serious deficiency in ability to analyze sample and meet quality control criteria; the presence or absence of the analyte cannot be confirmed. This qualifier also may apply when more than one sample result is generated for a target analyte (*i.e.*, dilutions or re-analyses), the most technically acceptable result is considered acceptable.
B | EB TB | BB	An analyte identified in method blank (B), aqueous equipment (EB), trip (TB), or bottle blanks (BB) used to assess field contamination associated with soil or sediment samples mandates these qualifiers for only soil and sediment sample results.
P	Use professional judgment based on data use. It usually has an "M" with it, which indicates that a manual check should be made if the data that are qualified with the "P" are important to the data user. In addition, "PM" also means a decision is necessary from the Project Manager (or a delegate) concerning the need for further review of the data (*see below*).
PM	A manual review of the raw data is recommended to determine if the defect affects data use, as in "R" above. This review should include consideration of potential affects that could result from using the "P" qualified data. For example, in the case of holding-time exceedance, the Project Manager or delegate can decide to use the data with no qualification when analytes of interest are known not to be adversely affected by holding-time exceedances. Another example is the case where soil sample duplicate analyses for metals exceed the precision criteria; because this is likely due to sample non-homogeneity rather than contract laboratory error, then the manager or delegate must decide how to use the data.

Attachment 1
Data Usability Reviewer: Kurt A. Frantzen, PhD, CHMM

Experience

2014-Present	AECC	Senior EHS Consultant
2013-Present	d/b/a RemVer	Owner
2011-2012	RemVer, Inc.	President
2006-2011	Kleinfelder	Senior Principal Scientist
2005	Kleinfelder	Principal Scientist, Part-Time/On Call
2004-2006	d/b/a Environmental Risk Group	Owner
2004-2006	RemVer, Inc., Larchmont, NY	Founder, President
1999-2004	VHB, Inc.	ERM Director & Associate
1997-1998	GEI Consultants, Inc.	Senior Project Manager
1992-1997	Ecology and Environment, Inc.	Technical Chief
1991-1992	EA Engineering, Science, & Technology, Inc.	Project Manager III
1990-1991	Ecology and Environment, Inc.	Technical Group Manager
1986-1990	Ecology and Environment, Inc.	Senior Environmental Scientist

Education

Am Cancer Soc. Post-Doctoral Fellow, U Washington 1985-1986

PhD—Life Sci. / Biochem, NU—Lincoln	1985
MS—Plant Pathology, Kansas State Univ.	1980
BS—Biology, NU—Omaha	1978

Registrations

Certified Hazardous Materials Manager, since 2007, #14143

Professional Affiliations

Society Risk Analysis ('09 & '11 Chair, Eco-Risk Assessment)
Am. Chemistry Society
Am. Assoc. Advance Science
NY Academy of Science
Am. Institute of Biological Sciences
LSP Association

Other

- CERCLA & RCRA experience, as well as DOD (Air Force & Army) & DOE (INEL)
- NE Regional Experience—NY BCP; Mass MCP; & various sites in CT, RI & NH
- National Experience: NE, SE, Gulf & West Coast, Mid-west, Inter-mountain, California, Alaska
- International: Germany, Israel, Kuwait, Australia
- Selected Publications
    - *Using Risk Appraisals to Manage Environmentally Impaired Properties*, 2000, VHB Site Works, Report 108
    - *Risk-Based Analysis for Environmental Managers*, 2001, CRC/Lewis
    - Chapter 7 Risk Assessment, *Managing Hazardous Materials*, 2002 & 2009, IHMM
    - Chapter 22 Cleanup Goals, *Brownfields Law & Practice*, 2004-Present, Lexis/Nexis
    - *Use of Risk Assessment in Risk Management of Contaminated Sites*, 2008, ITRC
- 60 Conference Papers & Invited Professional Presentations
    - 1999-2014, Visiting Lecturer, Brownfields Program, Harvard Graduate School of Design
    - 2010-2013, Invited Lecturer, Pace University Law School

Attachment 2
DQA Detail Worksheet

BLANKS	>RL?	Compounds	Notes
Method Blank: VOCs	No	—	No Comment
—	—	—	—

LCS	SV <10%	Low Bias > 10% & < LCL	High Bias >UCL	Compound(s)	Notes
VOCs	—	—	—	VOCs	No Comment
—	—	—	—	—	—

SURROGATES	SV <10%	Low Bias > 10% & < LCL	High Bias >UCL	Compound(s)	Notes
VOCs	—	—	—	—	No Comment
—	—	—	—	—	—

MS/MSDs	SV <10%	Low Bias > 10% & < LCL	High Bias >UCL	QC Source	RPDs	Notes
VOCs	—	—	—	—	—	No Comment, none required
—	—	—	—	—	—	—

FIELD DUPLICATES RPDs	QC Source	Soil RPD > 50%	Water RPD > 20%	Compounds	Notes
N/A	N/A	N/A	N/A	N/A	N/A
N/A		N/A	N/A	N/A	N/A
LAB DUPLICATES					
Batch V5W442 for #-2, #-4, #-6, & #-8	JB9359 0-1DUP	N/A	N/A	All TO-15 VOCs	No Comment
Batch V5W443 for #-1, #-3, #-5, #-7, #-9, #-10, #-11, #-12, & #-13	JB9361 3-3DUP	N/A	N/A	All TO-15 VOCs	No Comment

Reasonable Confidence Achieved	☐ Y	☐ N—Not Applicable
Significant QC Variances Noted	☒ Y	☐ N
Requested Reporting Limits Achieved	☒ Y	☐ N
Preservation Requirements Met	☒ Y	☐ N
Holding Time Requirements Met	☒ Y	☐ N

Abbreviations:
RL = Reporting Limit LCS = Laboratory Control Sample SV = Significant QC Variance
RPD = Relative Percent Difference LCL= RCP Lower Control Limit UCL= RCP Upper Control Limit
VOCs = Volatile Organic Compounds SVOCs = Semi-volatile Organic Compounds Pest = Pesticides
EPH = Extractable Petroleum Hydrocarbons VPH = Volatile Petroleum Hydrocarbons ETPH = EPH-Total
PCBs = Polychlorinated Biphenyls N/A = Not Applicable N/C = Not Collected -- = nothing to report
Notes: * Typical lab contaminants, not site-related

Attachment 3
DQA Non-Conformance Summary Worksheet

Only Flagged Results Shown Below

Sample Number(s)	Compound(s)	QC Non-Conformance	% Recovery	% RPD †	High or Low Bias ‡	Comments
#-1	Ethanol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-2	Ethanol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-3	Ethanol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-4	Ethanol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-5	Ethanol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-6	Isopropyl Alcohol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-7	All Other VOCs	—	—	—	—	No Flag
#-8	All Other VOCs	—	—	—	—	No Flag
#-9	All Other VOCs	—	—	—	—	No Flag
#-10	Ethanol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-11	All Other VOCs	—	—	—	—	No Flag
#-12	Ethanol	Beyond range	—	—	high	Flag J
	All Other VOCs	—	—	—	—	No Flag
#-13	All Other VOCs	—	—	—	—	No Flag

Notes: † RPD—Relative Percent Difference
‡ Bias High—Reported result may be lower, Reporting Limit (RL) is acceptable as reported. Bias Low—Reported results may be higher, RL may be higher than reported.

APPENDIX E

NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York

Table 3.2 General format of a decision matrix

	Indoor Air Concentration of Volatile Chemical (mcg/m^3)		
Sub-slab Vapor Concentration of Volatile Chemical (mcg/m^3)	Concentration Range 1	Concentration Range 2	Concentration Range 3
Concentration Range 1	ACTION	ACTION	ACTION
Concentration Range 2	ACTION	ACTION	ACTION
Concentration Range 3	ACTION	ACTION	ACTION

Indoor air and sub-slab vapor concentration ranges in a matrix are selected based on a number of considerations in addition to health risks. For example, factors that are considered when selecting the ranges include, but are not limited to, the following:

a. human health risks (i.e., cancer and non-cancer health effects) associated with exposure to the volatile chemical in air;
b. the NYSDOH's guidelines for volatile chemicals in air [Table 3.1];
c. background concentrations of volatile chemicals in air [Section 3.2.4];
d. analytical capabilities currently available; and
e. attenuation factors (i.e., the ratio of indoor air to sub-slab vapor concentrations).

3.4.2 Matrices

The NYSDOH has developed two matrices, which are included at the end of Section 3.4, to use as tools in making decisions when soil vapor may be entering buildings. The first decision matrix was originally developed for TCE and the second for PCE. As summarized in Table 3.3, four chemicals have been assigned to the two matrices to date.

Table 3.3 Volatile chemicals and their decision matrices

Chemical	**Soil Vapor/Indoor Air Matrix***
Carbon tetrachloride	Matrix 1
Tetrachloroethene (PCE)	Matrix 2
1,1,1-Trichloroethane (1,1,1-TCA)	Matrix 2
Trichloroethene (TCE)	Matrix 1

*The decision matrices are available at the end of Section 3.4.

Soil Vapor/Indoor Air Matrix 1

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	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	< 0.25	0.25 to < 1	1 to < 5.0	5.0 and above
< 5	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
5 to < 50	5. No further action	6. MONITOR	7. MONITOR	8. MITIGATE
50 to < 250	9. MONITOR	10. MONITOR / MITIGATE	11. MITIGATE	12. MITIGATE
250 and above	13. MITIGATE	14. MITIGATE	15. MITIGATE	16. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 1

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 0.25 microgram per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended for buildings with full slab foundations, and 1 microgram per cubic meter for buildings with less than a full slab foundation.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.

Soil Vapor/Indoor Air Matrix 2

October 2006

	INDOOR AIR CONCENTRATION of COMPOUND (mcg/m^3)			
SUB-SLAB VAPOR CONCENTRATION of COMPOUND (mcg/m^3)	< 3	3 to < 30	30 to < 100	100 and above
< 100	1. No further action	2. Take reasonable and practical actions to identify source(s) and reduce exposures	3. Take reasonable and practical actions to identify source(s) and reduce exposures	4. Take reasonable and practical actions to identify source(s) and reduce exposures
100 to < 1,000	5. MONITOR	6. MONITOR / MITIGATE	7. MITIGATE	8. MITIGATE
1,000 and above	9. MITIGATE	10. MITIGATE	11. MITIGATE	12. MITIGATE

No further action:
Given that the compound was not detected in the indoor air sample and that the concentration detected in the sub-slab vapor sample is not expected to significantly affect indoor air quality, no additional actions are needed to address human exposures.

Take reasonable and practical actions to identify source(s) and reduce exposures:
The concentration detected in the indoor air sample is likely due to indoor and/or outdoor sources rather than soil vapor intrusion given the concentration detected in the sub-slab vapor sample. Therefore, steps should be taken to identify potential source(s) and to reduce exposures accordingly (e.g., by keeping containers tightly capped or by storing volatile organic compound-containing products in places where people do not spend much time, such as a garage or outdoor shed). Resampling may be recommended to demonstrate the effectiveness of actions taken to reduce exposures.

MONITOR:
Monitoring, including sub-slab vapor, basement air, lowest occupied living space air, and outdoor air sampling, is needed to determine whether concentrations in the indoor air or sub-slab vapor have changed. Monitoring may also be needed to determine whether existing building conditions (e.g., positive pressure heating, ventilation and air-conditioning systems) are maintaining the desired mitigation endpoint and to determine whether changes are needed. The type and frequency of monitoring is determined on a site-specific and building-specific basis, taking into account applicable environmental data and building operating conditions. Monitoring is an interim measure required to evaluate exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MITIGATE:
Mitigation is needed to minimize current or potential exposures associated with soil vapor intrusion. The most common mitigation methods are sealing preferential pathways in conjunction with installing a sub-slab depressurization system, and changing the pressurization of the building in conjunction with monitoring. The type, or combination of types, of mitigation is determined on a building-specific basis, taking into account building construction and operating conditions. Mitigation is considered a temporary measure implemented to address exposures related to soil vapor intrusion until contaminated environmental media are remediated.

MONITOR / MITIGATE:
Monitoring or mitigation may be recommended after considering the magnitude of sub-slab vapor and indoor air concentrations along with building- and site-specific conditions.

See additional notes on page 2.

ADDITIONAL NOTES FOR MATRIX 2

This matrix summarizes the minimum actions recommended to address current and potential exposures related to soil vapor intrusion. To use the matrix appropriately as a tool in the decision-making process, the following should be noted:

[1] The matrix is generic. As such, it may be appropriate to modify a recommended action to accommodate building-specific conditions (e.g., dirt floor in basement, crawl spaces, etc.) and/or factors provided in Section 3.2 of the guidance (e.g., current land use, environmental conditions, etc.). For example, resampling may be recommended when the matrix indicates "no further action" for a particular building, but the results of adjacent buildings (especially sub-slab vapor results) indicate a need to take actions to address exposures related to soil vapor intrusion. Additionally, actions more protective of public health than those specified within the matrix may be proposed at any time. For example, the party implementing the actions may decide to install sub-slab depressurization systems on buildings where the matrix indicates "no further action" or "monitoring." Such an action is usually undertaken for reasons other than public health (e.g., seeking community acceptance, reducing excessive costs, etc.).

[2] Actions provided in the matrix are specific to addressing human exposures. Implementation of these actions does not preclude investigating possible sources of vapor contamination, nor does it preclude remediating contaminated soil vapors or the source of soil vapor contamination.

[3] Appropriate care should be taken during all aspects of sample collection to ensure that high quality data are obtained. Since the data are being used in the decision-making process, the laboratory analyzing the environmental samples must have current Environmental Laboratory Approval Program (ELAP) certification for the appropriate analyte and environmental matrix combinations. Furthermore, samples should be analyzed by methods that can achieve a minimum reporting limit of 3 micrograms per cubic meter for indoor and outdoor air samples. For sub-slab vapor samples, a minimum reporting limit of 5 micrograms per cubic meter is recommended.

[4] Sub-slab vapor and indoor air samples are typically collected when the likelihood of soil vapor intrusion to occur is considered to be the greatest (i.e., worst-case conditions). If samples are collected at other times (typically, samples collected outside of the heating season), then resampling during worst-case conditions may be appropriate to verify that actions taken to address exposures related to soil vapor intrusion are protective of human health.

[5] When current exposures are attributed to sources other than soil vapor intrusion, the agencies should be given documentation (e.g., applicable environmental data, completed indoor air sampling questionnaire, digital photographs, etc.) to support a proposed action other than that provided in the matrix box and to support agency assessment and follow-up.

[6] The party responsible for implementing the recommended actions will differ depending upon several factors, including the identified source of the volatile chemicals, the environmental remediation program, and site-specific and building-specific conditions. For example, to the extent that all site data and site conditions demonstrate that soil vapor intrusion is not occurring and that the potential for soil vapor intrusion to occur is not likely, the soil vapor intrusion investigation would be considered complete. In general, if indoor exposures represent a concern due to indoor sources, then the State will provide guidance to the property owner and/or tenant on ways to reduce their exposure. If indoor exposures represent a concern due to outdoor sources, then the NYSDEC will decide who is responsible for further investigation and any necessary remediation. Depending upon the outdoor source, this responsibility may or may not fall upon the party conducting the soil vapor intrusion investigation.