SANBORN HEAD ENGINEERING

Building Trust. Engineering Success.

SUBSLAB DEPRESSURIZATION SYSTEM START-UP AND PERFORMANCE TESTING REPORT

Former Building 982 – Neptune Road
Poughkeepsie, New York
NYSDEC Site No. 314076

IBM
Poughkeepsie, New York

Prepared for IBM Corporation
File No. 3623.00
February 2014

2455 South Road
Poughkeepsie, NY 12601

February 24, 2014

R. Scott Deyette
Chief, Inspection Unit
New York State Department of Environmental Conservation
Division of Environmental Remediation, Remedial Bureau C
625 Broadway
Albany, New York 12233

Re: Subslab Depressurization System
Start-Up and Performance Testing Report
Former IBM Leased Building 982 – Neptune Road
Poughkeepsie, New York
NYSDEC Site No. 314076

Dear Mr. Deyette:

The enclosed document presents the International Business Machines Corporation (IBM) start-up and performance testing report for the subslab depressurization system (SSDS) installed as part of redevelopment of the former IBM Building 982 located on Neptune Road, Poughkeepsie, New York (the Site). The SSDS was installed in accordance with IBM's design report dated September 24, 2013, which was requested by and submitted to the New York State Department of Environmental Conservation (NYSDEC) and New York State Department of Health (NYSDOH) (the Agencies).

If you wish to further discuss this document or have questions, please contact Mr. Steve Brannen of IBM at (845) 433-1509.

Sincerely,
International Business Machines Corporation

Michael Phelan, Manager
Environmental, Planning and Site Support Services

cc: T. Perretta, NYSDOH
D. Kaminski, Neptune Capital Investors, LLC

SANBORN HEAD ENGINEERING
Building Trust. Engineering Success.

SUBSLAB DEPRESSURIZATION SYSTEM
START-UP AND PERFORMANCE TESTING REPORT

Former Building 982 – Neptune Road
Poughkeepsie, New York

Prepared for
IBM Corporation

IBM
Poughkeepsie, New York

Prepared by
Sanborn, Head Engineering, P.C.

File 3623.00
February 2014

SUBSLAB DEPRESSURIZATION SYSTEM
START-UP AND PERFORMANCE TESTING REPORT
TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 BASELINE SAMPLING PROCEDURES AND RESULTS 2
- 2.1 Sampling and Analysis Procedures 2
- 2.2 Indoor and Outdoor Air Sampling Results 3
- 2.3 Subslab Vapor Sampling Results 4
- 2.4 QA/QC Evaluation 5

3.0 SSDS INSTALLATION AND PERFORMANCE 5
- 3.1 SSDS Installation Description 5
  - 3.1.1 SSDS Vapor Collection Network 6
  - 3.1.2 Blower System 6
  - 3.1.3 Moisture Separator and Vapor Treatment 6
  - 3.1.4 SSDS Alarm Notification 7
- 3.2 SSDS Start-up and Performance 7
  - 3.2.1 Subslab Differential Pressure Monitoring Results 7
  - 3.2.2 VOC Mass Capture and Treatment 8

4.0 CONCLUSIONS 8

TABLES

Table 1 Summary of Indoor and Ambient (Outdoor) Air Sample Data
Table 2 Summary of Subslab Vapor Sample Data
Table 3 Integrity Testing Results
Table 4 Summary of SSDS Treatment System Data

FIGURES

Figure 1 – Locus Plan
Figure 2 – Building Layout and Exploration Location Plan
Figure 3 – Indoor Air Sampling Results
Figure 4 – Total VOCs in Subslab Vapor
Figure 5 – SSDS Process Flow Diagram
Figure 6 – SSDS Vapor Collection System Layout
Figure 7 – Subslab Pressure Response to Vapor Extraction

APPENDICES

Appendix A Limitations
Appendix B Analytical Laboratory Reports
B.1 – Indoor Air Sample Data
B.2 – Subslab Vapor Sample Data
B.3 – SSDS Operation Treatment System Sample Data
Appendix C Data Validation Reports
C.1 – Indoor Air Sample Data
C.2 – Subslab Vapor Sample Data
Appendix D SSDS Record (As-Built) Drawings

1.0 INTRODUCTION

This report presents the results of start-up and performance testing associated with the subslab depressurization system (SSDS) installed as part of redevelopment of the former IBM Building 982 located on Neptune Road, Poughkeepsie, New York (the Site). A Locus Plan for the Site is provided as Figure 1. IBM elected to install the SSDS as a pro-active, pre-emptive measure to mitigate the potential for volatile organic compounds (VOCs) to enter the indoor air of the building from the subsurface. Although IBM is not the owner of the Site, IBM is conducting the remediation. The design and construction of the SSDS was performed in accordance with the Order on Consent, Index #A3-0655-12-10, issued by the New York State Department of Environmental Conservation (NYSDEC) on May 19, 2011.

The SSDS installation and start-up was completed in accordance with IBM's SSDS Work Plan[1] and SSDS Design Report[2] for these activities. The SSDS Work Plan was approved by the NYSDEC and New York State Department of Health (NYSDOH) (the Agencies) in a letter to IBM dated September 18, 2013. The final SSDS Work Plan dated September 26, 2013 incorporated the Agencies comments and approval letter.

A portion of the property is currently listed as a Class 4 site on the New York State Inactive Hazardous Waste Disposal Site Registry as Site #314076. The Site owner is currently refurbishing former Building 982 for commercial/recreational use. IBM understands the western half of the building will be occupied by an indoor trampoline recreational facility by the first quarter of 2014. The Site owner's interior layout for the western portion of the building is shown on Figure 2.

The SSDS Work Plan included a program of subslab vapor sampling and indoor air sampling, which was conducted during the week of September 2, 2013 prior to the installation of the SSDS. The results of these sampling activities are included in this report. Site background information is presented in the aforementioned work plans and previous Site reports, including the Site Management Plan (SMP)[3].

IBM commissioned Sanborn, Head Engineering, P.C. (SHPC) to design and install the SSDS and prepare this report. This work has been conducted in accordance with the NYSDEC document entitled "Technical Guidance for Site Investigation and Remediation" (DER-10) dated May 2010, and the NYSDOH document entitled "Guidance for Evaluating Soil Vapor Intrusion in the State of New York" dated October 2006.

---

1 *Subslab Depressurization System (SSDS) Design Work Plan, Former Building 982 – Neptune Road, Poughkeepsie, New York, NYSDEC Site No. 314076*, IBM Corporation and Sanborn, Head Engineering P.C., September 26, 2013.

2 *Subslab Depressurization System (SSDS) Design Report, Former Building 982 – Neptune Road, Poughkeepsie, New York, NYSDEC Site No. 314076*, IBM Corporation and Sanborn, Head Engineering P.C., September 24, 2013.

3 *Site Management Plan, Neptune Commerce Center, Former IBM Leased B952/982 Site, Dutchess, New York*, Groundwater Sciences Corporation and HDR, December 2011.

2.0 BASELINE SAMPLING PROCEDURES AND RESULTS

A program of field sampling and analysis was conducted in accordance with the SSDS Work Plan. Field sampling activities included 1) indoor and ambient (outdoor) air sampling and analysis, and 2) subslab soil vapor sampling and analysis. These samples were collected to evaluate "baseline" conditions prior to the refurbishment of the building and installation and start-up of the SSDS.

2.1 Sampling and Analysis Procedures

Eleven contemporaneous pairs of indoor air and subslab vapor samples were collected on September 6, 2013 at the locations shown on Figure 2. In addition, one ambient outdoor air sample was collected upwind on the same date outside the south end of the building. For quality assurance/quality control (QA/QC) purposes, one blind duplicate indoor air sample, one blind duplicate subslab vapor sample, and one field blank (consisting of a sample canister filled on-site with laboratory-grade nitrogen) were also collected for laboratory analysis.

The purpose of the samples was to obtain baseline data prior to renovation of the building and start-up of the SSDS. At the time sampling was performed in September 2013, the building was a vacant, empty shell (unoccupied since February 1994 when IBM ended its lease on the site), with no operational heating, ventilating, and air conditioning (HVAC) system. The indoor air and subslab vapor samples were collected under stagnant, closed-in building conditions. Broken windows were covered with plywood and other smaller wall openings to the outside were covered with plastic sheeting at least 24 hours prior to sample collection. Sampling under these conditions is generally more favorable for identifying vapor intrusion (i.e., more likely to reveal potential VOC presence from vapor entry) as compared to when the building is renovated and occupied, because an active HVAC system will introduce fresh air exchange with the outdoors, while also possibly generating indoor positive pressure that would counteract potential vapor intrusion.

The sample locations were selected to provide broad, representative coverage of the building. The indoor and outdoor samples were collected as 8-hour, time-integrated samples in accordance with the SSDS Work Plan, Appendix A.1. The subslab vapor samples were collected as 1-hour, time-integrated samples in accordance with the SSDS Work Plan, Appendix A.2. All samples were collected using individually certified-clean Summa® canisters and flow controllers. All samples were submitted to Alpha Analytical of Mansfield, Massachusetts, a laboratory certified by the NYSDOH Environmental Laboratory Approval Program (ELAP), for analysis of the target VOCs by USEPA Method TO-15 in selective ion monitoring (SIM) mode.

The target VOCs for laboratory analyses were identified in the SSDS Work Plan based on a review of historical groundwater and soil vapor data. This review resulted in a Site-specific list of 23 VOCs, shown below. Further discussion of the rationale for this list is provided in the SSDS Work Plan.

Target Analyte List
Indoor Air, Ambient Air, and Subslab Soil Vapor

1,1,1-Trichloroethane
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)
1,1-Dichloroethane (1,1-DCA)
1,1-Dichloroethylene (1,1-DCE)
1,2,4-Trimethylbenzene
2-Butanone (Methyl Ethyl Ketone [MEK])
4-Methyl-2-Pentanone (2-Pentanone; Methyl Isobutyl Ketone [MIBK])
Acetone
Carbon disulfide
Carbon tetrachloride
Chloroform
cis-1,2-Dichloroethylene (cis-1,2-DCE)
Dichlorodifluoromethane (DCDFM; Freon 12)
Ethylbenzene
Isopropanol
Propylene
Tetrachloroethylene (PCE)
Toluene
Trichloroethylene (TCE)
Trichlorofluoromethane (TCFM; Freon 11)
Vinyl Chloride
o-Xylene
m/p-Xylene

Integrity testing was conducted on a portion of the monitoring ports in accordance with the procedures described in the SSDS Work Plan, Appendix A.2, to demonstrate the soundness of subslab sampling/monitoring port construction. The results of the integrity tests indicated that the seal of the monitoring ports was adequate, and since all ports are constructed identically, all ports are expected to be sound. Measurements from the integrity testing are provided in Table 3.

2.2 Indoor and Outdoor Air Sampling Results

The indoor and ambient outdoor air sample results are presented in Table 1 and posted on Figure 3, and the analytical laboratory report is provided in Appendix B. The following observations are noted:

- None of the NYSDOH "decision matrix"[4] compounds were detected in indoor air, with the exception of carbon tetrachloride and tetrachloroethene (PCE). However, carbon tetrachloride was detected in the outdoor air sample at effectively the same insignificant concentration (0.396 µg/m^3) as the indoor air samples (0.346 to 0.384 µg/m^3), while PCE was only detected in the duplicate of sample IA-1015 at an insignificant concentration (0.183 µg/m^3).

[4] As discussed in the New York State Department of Health's, Guidance for Evaluating Soil Vapor Intrusion in the State of New York - Final, October 2006. Specific VOCs assigned to the decision matrices are listed in a June 25, 2007 letter from NYSDOH to NYSDEC and include the following 7 compounds: carbon tetrachloride, 1,1-dichlorethene, cis-1,2-dichloroethene, tetrachloroethene, 1,1,1-trichloroethane, trichloroethene, and vinyl chloride.

- All other VOCs that were detected in indoor air were at concentrations less than 1.8 µg/m^3, with the exception of acetone, which was detected at a range of 75.5 to 390 µg/m^3.

- The VOC concentrations in indoor air were generally similar to the VOC concentrations in the outdoor air, with the exception of acetone, which was significantly lower in the outdoor air sample. Further discussion of the indoor air acetone results in the context of the subslab vapor data is provided in Section 2.3, below.

In summary, the sample data indicate that indoor air within former IBM leased Building 982 has not been affected by vapor intrusion, even under conditions relatively favorable to VOC vapor entry and accumulation in the building (i.e., no active HVAC system generating fresh air exchange and possibly indoor positive pressure that would counteract potential vapor intrusion.).

2.3 Subslab Vapor Sampling Results

The subslab vapor sample results are presented in Table 2, and the sum of the VOCs detected in each sample are posted on Figure 4. The analytical laboratory report is provided in Appendix B. The following observations are noted:

- The VOCs detected in the subslab vapor, and their concentrations, are generally consistent with soil vapor data from the 2012 sampling event.[5]

- 1,1,1-Trichloroethane (1,1,1-TCA) was the predominant VOC detected in the subslab vapor samples at all but one location, with a maximum concentration of 3,020 µg/m^3 at location SSV-1017. However, since it was not detected in the indoor air samples, vapor intrusion of 1,1,1-TCA is not indicated.

- Where acetone was detected in subslab vapor samples, the concentrations were about a factor of ten less than the acetone concentrations in the indoor air samples, which indicates that the acetone presence in indoor air is not attributable to vapor intrusion.

In summary, while the subslab sampling results confirmed the presence of VOCs in soil vapor beneath the building, the concentrations are relatively low and insufficient to affect indoor air by vapor intrusion.

[5] Soil vapor data were collected by HDR of Pearl River, NY on December 14, 2012 and were reported in a May 13, 2013 letter from IBM to NYSDEC entitled "Building 952/982- Soil Vapor investigation Work Plan Analytical Laboratory Reports".

2.4 QA/QC Evaluation

The analytical data were provided to New Environmental Horizons, Inc. (NEH) of Arlington, Massachusetts for independent, third-party, data validation evaluation. NEH's data validation report is included as Appendix C.

NEH's evaluation included a review of sample data, including raw data, to verify that the laboratory conducted the analyses in compliance with the analytical methods required, and to verify consistency with the SSDS Work Plan QA/QC requirements. NEH's evaluation was conducted in accordance with USEPA and NYSDEC guidelines for data validation of organic data. NEH prepared a Data Usability Review Report that summarized the QC issues that required action (qualification of data) and compared QA/QC criteria to the data quality objectives described in the SSDS Work Plan.

As part of data validation, NEH identified the following minor QA/QC considerations:

- Dichlorodifluoromethane (Freon 12) results in two indoor air samples (IA1002 and IA1015 [and DUP1]) and two subslab vapor samples (SSV1002 and SSV1025 (and DUP1]) were qualified as estimated (i.e., "J" flagged) with an indeterminate bias due to a difference greater than 20% (the performance metric) between the primary sample and laboratory or field duplicate and primary sample.

- 1,2,4-trimethylbenze and ethylbenzene results in the ambient air, indoor air, and subslab samples were qualified as estimated (i.e., "EB" flagged) with a potential high bias due to detection of these analytes in the field blank sample.

In summary, NEH indicated these minor qualifications do not affect data usability; the data are usable in accordance with the project Data Quality Objectives (DQOs) specified in the Work Plan.

3.0 SSDS INSTALLATION AND PERFORMANCE

The SSDS was installed in the fall of 2013 in accordance with the SSDS Design Report and put into operation on December 13, 2013. The objective of the SSDS is to preemptively intercept and remove VOCs in the soil vapor beneath the floor slab to decrease the potential for VOC vapor entry into the building.

3.1 SSDS Installation Description

The SSDS consists of the vapor collection network and the vacuum blower and treatment system that are housed in a new mechanical room constructed on the north end of Building 982 (see Figure 2). Figure 5 shows a schematic/flow diagram of the system, and the SSDS record (as-built) drawings are provided in Appendix D. A summary of the system components is provided below.

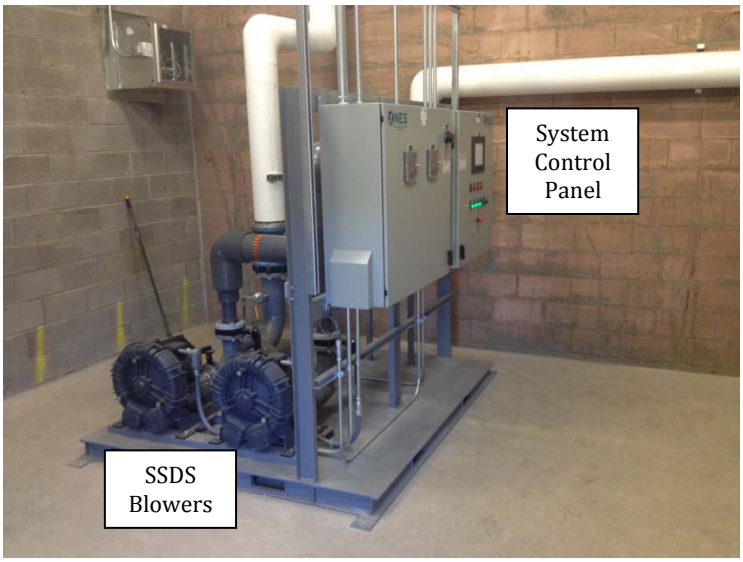
3.1.1 SSDS Vapor Collection Network

The SSDS vapor collection network is shown on Figure 6. It consists of 6 suction pits (SP-1 through SP-6) and 5 extraction ports (EP-1 through EP-5). The riser pipes for the SPs and EPs are located along the north-south centerline of the building. Each riser is equipped with a vacuum gauge, flow measurement port, and gate valve for adjustment of flow and vacuum. The risers are connected to a common, overhead, vacuum header pipe that conveys collected vapor to the SSDS mechanical room.

During start-up, it was found that the 6 SPs, in combination with only one of the five EPs (EP-5), were necessary to achieve appropriate subslab depressurization, as further described in Section 3.2. Therefore, as shown on Figure 6, four of the EPs are shut off (EP-1 through EP-4).

3.1.2 Blower System

Subslab vapor is withdrawn using a duplex vacuum blower system installed in the new SSDS mechanical room (see photo below). The blowers are each FPZ Model K08-MS regenerative-type blowers equipped with 10 horsepower motors and variable frequency drives (VFDs). The VFDs allow for more energy efficient adjustment of flow and vacuum to meet appropriate depressurization conditions.



SSDS Blowers and Control Panel

3.1.3 Moisture Separator and Vapor Treatment

As shown on the process schematic in Figure 5, the collected vapor first passes through a vapor-liquid separator to remove free moisture, and then through two granular activated carbon (GAC) vessels, connected in a lead-lag series configuration, to remove VOCs (see photo below).

Moisture Separator and GAC Treatment Vessels

Since the vacuum blowers are located downstream of the GAC vessels, the VOC-containing vapors and the GAC vessels are maintained under vacuum during operation, thereby preventing escape of untreated vapor during system operation. The treated vapor is discharged to atmosphere via a new exhaust stack.

3.1.4 SSDS Alarm Notification

The SSDS is designed for continuous, remote operation. It is equipped with several sensors and alarms (e.g., low vacuum, high vacuum, high temperature) that will automatically shut down the system and notify on-call personnel round-the-clock.

3.2 SSDS Start-up and Performance

The SSDS was started up during the week of December 9, 2013 and placed into continuous operation on December 13, 2013. This section summarizes the performance testing results.

3.2.1 Subslab Differential Pressure Monitoring Results

Figure 7 shows the differential pressure between the subslab and indoor air recorded at each subslab monitoring location after start-up. Figure 7 also shows the inferred extent and magnitude of depressurization as depicted by the differential pressure isopleths.

Figure 7 demonstrates that the SSDS has achieved subslab depressurization beneath the footprint of the entire building, with almost all differential pressure values at 0.02 inches of water column (in. wc) or greater. The USEPA's guidance considers this value or greater as indication that vapor extraction is effective; however, recent reports suggest that any measurable depressurization (i.e., 0.003 in. wc, or 1 Pascal, which is the approximate accuracy limit of most digital manometers) will be sufficient to intercept subslab vapor. Therefore, as long as the SSDS achieves a measureable vacuum relative to indoor air pressure, vapor intrusion to indoor air will be prevented.

Figure 7 also shows the applied vacuum and air flow from each suction pit/extraction port.

3.2.2 VOC Mass Capture and Treatment

To estimate the VOC mass captured by the SSDS and to monitor the performance of the GAC treatment system at start-up, vapor samples were collected from the inlet, midpoint, and discharge of the GAC vessels.

Table 4 presents the treatment system sample data. The combined VOC concentration in the recovered vapor was approximately 1,200 µg/m^3. Operating at a vapor extraction rate of approximately 400 standard cubic feet per minute (scfm), the VOC mass capture rate was about 0.002 lbs/hr. Thus, the VOC capture rate is far less than the 0.5 lbs/hr threshold that would require air pollution controls under NYSDEC Division of Environmental Remediation guidelines.[6]

IBM has elected to include air pollution controls at this time. The discharge sample data indicates that the treatment system is removing greater than 85% of the VOCs captured by the SSDS, and 100% of the chlorinated VOCs in the NYSDOH "decision matrix". IBM may elect to discontinue treatment in the future provided that the untreated emissions would be acceptable to NYSDEC.

4.0 CONCLUSIONS

The results of indoor air sampling prior to the installation of the SSDS indicate that indoor air has not been affected by vapor intrusion of VOCs present in subslab vapor beneath former IBM Building 982. Nonetheless, IBM elected to install and start up the SSDS as a pro-active, preemptive measure to prevent potential vapor intrusion. The SSDS is successfully meeting its design objective of achieving a vacuum field below the slab sufficient to prevent vapor intrusion.

IBM does not plan to conduct additional indoor air sampling at this time because: 1) The subslab vacuum field produced by the SSDS is sufficient to prevent vapor intrusion; 2) Previous indoor air sampling under conditions favorable to vapor intrusion did not indicate that indoor air was affected; and 3) As is common at commercial facilities, indoor air will likely be affected by recent and upcoming building renovations through the use and presence of VOCs in construction and building materials, such as paints, floor tile adhesives, carpet, fabrics, and other materials, such that VOCs may now be present in indoor air as a "background" condition. Following completion of building renovations, IBM may elect to perform indoor air sampling while the SSDS is shut off to assess the on-going need for operation of the SSDS.

IBM plans to update the Site Management Plan to include pertinent SSDS operations monitoring and reporting information consistent with the role of the SSDS. We recommend that the subslab vacuum and air flows from the system be monitored on an annual basis to

[6] NYSDEC, Division of Environmental Remediation, Internal memorandum from Dale Desnoyers, "Substantive Compliance with Air Requirements", February 28, 2003.

confirm appropriate operation. These parameters should also be monitored and adjusted as appropriate following significant modifications to the building slab, such as cutting, coring, grinding, smoothing, removal of crack sealants/caulk, removal of concrete, or any actions that could compromise the integrity of the slab and therefore influence the effectiveness of the SSDS.

In the future, IBM may elect to temporarily shut down the system and sample indoor air to evaluate if VOC levels are acceptable. If so, IBM will then assess, in consultation with the Agencies, if termination of SSDS operations is appropriate. IBM will inform the Agencies if it intends to conduct a temporary system shut-down for the purpose of evaluating the effects on indoor VOC levels and possible termination of SSDS operations.

S:\CONDATA\3600s\3623.00\Source Files\SSDS Startup & Performance Report\20140224_SSDS_StartupPerformance_Testing_Rpt.docx

TABLES

TABLE 1
Summary of Indoor and Ambient (Outdoor) Air Sample Data
SSDS Startup and Performance Testing Report
Former IBM Leased Building 982
Poughkeepsie, New York

Concentrations in µg/m³

Analyte	AA-1			IA-1002			IA-1003			IA-1005			IA-1012		
	AA1			IA1002			IA1003			IA1005			IA1012		
	09/06/13			09/06/13			09/06/13			09/06/13			09/06/13		
	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias
Acetone	6.79			148			147			161			75.5		
Butanone (2-) (MEK)	<1.47	U		<1.47	U		<1.47	U		<1.47	U		<1.47	U	
Carbon disulfide	0.791			<0.623	U		<0.623	U		<0.623	U		<0.623	U	
Carbon tetrachloride	0.396			0.365			0.371			0.359			0.365		
Chloroform (Trichloromethane)	0.122			0.400			0.171			0.171			0.190		
Dichlorodifluoromethane (CFC12)	1.60			1.26	J	I	1.76			1.65			1.69		
Dichloroethane (1,1-)	<0.081	U		<0.081	U		<0.081	U		<0.081	U		<0.081	U	
Dichloroethene (1,1-)	<0.079	U		<0.079	U		<0.079	U		<0.079	U		<0.079	U	
Dichloroethene (cis-1,2-)	<0.079	U		<0.079	U		<0.079	U		<0.079	U		<0.079	U	
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	0.552			0.537			0.544			0.544			0.552		
Ethylbenzene	0.096	EB	H	0.334	EB	H	0.334	EB	H	0.343	EB	H	0.334	EB	H
Isopropyl Alcohol (Isopropanol)	<1.23	U		<1.23	U		<1.23	U		<1.23	U		<1.23	U	
Methyl-2-pentanone (4-) (MIBK)	<2.05	U		<2.05	U		<2.05	U		<2.05	U		<2.05	U	
Propene	<0.861	U		<0.861	U		<0.861	U		<0.861	U		<0.861	U	
Tetrachloroethene (PCE)	<0.136	U		<0.136	U		<0.136	U		<0.136	U		<0.136	U	
Toluene	0.607			1.15			1.07			1.20			1.06		
Trichloroethane (1,1,1-)	<0.109	U		<0.109	U		<0.109	U		<0.109	U		<0.109	U	
Trichloroethene (TCE)	<0.107	U		<0.107	U		<0.107	U		<0.107	U		<0.107	U	
Trichlorofluoromethane	1.27			1.23			1.25			1.25			1.25		
Trimethylbenzene (1,2,4-)	0.133	EB	H	0.324	EB	H	0.324	EB	H	0.320	EB	H	0.315	EB	H
Vinyl chloride	<0.051	U		<0.051	U		<0.051	U		<0.051	U		<0.051	U	
Xylene (m,p-)	0.295			1.48			1.49			1.55			1.48		
Xylene (o-)	0.117			0.608			0.612			0.652			0.617		

Analyte	IA-1013			IA-1014			IA-1015			IA-1015		
	IA1013			IA1014			IA1015			DUP1		
	09/06/13			09/06/13			09/06/13			09/06/13		
	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias
Acetone	137			189			166			172		
Butanone (2-) (MEK)	<1.47	U		<1.47	U		<1.47	U		<1.47	U	
Carbon disulfide	<0.623	U		<0.623	U		<0.623	U		<0.623	U	
Carbon tetrachloride	0.346			0.365			0.384			0.352		
Chloroform (Trichloromethane)	0.181			0.176			0.190			0.244		
Dichlorodifluoromethane (CFC12)	1.14			1.27			1.47	J	I	1.19	J	I
Dichloroethane (1,1-)	<0.081	U		<0.081	U		<0.081	U		<0.081	U	
Dichloroethene (1,1-)	<0.079	U		<0.079	U		<0.079	U		<0.079	U	
Dichloroethene (cis-1,2-)	<0.079	U		<0.079	U		<0.079	U		<0.079	U	
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	0.544			0.544			0.544			0.552		
Ethylbenzene	0.317	EB	H	0.365	EB	H	0.326	EB	H	0.321	EB	H
Isopropyl Alcohol (Isopropanol)	<1.23	U		<1.23	U		<1.23	U		<1.23	U	
Methyl-2-pentanone (4-) (MIBK)	<2.05	U		<2.05	U		<2.05	U		<2.05	U	
Propene	<0.861	U		<0.861	U		<0.861	U		<0.861	U	
Tetrachloroethene (PCE)	<0.136	U		<0.136	U		<0.136	U		0.183		
Toluene	1.10			1.25			1.06			1.07		
Trichloroethane (1,1,1-)	<0.109	U		<0.109	U		<0.109	U		<0.109	U	
Trichloroethene (TCE)	<0.107	U		<0.107	U		<0.107	U		<0.107	U	
Trichlorofluoromethane	1.24			1.24			1.25			1.25		
Trimethylbenzene (1,2,4-)	0.305	EB	H	0.349	EB	H	0.334	EB	H	0.310	EB	H
Vinyl chloride	<0.051	U		<0.051	U		<0.051	U		<0.051	U	
Xylene (m,p-)	1.39			1.58			1.42			1.42		
Xylene (o-)	0.573			0.647			0.591			0.586		

Analyte	IA-1016			IA-1017			IA-1023			IA-1025		
	IA1016			IA1017			IA1023			IA1025		
	09/06/13			09/06/13			09/06/13			09/06/13		
	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias
Acetone	213			198			390			245		
Butanone (2-) (MEK)	<1.47	U		<1.47	U		<1.47	U		<1.47	U	
Carbon disulfide	<0.623	U		<0.623	U		<0.623	U		<0.623	U	
Carbon tetrachloride	0.346			0.352			0.352			0.352		
Chloroform (Trichloromethane)	0.166			0.166			0.171			0.166		
Dichlorodifluoromethane (CFC12)	1.25			1.42			1.22			1.32		
Dichloroethane (1,1-)	<0.081	U		<0.081	U		<0.081	U		<0.081	U	
Dichloroethene (1,1-)	<0.079	U		<0.079	U		<0.079	U		<0.079	U	
Dichloroethene (cis-1,2-)	<0.079	U		<0.079	U		<0.079	U		<0.079	U	
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	0.537			0.552			0.544			0.567		
Ethylbenzene	0.304	EB	H	0.339	EB	H	0.308	EB	H	0.321	EB	H
Isopropyl Alcohol (Isopropanol)	<1.23	U		<1.23	U		<1.23	U		<1.23	U	
Methyl-2-pentanone (4-) (MIBK)	<2.05	U		<2.05	U		<2.05	U		<2.05	U	
Propene	<0.861	U		<0.861	U		<0.861	U		<0.861	U	
Tetrachloroethene (PCE)	<0.136	U		<0.136	U		<0.136	U		<0.136	U	
Toluene	1.07			1.11			1.24			1.09		
Trichloroethane (1,1,1-)	<0.109	U		<0.109	U		<0.109	U		<0.109	U	
Trichloroethene (TCE)	<0.107	U		<0.107	U		<0.107	U		<0.107	U	
Trichlorofluoromethane	1.24			1.25			1.24			1.25		
Trimethylbenzene (1,2,4-)	0.320	EB	H	0.334	EB	H	0.344	EB	H	0.393	EB	H
Vinyl chloride	<0.051	U		<0.051	U		<0.051	U		<0.051	U	
Xylene (m,p-)	1.34			1.54			1.33			1.41		
Xylene (o-)	0.565			0.617			0.556			0.586		

Analyte	Concentrations in µg/m³ Indoor Air		
	Max	Min	Median
Acetone	390	75.5	169
Butanone (2-) (MEK)	<1.47	<1.47	ND
Carbon disulfide	<0.623	<0.623	ND
Carbon tetrachloride	0.384	0.346	0.356
Chloroform (Trichloromethane)	0.4	0.166	0.174
Dichlorodifluoromethane (CFC12)	1.76	1.14	1.30
Dichloroethane (1,1-)	<0.081	<0.081	ND
Dichloroethene (1,1-)	<0.079	<0.079	ND
Dichloroethene (cis-1,2-)	<0.079	<0.079	ND
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	0.567	0.537	0.544
Ethylbenzene	0.365	0.304	0.33
Isopropyl Alcohol (Isopropanol)	<1.23	<1.23	ND
Methyl-2-pentanone (4-) (MIBK)	<2.05	<2.05	ND
Propene	<0.861	<0.861	ND
Tetrachloroethene (PCE)	0.183	0.183	0.183
Toluene	1.25	1.06	1.10
Trichloroethane (1,1,1-)	<0.109	<0.109	ND
Trichloroethene (TCE)	<0.107	<0.107	ND
Trichlorofluoromethane	1.25	1.23	1.25
Trimethylbenzene (1,2,4-)	0.393	0.305	0.324
Vinyl chloride	<0.051	<0.051	ND
Xylene (m,p-)	1.58	1.33	1.45
Xylene (o-)	0.652	0.556	0.6

Notes:

1. Samples were collected by Sanborn Head personnel on the dates indicated using 2.7-liter Summa canisters equipped with 8-hour flow controllers. Location AA-1 is an outdoor ambient air sampling point. IA-series locations are indoor air sampling points.

2. Sample analysis was completed by Alpha Analytical of Mansfield, Massachusetts using United States Environmental Protection Agency (USEPA) Method TO-15 in Selective Ion Monitoring (SIM) mode.

3. "<" indicates the analyte was not detected at the reporting limit shown.

4. New Environmental Horizons, Inc. (NEH) performed an independent validation of the analytical data, which is provided in Appendix C. All results were considered acceptable, with the understanding of the potential uncertainty (bias) in the qualified results. In some cases, NEH assigned the following qualifiers and biases to the data:
   "EB" - The analyte was also present in the field equipment blank.
   "J" - The associated numerical value is an estimated quantity due to quality control criteria exceedance(s). The value is usable for project objectives with the documentation of the uncertainty, bias, and/or imprecision.
   "U" - The compound was analyzed for, but was not detected. The associated numerical value is the sample-specific reporting limit. The value is usable for project decisions as a non-detect result at the reporting limit.
   "H" - high bias.
   "I" - Indeterminate bias.

5. "Max" indicates the maximum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the maximum reporting limit value is presented.
   "Min" indicates the minimum detected concentration in the indoor air samples. For those analytes that were not detected in any of the samples, the minimum reporting limit value is presented. For those analytes that were detected, the reporting limit values were not considered when calculating the minimum values.
   "Median" indicates the median detected concentration in the indoor air samples.
   Max/Min/Median values are shown with up to three significant digits.
   "ND" indicates that the analyte was not detected above laboratory reporting limits in any of the indoor air samples.

TABLE 2
Summary of Subslab Vapor Sample Data
SSDS Startup and Performance Testing Report
Former IBM Leased Building 982
Poughkeepsie, New York

Concentrations in µg/m³

Analyte	Field Blank			SSV-1002			SSV-1003			SSV-1005		
	FB1			SSV1002			SSV1003			SSV1005		
	09/06/13			09/06/13			09/06/13			09/06/13		
	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias
Acetone	<13.1	U		33.7			20.3			<39.2	U	
Butanone (2-) (MEK)	<4.07	U		14.3			6.25			15.5		
Carbon disulfide	<1.71	U		2.59			<2.49	U		<5.14	U	
Carbon tetrachloride	<0.346	U		<0.506	U		0.705			<1.04	U	
Chloroform (Trichloromethane)	<0.269	U		22.3			16.7			12.9		
Dichlorodifluoromethane (CFC12)	<0.682	U		21.0	J	I	2.67			6.68		
Dichloroethane (1,1-)	<0.223	U		26.6			7.65			56.3		
Dichloroethene (1,1-)	<0.218	U		53.1			52.7			303		
Dichloroethene (cis-1,2-)	<0.218	U		21.6			0.476			0.916		
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	<1.06	U		17.6			11.0			63.2		
Ethylbenzene	0.452			0.873	EB	H	0.399	EB	H	0.969	EB	H
Isopropyl Alcohol (Isopropanol)	<3.39	U		<4.94	U		<4.92	U		<10.1	U	
Methyl-2-pentanone (4-) (MIBK)	<5.66	U		<8.24	U		<8.20	U		<16.9	U	
Propene	<2.38	U		<3.46	U		<3.44	U		<7.09	U	
Tetrachloroethene (PCE)	<0.373	U		4.75			135			3.69		
Toluene	<0.520	U		3.02			1.11			1.68		
Trichloroethane (1,1,1-)	<0.300	U		726			709			1,640		
Trichloroethene (TCE)	<0.296	U		378			7.04			65.0		
Trichlorofluoromethane	<0.776	U		3.71			7.14			3.99		
Trimethylbenzene (1,2,4-)	0.311			1.86	EB	H	0.531	EB	H	1.10	EB	H
Vinyl chloride	<0.141	U		<0.206	U		<0.204	U		<0.422	U	
Xylene (m,p-)	<0.478	U		4.82			1.01			4.60		
Xylene (o-)	<0.239	U		1.78			0.433			2.22		
Total VOCs	0.763			1,340			980			2,180		

Analyte	SSV-1012			SSV-1013			SSV-1014			SSV-1015		
	SSV1012			SSV1013			SSV1014			SSV1015		
	09/06/13			09/06/13			09/06/13			09/06/13		
	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias
Acetone	<58.7	U		<23.6	U		42.0			16.9		
Butanone (2-) (MEK)	<18.2	U		<7.31	U		16.0			6.49		
Carbon disulfide	<7.69	U		<3.09	U		7.22			2.45		
Carbon tetrachloride	<1.55	U		<0.625	U		<0.642	U		<0.300	U	
Chloroform (Trichloromethane)	21.1			13.4			29.4			5.42		
Dichlorodifluoromethane (CFC12)	33.0			6.18			6.58			12.5		
Dichloroethane (1,1-)	32.1			8.90			1.71			0.242		
Dichloroethene (1,1-)	294			1.55			0.829			0.208		
Dichloroethene (cis-1,2-)	<0.979	U		<0.394	U		<0.404	U		<0.189	U	
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	61.1			5.75			45.4			18.2		
Ethylbenzene	3.33	EB	H	0.691	EB	H	3.85	EB	H	5.39	EB	H
Isopropyl Alcohol (Isopropanol)	<15.2	U		<6.10	U		<6.27	U		<2.93	U	
Methyl-2-pentanone (4-) (MIBK)	<25.3	U		<10.2	U		<10.5	U		<4.88	U	
Propene	<10.6	U		<4.27	U		<4.39	U		<2.05	U	
Tetrachloroethene (PCE)	7.32			1.52			14.5			6.59		
Toluene	2.94			<0.935	U		3.09			7.20		
Trichloroethane (1,1,1-)	2,750			1,280			1,080			414		
Trichloroethene (TCE)	1.40			2.64			<0.548	U		<0.256	U	
Trichlorofluoromethane	6.52			9.05			6.69			5.03		
Trimethylbenzene (1,2,4-)	1.34	EB	H	<0.488	U		1.10	EB	H	2.12	EB	H
Vinyl chloride	<0.631	U		<0.254	U		<0.261	U		<0.122	U	
Xylene (m,p-)	13.4			3.47			15.3			5.39		
Xylene (o-)	4.43			1.60			6.30			2.65		
Total VOCs	3,230			1,330			1,280			511		

Analyte	SSV-1016			SSV-1017			SSV-1023			SSV-1025			SSV-1025		
	SSV1016			SSV1017			SSV1023			SSV1025			DUP1		
	09/06/13			09/06/13			09/06/13			09/06/13			09/06/13		
	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias	Result	Qual	Bias
Acetone	75.8			<58.2	U		<19.4	U		45.8			53.4		
Butanone (2-) (MEK)	22.0			<18.0	U		6.75			15.4			17.5		
Carbon disulfide	4.83			<7.63	U		<2.55	U		4.73			4.92		
Carbon tetrachloride	<0.969	U		<1.54	U		0.566			<0.288	U		<0.310	U	
Chloroform (Trichloromethane)	5.71			37.2			10.1			15.0			18.1		
Dichlorodifluoromethane (CFC12)	8.06			7.81			3.97			2.98	J	I	4.05	J	I
Dichloroethane (1,1-)	9.71			15.5			7.45			0.287			0.329		
Dichloroethene (1,1-)	19.3			351			20.3			<0.182	U		<0.195	U	
Dichloroethene (cis-1,2-)	<0.611	U		<0.971	U		0.324			<0.182	U		<0.195	U	
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	5.91			62.2			2.10			4.27			4.54		
Ethylbenzene	0.669	EB	H	<1.06	U		1.05	EB	H	46.9	EB	H	55.2	EB	H
Isopropyl Alcohol (Isopropanol)	<9.46	U		<15.0	U		<5.01	U		<2.83	U		<3.02	U	
Methyl-2-pentanone (4-) (MIBK)	<15.8	U		<25.1	U		<8.36	U		<4.71	U		<5.04	U	
Propene	<6.63	U		<10.5	U		<3.51	U		2.48			3.18		
Tetrachloroethene (PCE)	5.07			1.91			1.58			6.98			8.27		
Toluene	4.37			<2.31	U		1.42			9.72			11.1		
Trichloroethane (1,1,1-)	1,520			3,020			769			13.6			15.4		
Trichloroethene (TCE)	1.28			<1.32	U		0.790			0.666			0.758		
Trichlorofluoromethane	6.57			8.32			12.0			1.78			2.04		
Trimethylbenzene (1,2,4-)	0.983	EB	H	<1.20	U		0.624	EB	H	1.77	EB	H	2.11	EB	H
Vinyl chloride	<0.394	U		<0.626	U		<0.209	U		<0.117	U		<0.126	U	
Xylene (m,p-)	1.77			<2.12	U		4.39			229			269		
Xylene (o-)	0.838			<1.06	U		1.83			74.3			86.9		
Total VOCs	1,690			3,500			844			476			557		

Analyte	Concentrations in µg/m³ Subslab Vapor		
	Max	Min	Median
Acetone	75.8	16.9	42
Butanone (2-) (MEK)	22	6.25	15.4
Carbon disulfide	7.22	2.45	4.78
Carbon tetrachloride	0.705	0.566	0.636
Chloroform (Trichloromethane)	37.2	5.42	15.9
Dichlorodifluoromethane (CFC12)	33	2.67	6.63
Dichloroethane (1,1-)	56.3	0.242	8.28
Dichloroethene (1,1-)	351	0.208	36.5
Dichloroethene (cis-1,2-)	21.6	0.324	0.696
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	63.2	2.1	14.3
Ethylbenzene	55.2	0.399	1.05
Isopropyl Alcohol (Isopropanol)	<15.2	<2.83	ND
Methyl-2-pentanone (4-) (MIBK)	<25.3	<4.71	ND
Propene	3.18	2.48	2.83
Tetrachloroethene (PCE)	135	1.52	5.83
Toluene	11.1	1.11	3.06
Trichloroethane (1,1,1-)	3020	13.6	925
Trichloroethene (TCE)	378	0.666	1.4
Trichlorofluoromethane	12	1.78	6.55
Trimethylbenzene (1,2,4-)	2.12	0.531	1.22
Vinyl chloride	<0.631	<0.117	ND
Xylene (m,p-)	269	1.01	4.82
Xylene (o-)	86.9	0.433	2.22
Total VOCs	3,500	476	1,305

Notes:

1. Samples were collected by Sanborn Head personnel on the dates indicated using 1-liter Summa canisters equipped with 1-hour flow controllers. SSV-series locations are subslab vapor sampling points.

2. Sample analysis was completed by Alpha Analytical of Mansfield, Massachusetts using United States Environmental Protection Agency (USEPA) Method TO-15 in Selective Ion Monitoring (SIM) mode.

3. "<" indicates the analyte was not detected at the reporting limit shown.
"Total VOCs" indicates the sum of detected concentrations.

4. New Environmental Horizons, Inc. (NEH) performed an independent validation of the analytical data, which is provided in Appendix C. All results were considered acceptable, with the understanding of the potential uncertainty (bias) in the qualified results. In some cases, NEH assigned the following qualifiers and biases to the data:
"EB" - The analyte was also present in the field equipment blank.
"J" - The associated numerical value is an estimated quantity due to quality control criteria exceedance(s). The value is usable for project objectives with the documentation of the uncertainty, bias, and/or imprecision.
"U" - The compound was analyzed for, but was not detected. The associated numerical value is the sample-specific reporting limit. The value is usable for project decisions as a non-detect result at the reporting limit.
"H" - high bias.
"I" - Indeterminate bias.

5. "Max" indicates the maximum detected concentration in the subslab vapor samples. For those analytes that were not detected in any of the samples, the maximum reporting limit value is presented.
"Min" indicates the minimum detected concentration in the subslab vapor samples. For those analytes that were not detected in any of the samples, the minimum reporting limit value is presented. For those analytes that were detected, the reporting limit values were not considered when calculating the minimum values.
"Median" indicates the median detected concentration in the subslab vapor samples.
Max/Min/Median and Total VOC values are shown with up to three significant digits.
"ND" indicates that the analyte was not detected above laboratory reporting limits in any of the subslab vapor samples.

TABLE 3
Soil Vapor Implant Integrity Testing Summary
SSDS Startup and Performance Testing Report
Former IBM Leased Building 982
Poughkeepsie, New York

Location	SSV-1002	SSV-1003	SSV-1005	SSV-1012	SSV-1013	SSV-1014	SSV-1015	SSV-1016	SSV-1017	SSV-1023	SSV-1025
Applied Vacuum (in H_2O)	0.035	0.050	0.040	0.17	0.17	0.50	0.090	0.030	0.25	0.16	0.25
Pressure Differential (in H_2O) Prior to Integrity Testing	0.018	0.010	0.007	0.010	0.016	-0.003	-0.005	0.050	0	0.010	0
Time to fill 1 liter bag (min)	7	7	6	10.3	7.8	8	9.5	6.5	7	8	11
Approx. Flow Rate (L/min)	0.14	0.14	0.17	0.10	0.13	0.13	0.11	0.15	0.14	0.13	0.09
UHP Helium Tracer Gas Applied?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tracer Gas Concentration (ppmv)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
O_2 (%)	18.1	18.6	19.3	18.4	17.3	19.2	16.5	16.9	16.7	17.9	20.6
CH_4 (%)	0.0	0.1	0.1	0.1	0.1	0.7	2.2	0.1	0.6	0.1	0.0
CO_2 (%)	1.1	0.6	0.9	0.7	1.1	0.1	0.1	1.6	0.1	0.9	0.0
PID (ppmv)	2.2	4.8	1.5	2.0	1.5	1.8	1.0	1.1	1.6	0.5	1.9
FID (ppmv)	3.2	2.0	0.4	4.0	1.6	ND	3.3	5.0	ND	ND	ND
Date of Test	09/11/2013	09/11/2013	09/11/2013	09/11/2013	09/11/2013	09/12/2013	09/12/2013	09/11/2013	09/12/2013	09/11/2013	09/12/2013
Time of Test	14:47	18:10	18:50	19:30	20:00	8:32	8:55	18:33	8:06	21:02	7:34

Notes:

1. Meters used:
PID: ppbRAE (11.7 eV lamp)
FID: MicroFID
O2/CH4/CO2 Meter: CES Landtec GEM 2000
Helium Meter: Dielectric MGD-2002

2. "ND" indicates the instrument reading was 0.
"NR" indicates not recorded.
"ppmv" indicates parts per million by volume.

TABLE 4
Summary of SSDS Treatment System Data
SSDS Startup and Performance Testing Report
Former IBM Leased Building 982
Poughkeepsie, New York

Analyte	SSDS-I		SSDS-M		SSDS-E	
	12/13/13		12/13/13		12/13/13	
	ppbv	µg/m³	ppbv	µg/m³	ppbv	µg/m³
Acetone	157	373	13.0	30.9	15.8	37.5
Butanone (2-) (MEK)	18.2	53.7	8.94	26.4	7.10	20.9
Carbon disulfide	<0.506	<1.58	<0.506	<1.58	<0.545	<1.70
Carbon tetrachloride	0.063	0.398	<0.051	<0.318	<0.055	<0.343
Chloroform (Trichloromethane)	0.486	2.37	<0.051	<0.247	<0.055	<0.266
Dichlorodifluoromethane (CFC12)	1.09	5.39	0.192	0.949	0.169	0.836
Dichloroethane (1,1-)	0.989	4.00	<0.051	<0.205	<0.055	<0.221
Dichloroethene (1,1-)	6.88	27.3	0.147	0.583	<0.055	<0.216
Dichloroethene (cis-1,2-)	1.07	4.24	<0.051	<0.201	<0.055	<0.216
Ethane, 1,1,2-trichloro-1,2,2-trifluoro- (CFC113)	1.93	14.8	<0.126	<0.966	<0.136	<1.04
Ethylbenzene	16.9	73.4	4.01	17.4	3.75	16.3
Isopropyl Alcohol (Isopropanol)	2.79	6.86	<1.26	<3.10	1.47	3.61
Methyl-2-pentanone (4-) (MIBK)	<1.26	<5.16	<1.26	<5.16	<1.36	<5.57
Propene	1.93	3.32	2.44	4.20	<1.36	<2.34
Tetrachloroethene (PCE)	0.260	1.76	<0.051	<0.343	<0.055	<0.370
Toluene	22.5	84.8	2.91	11.0	3.07	11.6
Trichloroethane (1,1,1-)	20.1	110	0.390	2.13	<0.055	<0.297
Trichloroethene (TCE)	11.7	62.9	0.240	1.29	<0.055	<0.293
Trichlorofluoromethane	0.486	2.73	<0.126	<0.708	<0.136	<0.764
Trimethylbenzene (1,2,4-)	3.12	15.3	0.792	3.89	0.722	3.55
Vinyl chloride	<0.051	<0.129	<0.051	<0.129	<0.055	<0.139
Xylene (m,p-)	67.3	292	17.1	74.3	15.9	69.1
Xylene (o-)	16.0	69.5	3.65	15.9	3.30	14.3
Total VOCs	351	1,210	53.8	189	51.3	178

Notes:

1. Samples were collected by Sanborn Head personnel as grab samples on the dates indicated using 1-liter Summa canisters. SSDS-I indicates influent sampling location. SSDS-M indicates midpoint sampling location. SSDS-E indicates effluent sampling location.

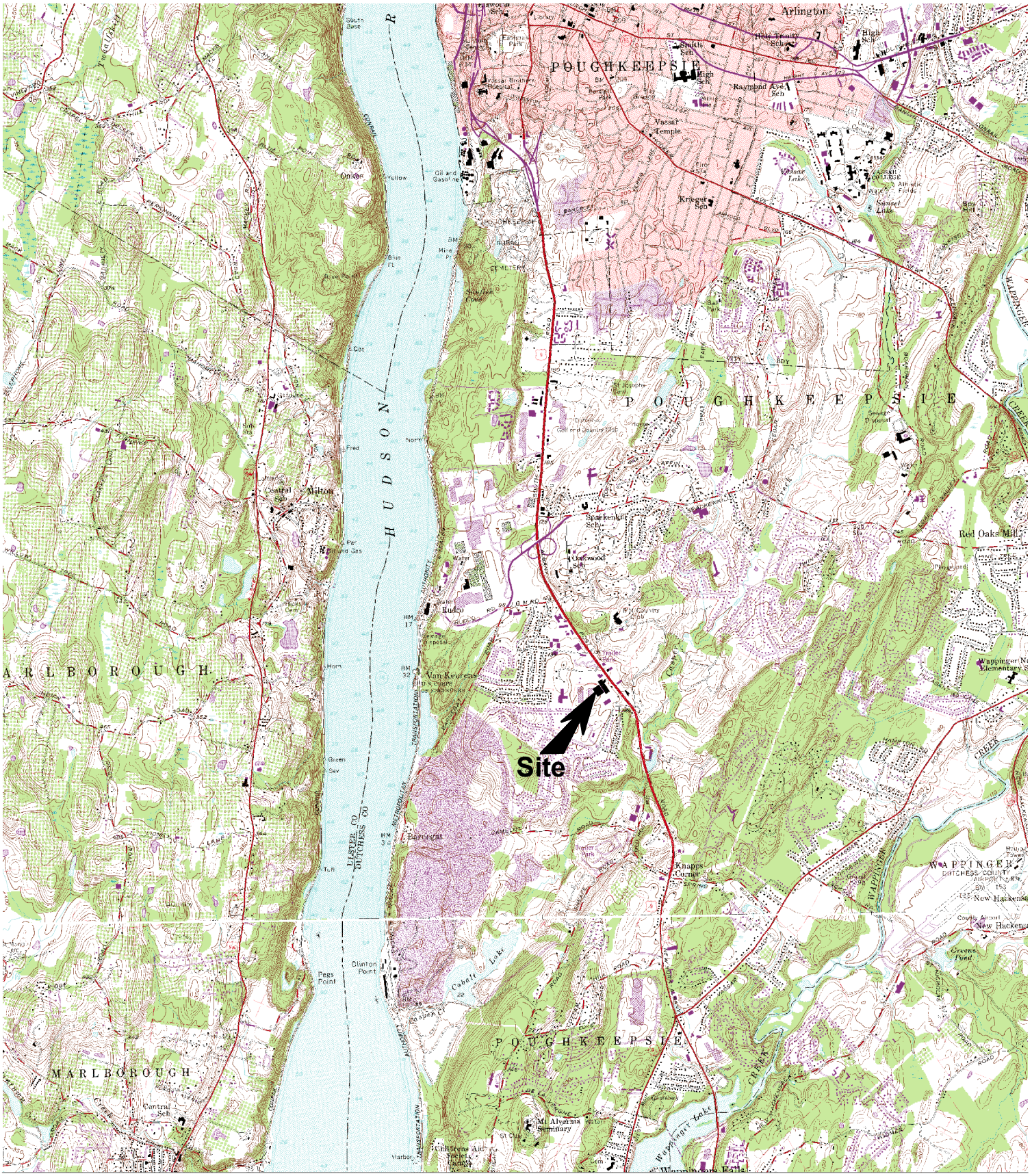
2. Sample analysis was completed by Alpha Analytical of Mansfield, Massachusetts using United States Environmental Protection Agency (USEPA) Method TO-15 in Selective Ion Monitoring (SIM) mode.

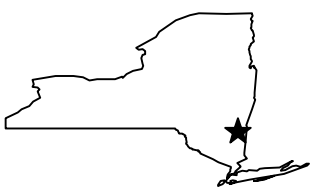
3. "<" indicates the analyte was not detected at the reporting limit shown.
"Total VOCs" indicates the sum of detected concentrations (values shown with up to three significant digits).

FIGURES

File:\\conserv1\datashare\DATA\CONDATA\3600s\3623.00\Graphics Files\CAD\SSDS Startup_Performance\Locus.dwg Plot Date: 12-20-13

©2013 SANBORN, HEAD ENGINEERING, P.C.





Note
Base map taken from 15 minute USGS Quadrangle Map: Poughkeepsie, N.Y., dated 1957 (Photorevised 1982)

Drawn By: E. Wright
Designed By: T. White
Reviewed By: B. Green
Project No: 3623.00
Date: January 2014

SCALE: 1:24,000

SANBORN | HEAD ENGINEERING

Figure 1

Locus Plan

SSDS Startup and Performance Testing Report

Former Building 982 - Neptune Road

Poughkeepsie, New York

©2014 SANBORN, HEAD ENGINEERING, P.C.

Figure 2

Building Layout and Exploration Location Plan

SSDS Startup and Performance Testing Report

Former Building 982 - Neptune Road
Poughkeepsie, New York

Drawn By: E. Wright
Designed By: T. White
Reviewed By: B. Green/ D. Shea
Project No: 3623.00
Date: January 2014

Figure Narrative

This figure shows the layout of former building 982 with the proposed floor plan for the property owner's redevelopment of the western portion of the building. In addition, exploration locations used as part of investigation activities are depicted.

Notes

1. The exploration locations were surveyed by Berger Engineering and Land Surveying, PLLC.

2. Proposed building layout details were provided by the site owner (Neptune Capital Investors, LLC).

Legend

- EP-01 ● Extraction port location
- SSV-1001 ⊕ Subslab monitoring location
- SSV-1002 ⊕ Subslab vapor sampling location
- IA-1016 ▼ Indoor air monitoring location
- AA-1 ▲ Ambient (outdoor) air sampling location

SANBORN HEAD ENGINEERING

File:\\conserv1\data\share\DATA\CONDATA\3600s\3623.00\Graphics Files\CAD\SSDS Startup_Performance\Building_Layout\Features.dwg Plot Date: 1-2-14

©2014 SANBORN, HEAD ENGINEERING, P.C.

Analyte	IA-1002
Acetone	148
CFC11 (TCFM)	1.23
CFC12 (DCDFM)	1.26
CFC113	0.537
Chloroform	0.400
CTET	0.365
Ethylbenzene	0.334
m,p-Xylene	1.48
o-Xylene	0.608
Toluene	1.15
1,2,4-TMB	0.324

IA-1002

Analyte	IA-1003
Acetone	147
CFC11 (TCFM)	1.25
CFC12 (DCDFM)	1.76
CFC113	0.544
Chloroform	0.171
CTET	0.371
Ethylbenzene	0.334
m,p-Xylene	1.49
o-Xylene	0.612
Toluene	1.07
1,2,4-TMB	0.324

IA-1003

Analyte	IA-1005
Acetone	161
CFC11 (TCFM)	1.25
CFC12 (DCDFM)	1.65
CFC113	0.544
Chloroform	0.171
CTET	0.359
Ethylbenzene	0.343
m,p-Xylene	1.55
o-Xylene	0.652
Toluene	1.20
1,2,4-TMB	0.320

IA-1005

Analyte	IA-1012
Acetone	75.5
CFC11 (TCFM)	1.25
CFC12 (DCDFM)	1.69
CFC113	0.552
Chloroform	0.190
CTET	0.365
Ethylbenzene	0.334
m,p-Xylene	1.48
o-Xylene	0.617
Toluene	1.06
1,2,4-TMB	0.315

IA-1012

Analyte	IA-1013
Acetone	137
CFC11 (TCFM)	1.24
CFC12 (DCDFM)	1.14
CFC113	0.544
Chloroform	0.181
CTET	0.346
Ethylbenzene	0.317
m,p-Xylene	1.39
o-Xylene	0.573
Toluene	1.10
1,2,4-TMB	0.305

IA-1013

Analyte	AA-1
Acetone	6.79
CDS	0.791
CFC11 (TCFM)	1.27
CFC12 (DCDFM)	1.60
CFC113	0.552
Chloroform	0.122
CTET	0.396
Ethylbenzene	0.096
m,p-Xylene	0.295
o-Xylene	0.117
Toluene	0.607
1,2,4-TMB	0.133

AA-1

Analyte	IA-1014
Acetone	189
CFC11 (TCFM)	1.24
CFC12 (DCDFM)	1.27
CFC113	0.544
Chloroform	0.176
CTET	0.365
Ethylbenzene	0.365
m,p-Xylene	1.58
o-Xylene	0.647
Toluene	1.25
1,2,4-TMB	0.349

IA-1014

Analyte	IA-1015	Duplicate
Acetone	166	172
CFC11 (TCFM)	1.25	1.25
CFC12 (DCDFM)	1.47	1.19
CFC113	0.544	0.552
Chloroform	0.190	0.244
CTET	0.384	0.352
Ethylbenzene	0.326	0.321
m,p-Xylene	1.42	1.42
o-Xylene	0.591	0.586
PCE	<0.136	0.183
Toluene	1.06	1.07
1,2,4-TMB	0.334	0.310

IA-1015

Analyte	IA-1016
Acetone	213
CFC11 (TCFM)	1.24
CFC12 (DCDFM)	1.25
CFC113	0.537
Chloroform	0.166
CTET	0.346
Ethylbenzene	0.304
m,p-Xylene	1.34
o-Xylene	0.565
Toluene	1.07
1,2,4-TMB	0.320

IA-1016

Analyte	IA-1017
Acetone	198
CFC11 (TCFM)	1.25
CFC12 (DCDFM)	1.42
CFC113	0.552
Chloroform	0.166
CTET	0.352
Ethylbenzene	0.339
m,p-Xylene	1.54
o-Xylene	0.617
Toluene	1.11
1,2,4-TMB	0.334

IA-1017

Analyte	IA-1025
Acetone	245
CFC11 (TCFM)	1.25
CFC12 (DCDFM)	1.32
CFC113	0.567
Chloroform	0.166
CTET	0.352
Ethylbenzene	0.321
m,p-Xylene	1.41
o-Xylene	0.586
Toluene	1.09
1,2,4-TMB	0.393

IA-1025

Analyte	IA-1023
Acetone	390
CFC11 (TCFM)	1.24
CFC12 (DCDFM)	1.22
CFC113	0.544
Chloroform	0.171
CTET	0.352
Ethylbenzene	0.308
m,p-Xylene	1.33
o-Xylene	0.556
Toluene	1.24
1,2,4-TMB	0.344

IA-1023

Figure 3

Indoor Air Sampling Results

SSDS Startup and Performance Testing Report

Former Building 982 - Neptune Road
Poughkeepsie, New York

Drawn By: E. Wright
Designed By: T. White
Reviewed By: B. Green/ D. Shea
Project No: 3623.00
Date: January 2014

Figure Narrative

This figure shows the results of indoor air sampling conducted on September 6, 2013. The samples were collected as 8-hour time weighted average samples using Summa canisters. The results for detected volatile organic compounds (VOCs) are shown in units of micrograms per cubic meter ($\mu g/m^3$).

Legend

IA-1016 ▼ Indoor air monitoring location

AA-1 ▲ Ambient (outdoor) air sampling location

All results are shown in micrograms per cubic meter ($\mu g/m^3$)

Abbreviations

CDS	Carbon Disulfide
CTET	Carbon Tetrachloride
CFC11 (TCFM)	Trichlorofluoromethane
CFC12 (DCDFM)	Dichlorodifluoromethane
CFC113	1,1,2-trichloro-1,2,2-trifluoro-ethane
1,2,4-TMB	1,2,4-Trimethylbenzene

Feet
10' 5' 0 10' 20'

SANBORN HEAD ENGINEERING

File:\\corserv1\data\share\DATA\CONDATA\3600s\3623.00\Graphics Files\CAD\SSDS Startup_PerformanceBuding_LayoutFeatures.dwg Plot Date: 1-2-14

©2014 SANBORN, HEAD ENGINEERING, P.C.

Figure 4

Total VOCs in Subslab Vapor

SSDS Startup and Performance Testing Report

Former Building 982 - Neptune Road
Poughkeepsie, New York

Drawn By: E. Wright
Designed By: T. White
Reviewed By: B. Green/ D. Shea
Project No: 3623.00
Date: January 2014

Figure Narrative

This figure shows the results of subslab vapor sampling conducted in September 2013. The posted concentrations represent the sum of the detected VOCs at each sample location in units of micrograms per cubic meter (µg/m^3). Inferred concentration gradients below the slab are also shown.

Legend

SSV-1001 — Subslab monitoring location

SSV-1002 — Subslab vapor sampling location

1700 — Total VOC concentration (µg/m^3)

- <500
- 500-1,000
- 1,000-2,000
- 2,000-3,000
- >3,000

Refer to Table 2 of the report for the individual VOC concentrations at each location

Feet: 10' 5' 0 10' 20'

SANBORN HEAD ENGINEERING

File:\\corsen\1\data\share\DATA\CONDAT\A3600s\3623.00\Graphics Files\CAD\SSDS Startup_Performance\Building_Layout\Features.dwg Plot Date: 1-2-14

©2014 SANBORN, HEAD ENGINEERING, P.C.

Figure 5

SSDS Process Flow Diagram

SSDS Startup and Performance Testing Report

Former Building 982 - Neptune Road
Poughkeepsie, New York

Drawn By: R. Hirtle
Designed By: S. Soos
Reviewed By: D. Shea
Project No: 3623.00
Date: January 2014

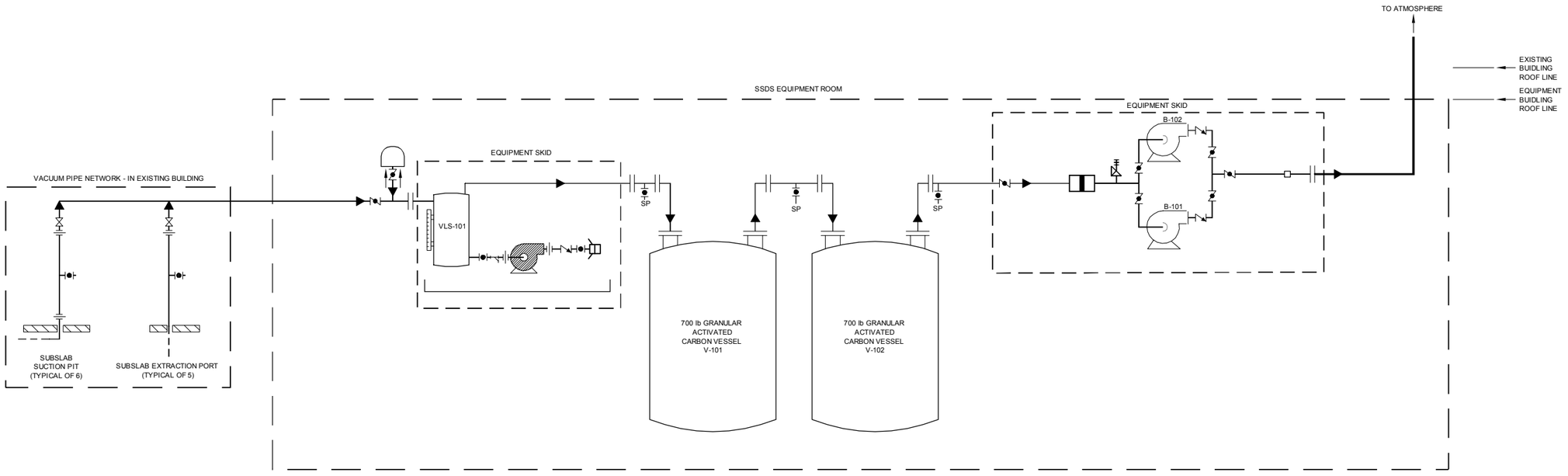


Figure Narrative

This figure is for general information only. Refer to other drawings for all required components.

Legend

- Ball Valve
- Check Valve or Damper
- Gate Valve
- Vacuum Relief Valve
- y-strainer
- Butterfly Valve
- Union
- SP — Sample Port
- Flange
- Cam Lock Quick Connect
- Rigid Conveyance Pipe
- Rigid Conveyance Pipe with insulation and Insulation Jacket
- Secondary Containment
- Regenerative Blower (B-101)
- Centrifugal Pump (P-101)
- In-line Particulate Filter
- Air Inlet Filter
- VLS — Vapor Liquid Separator

Not To Scale

SANBORN HEAD ENGINEERING

File:\\corsen-1\data\shared\DATA\CONDAT\A0600s\3623.00\Graphics Files\CAD\SSDS Startup_Performance\Building_Layout\Features.dwg Plot Date: 1-2-14

©2014 SANBORN, HEAD ENGINEERING, P.C.

Figure 6

SSDS Vapor Collection System Layout

SSDS Startup and Performance Testing Report

Former Building 982 - Neptune Road
Poughkeepsie, New York

Drawn By: E. Wright
Designed By: B. Green
Reviewed By: D. Shea
Project No: 3623.00
Date: January 2014

Figure Narrative

This figure shows the subslab vapor collection system layout.

Legend

- EP-05 ● Extraction port connected to SSDS vacuum piping
- SP-01 ● Suction pit riser connected to SSDS vacuum piping
- EP-03 ● Extraction port not in use
- Subslab vapor collection sump with conveyance piping trench

Subslab Depressurization System Equipment Room

SP-01 SP-02 SP-03 SP-04 SP-05 SP-06

EP-01 EP-02 EP-03 EP-04 EP-05

Feet 10' 5' 0 10' 20'

SANBORN HEAD ENGINEERING

File:\\consrv1\data\share\DATACON\DATA\3600s\3623.00\Graphics Files\CAD\SSDS Startup_Performance\Building_Layout\features.dwg Plot Date: 1-2-14

©2014 SANBORN, HEAD ENGINEERING, P.C.

Figure 7

Subslab Pressure Response to Vapor Extraction

SSDS Startup and Performance Testing Report

Former Building 982 - Neptune Road
Poughkeepsie, New York

Drawn By: E. Wright
Designed By: B. Green/ D. Shea
Reviewed By: D. Shea
Project No: 3623.00
Date: January 2014

Figure Narrative

This figure shows the subslab pressure response generated during operation of the subslab depressurization system (SSDS) on December 13, 2013 with six suction pits (SP-01 through SP-06) and one extraction port (EP-05). Subslab pressure was monitored using a digital manometer referenced to indoor air. Negative values indicate subslab pressure less than indoor pressure.

Legend

- EP-05 / SP-01 — Extraction port/Suction pit connected to SSDS vacuum piping
- EP-03 — Extraction port not in use
- SSV-1001 — Subslab monitoring location
- SSV-1002 — Subslab vapor sampling location
- -6.9 — Differential pressure (in. wc)

SP-01	Suction pit/Extraction port
40 in. wc	Vacuum (at suction pit/port)
71 scfm	Flow rate (std. cu. ft. per min.)
56 F	Temperature (°F)
46 % RH	Relative Humidity

-0.1 — Differential pressure isopleth/contour (in. wc)

Feet: 10' 5' 0 10' 20'

SANBORN HEAD ENGINEERING

File:\\corserv1\data\shared\DATA\CONDATA\3600s\3623.00\Graphics Files\CAD\SSDS Startup_Performance\Building_LayoutFeatures.dwg Plot Date: 1-2-14

APPENDIX A

LIMITATIONS

APPENDIX A
SHPC LIMITATIONS

1. The findings and conclusions described in this report are based in part on the data obtained from a finite number of samples from widely spaced locations. The figures are intended to depict inferred conditions during a given period of time, consistent with available information. The actual conditions will vary from that shown, both spatially and temporally. Other interpretations are possible. The nature and extent of variations between sampling locations may not become evident until further investigation is initiated. If variations or other latent conditions then appear evident, it may be necessary to re-evaluate the conclusions of this report.

2. The conclusions contained in this report are based in part upon various types of chemical data as well as historical and hydrogeologic information developed by previous investigators. While SHPC has reviewed information compiled by others and available to us at the time this report was prepared, any of SHPC's interpretations and conclusions that have relied on that information will be contingent on its validity. SHPC has not performed an independent assessment of the reliability of the data compiled by others. Should additional chemical data, historical information, or hydrogeologic information become available in the future, such information should be reviewed by SHPC and the interpretations and conclusions presented herein may be modified accordingly.

3. Sampling and quantitative laboratory testing was performed by others as part of the investigation as noted within the report. Where such analyses have been conducted by an outside laboratory, unless otherwise stated in the report, SHPC has relied upon the data provided, and has not conducted an independent evaluation of the reliability of these data. It must be noted that additional compounds not searched for during the current study may be present in vapor and indoor air at the site. Moreover, it should be noted that variations in the types and concentrations of contaminants and variations in their distribution within the vapor and indoor air may occur due to the passage of time, seasonal water table fluctuations, recharge events, and other factors.

4. This report has been prepared for the exclusive use of the IBM Corporation for specific application to the Former IBM Leased Building 982, located on Neptune Road in Poughkeepsie, New York in accordance with generally accepted hydrogeologic and engineering practices. No warranty, expressed or implied, is made. The contents of this report should not be relied on by any other party without the express written consent of SHPC.

5. In preparing this report, SHPC has endeavored to conform to generally accepted practices of other consultants undertaking similar studies at the same time and in the same geographical area. SHPC has attempted to observe a degree of care and skill generally exercised by the technical community under similar circumstances and conditions.

APPENDIX B

ANALYTICAL LABORATORY REPORTS

APPENDIX B.1

Indoor Air Sample Data

ANALYTICAL REPORT

Lab Number:	L1317525
Client:	Sanborn, Head & Associates, Inc. 20 Foundry Street Concord, NH 03301
ATTN:	Timothy White
Phone:	(603) 415-6139
Project Name:	FORMER BUILDING 982
Project Number:	3623.00
Report Date:	10/01/13

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317525
Report Date: 10/01/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1317525-01	IA1002	POUGHKEEPSIE, NY	09/06/13 13:32
L1317525-02	IA1003	POUGHKEEPSIE, NY	09/06/13 13:34
L1317525-03	IA1005	POUGHKEEPSIE, NY	09/06/13 13:37
L1317525-04	IA1012	POUGHKEEPSIE, NY	09/06/13 12:50
L1317525-05	IA1013	POUGHKEEPSIE, NY	09/06/13 13:47
L1317525-06	IA1014	POUGHKEEPSIE, NY	09/06/13 13:39
L1317525-07	IA1015	POUGHKEEPSIE, NY	09/06/13 13:40
L1317525-08	IA1016	POUGHKEEPSIE, NY	09/06/13 14:00
L1317525-09	IA1017	POUGHKEEPSIE, NY	09/06/13 13:45
L1317525-10	IA1023	POUGHKEEPSIE, NY	09/06/13 13:41
L1317525-11	IA1025	POUGHKEEPSIE, NY	09/06/13 13:42
L1317525-12	DUP1	POUGHKEEPSIE, NY	09/06/13 13:40
L1317525-13	AA1	POUGHKEEPSIE, NY	09/06/13 13:53
L1317525-14	UNUSED CAN 381	POUGHKEEPSIE, NY	09/06/13 13:53

Project Name: FORMER BUILDING 982 **Lab Number:** L1317525
Project Number: 3623.00 **Report Date:** 10/01/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317525
Project Number:	3623.00	**Report Date:**	10/01/13

Case Narrative (continued)

REISSUE

Report Submission

This report replaces the report previously issued on September 18, 2013. At the request of the client this report has been reissued. There are no changes to the data in this report. However the root cause of the issue that previously affected L1317522-02 and L1317943-10 has been corrected so it cannot happen again.

REISSUE

Report Submission

This report replaces the report previously issued on September 13, 2013. At the request of the client this report has been revised to change the sample IDs for the canisters returned without samples to UNUSED CANISTER ###.

Volatile Organics in Air

Canisters were released from the laboratory on September 5, 2013. The canister certification results are provided as an addendum.

WG635055-6: The relative percent difference for Dichlorodifluoromethane (26%) is above the RPD limit of 25%. This compound represented less than 10% of the compounds detected, therefore no further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 10/01/13

AIR

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-01
Client ID: IA1002
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 17:07
Analyst: RY

Date Collected: 09/06/13 13:32
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.255	0.050	--	1.26	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	62.2	2.00	--	148	4.75	--		1
Trichlorofluoromethane	0.219	0.050	--	1.23	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.070	0.050	--	0.537	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.082	0.020	--	0.400	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.058	0.020	--	0.365	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.305	0.050	--	1.15	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.077	0.020	--	0.334	0.087	--		1
p/m-Xylene	0.340	0.040	--	1.48	0.174	--		1
o-Xylene	0.140	0.020	--	0.608	0.087	--		1
1,2,4-Trimethylbenzene	0.066	0.020	--	0.324	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-01
Client ID: IA1002
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 13:32
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-01 Date Collected: 09/06/13 13:32

Client ID: IA1002 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	88		70-130
Toluene-d8	102		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	97		60-140
chlorobenzene-d5	97		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-02
Client ID: IA1003
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 18:11
Analyst: RY

Date Collected: 09/06/13 13:34
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.356	0.050	--	1.76	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	61.8	2.00	--	147	4.75	--		1
Trichlorofluoromethane	0.222	0.050	--	1.25	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.071	0.050	--	0.544	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.035	0.020	--	0.171	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.059	0.020	--	0.371	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.285	0.050	--	1.07	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.077	0.020	--	0.334	0.087	--		1
p/m-Xylene	0.342	0.040	--	1.49	0.174	--		1
o-Xylene	0.141	0.020	--	0.612	0.087	--		1
1,2,4-Trimethylbenzene	0.066	0.020	--	0.324	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-02
Client ID: IA1003
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 13:34
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-02 Date Collected: 09/06/13 13:34

Client ID: IA1003 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	102		70-130
Toluene-d8	104		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	96		60-140
chlorobenzene-d5	94		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-03
Client ID: IA1005
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 18:42
Analyst: RY

Date Collected: 09/06/13 13:37
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.334	0.050	--	1.65	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	67.7	2.00	--	161	4.75	--		1
Trichlorofluoromethane	0.222	0.050	--	1.25	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.071	0.050	--	0.544	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.035	0.020	--	0.171	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.057	0.020	--	0.359	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.318	0.050	--	1.20	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.079	0.020	--	0.343	0.087	--		1
p/m-Xylene	0.357	0.040	--	1.55	0.174	--		1
o-Xylene	0.150	0.020	--	0.652	0.087	--		1
1,2,4-Trimethylbenzene	0.065	0.020	--	0.320	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-03
Client ID: IA1005
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 13:37
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-03 Date Collected: 09/06/13 13:37

Client ID: IA1005 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	102		70-130
Toluene-d8	103		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	95		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-04
Client ID: IA1012
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 19:14
Analyst: RY

Date Collected: 09/06/13 12:50
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.342	0.050	--	1.69	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	31.8	2.00	--	75.5	4.75	--		1
Trichlorofluoromethane	0.222	0.050	--	1.25	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.072	0.050	--	0.552	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.039	0.020	--	0.190	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.058	0.020	--	0.365	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.282	0.050	--	1.06	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.077	0.020	--	0.334	0.087	--		1
p/m-Xylene	0.341	0.040	--	1.48	0.174	--		1
o-Xylene	0.142	0.020	--	0.617	0.087	--		1
1,2,4-Trimethylbenzene	0.064	0.020	--	0.315	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-04
Client ID: IA1012
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 12:50
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 **Lab Number:** L1317525

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-04 Date Collected: 09/06/13 12:50

Client ID: IA1012 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	87		70-130
Bromofluorobenzene	103		70-130
Toluene-d8	104		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	96		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-05
Client ID: IA1013
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 19:46
Analyst: RY

Date Collected: 09/06/13 13:47
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.231	0.050	--	1.14	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	57.7	2.00	--	137	4.75	--		1
Trichlorofluoromethane	0.220	0.050	--	1.24	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.071	0.050	--	0.544	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.037	0.020	--	0.181	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.055	0.020	--	0.346	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.291	0.050	--	1.10	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.073	0.020	--	0.317	0.087	--		1
p/m-Xylene	0.320	0.040	--	1.39	0.174	--		1
o-Xylene	0.132	0.020	--	0.573	0.087	--		1
1,2,4-Trimethylbenzene	0.062	0.020	--	0.305	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-05
Client ID: IA1013
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 13:47
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-05 Date Collected: 09/06/13 13:47

Client ID: IA1013 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	85		70-130
Bromofluorobenzene	101		70-130
Toluene-d8	103		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	97		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	94		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-06
Client ID: IA1014
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 20:18
Analyst: RY

Date Collected: 09/06/13 13:39
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.256	0.050	--	1.27	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	79.4	2.00	--	189	4.75	--		1
Trichlorofluoromethane	0.221	0.050	--	1.24	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.071	0.050	--	0.544	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.036	0.020	--	0.176	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.058	0.020	--	0.365	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.333	0.050	--	1.25	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.084	0.020	--	0.365	0.087	--		1
p/m-Xylene	0.363	0.040	--	1.58	0.174	--		1
o-Xylene	0.149	0.020	--	0.647	0.087	--		1
1,2,4-Trimethylbenzene	0.071	0.020	--	0.349	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-06
Client ID: IA1014
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 13:39
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-06 Date Collected: 09/06/13 13:39

Client ID: IA1014 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	101		70-130
Toluene-d8	103		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	94		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-07
Client ID: IA1015
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 20:50
Analyst: RY

Date Collected: 09/06/13 13:40
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.297	0.050	--	1.47	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	69.8	2.00	--	166	4.75	--		1
Trichlorofluoromethane	0.222	0.050	--	1.25	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.071	0.050	--	0.544	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.039	0.020	--	0.190	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.061	0.020	--	0.384	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.280	0.050	--	1.06	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.075	0.020	--	0.326	0.087	--		1
p/m-Xylene	0.327	0.040	--	1.42	0.174	--		1
o-Xylene	0.136	0.020	--	0.591	0.087	--		1
1,2,4-Trimethylbenzene	0.068	0.020	--	0.334	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-07
Client ID: IA1015
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 13:40
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-07 Date Collected: 09/06/13 13:40

Client ID: IA1015 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	85		70-130
Bromofluorobenzene	100		70-130
Toluene-d8	102		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	94		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-08
Client ID: IA1016
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 21:22
Analyst: RY

Date Collected: 09/06/13 14:00
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.253	0.050	--	1.25	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	89.6	2.00	--	213	4.75	--		1
Trichlorofluoromethane	0.220	0.050	--	1.24	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.070	0.050	--	0.537	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.034	0.020	--	0.166	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.055	0.020	--	0.346	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.283	0.050	--	1.07	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.070	0.020	--	0.304	0.087	--		1
p/m-Xylene	0.308	0.040	--	1.34	0.174	--		1
o-Xylene	0.130	0.020	--	0.565	0.087	--		1
1,2,4-Trimethylbenzene	0.065	0.020	--	0.320	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-08
Client ID: IA1016
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 14:00
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-08 Date Collected: 09/06/13 14:00

Client ID: IA1016 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	100		70-130
Toluene-d8	102		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	94		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-09
Client ID: IA1017
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 21:53
Analyst: RY

Date Collected: 09/06/13 13:45
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.288	0.050	--	1.42	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	83.5	2.00	--	198	4.75	--		1
Trichlorofluoromethane	0.222	0.050	--	1.25	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.072	0.050	--	0.552	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.034	0.020	--	0.166	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.056	0.020	--	0.352	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.295	0.050	--	1.11	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.078	0.020	--	0.339	0.087	--		1
p/m-Xylene	0.354	0.040	--	1.54	0.174	--		1
o-Xylene	0.142	0.020	--	0.617	0.087	--		1
1,2,4-Trimethylbenzene	0.068	0.020	--	0.334	0.098	--		1

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-09 Date Collected: 09/06/13 13:45

Client ID: IA1017 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-09 Date Collected: 09/06/13 13:45

Client ID: IA1017 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	101		70-130
Toluene-d8	103		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	96		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	93		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-10
Client ID: IA1023
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 22:25
Analyst: RY

Date Collected: 09/06/13 13:41
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.246	0.050	--	1.22	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	164	2.00	--	390	4.75	--		1
Trichlorofluoromethane	0.221	0.050	--	1.24	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.071	0.050	--	0.544	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.035	0.020	--	0.171	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.056	0.020	--	0.352	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.328	0.050	--	1.24	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.071	0.020	--	0.308	0.087	--		1
p/m-Xylene	0.307	0.040	--	1.33	0.174	--		1
o-Xylene	0.128	0.020	--	0.556	0.087	--		1
1,2,4-Trimethylbenzene	0.070	0.020	--	0.344	0.098	--		1

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-10 Date Collected: 09/06/13 13:41

Client ID: IA1023 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-10 Date Collected: 09/06/13 13:41

Client ID: IA1023 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	87		70-130
Bromofluorobenzene	101		70-130
Toluene-d8	104		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	95		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	93		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-11
Client ID: IA1025
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 22:57
Analyst: RY

Date Collected: 09/06/13 13:42
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.267	0.050	--	1.32	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	103	2.00	--	245	4.75	--		1
Trichlorofluoromethane	0.223	0.050	--	1.25	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.074	0.050	--	0.567	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.034	0.020	--	0.166	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.056	0.020	--	0.352	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.288	0.050	--	1.09	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.074	0.020	--	0.321	0.087	--		1
p/m-Xylene	0.324	0.040	--	1.41	0.174	--		1
o-Xylene	0.135	0.020	--	0.586	0.087	--		1
1,2,4-Trimethylbenzene	0.080	0.020	--	0.393	0.098	--		1

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-11 Date Collected: 09/06/13 13:42

Client ID: IA1025 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-11 Date Collected: 09/06/13 13:42

Client ID: IA1025 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	100		70-130
Toluene-d8	102		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	93		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-12
Client ID: DUP1
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 23:29
Analyst: RY

Date Collected: 09/06/13 13:40
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.241	0.050	--	1.19	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	72.3	2.00	--	172	4.75	--		1
Trichlorofluoromethane	0.222	0.050	--	1.25	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.072	0.050	--	0.552	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.050	0.020	--	0.244	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.056	0.020	--	0.352	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.285	0.050	--	1.07	0.188	--		1
Tetrachloroethene	0.027	0.020	--	0.183	0.136	--		1
Ethylbenzene	0.074	0.020	--	0.321	0.087	--		1
p/m-Xylene	0.326	0.040	--	1.42	0.174	--		1
o-Xylene	0.135	0.020	--	0.586	0.087	--		1
1,2,4-Trimethylbenzene	0.063	0.020	--	0.310	0.098	--		1

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317525
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-12
Client ID: DUP1
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 13:40
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-12 Date Collected: 09/06/13 13:40

Client ID: DUP1 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	86		70-130
Bromofluorobenzene	100		70-130
Toluene-d8	103		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	93		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-13
Client ID: AA1
Sample Location: POUGHKEEPSIE, NY
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 16:35
Analyst: RY

Date Collected: 09/06/13 13:53
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	0.324	0.050	--	1.60	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	2.86	2.00	--	6.79	4.75	--		1
Trichlorofluoromethane	0.226	0.050	--	1.27	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	0.254	0.200	--	0.791	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.072	0.050	--	0.552	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	0.025	0.020	--	0.122	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	0.063	0.020	--	0.396	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	0.161	0.050	--	0.607	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	0.022	0.020	--	0.096	0.087	--		1
p/m-Xylene	0.068	0.040	--	0.295	0.174	--		1
o-Xylene	0.027	0.020	--	0.117	0.087	--		1
1,2,4-Trimethylbenzene	0.027	0.020	--	0.133	0.098	--		1

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-13 Date Collected: 09/06/13 13:53

Client ID: AA1 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317525

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317525-13 Date Collected: 09/06/13 13:53

Client ID: AA1 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	87		70-130
Bromofluorobenzene	72		70-130
Toluene-d8	103		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	94		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	95		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317525

Project Number: 3623.00 **Report Date:** 10/01/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 15:51

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-13 Batch: WG635055-5								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name: FORMER BUILDING 982 **Lab Number:** L1317525

Project Number: 3623.00 **Report Date:** 10/01/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/10/13 15:51

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-13 Batch: WG635055-5								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	89		70-130
Bromofluorobenzene	103		70-130
Toluene-d8	107		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER BUILDING 982

Project Number: 3623.00

Lab Number: L1317525

Report Date: 10/01/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 Batch: WG635055-3 WG635055-4								
Propylene	97		96		70-130	1		20
Dichlorodifluoromethane	91		96		70-130	5		20
Vinyl chloride	100		100		70-130	0		20
Acetone	102		102		70-130	0		20
Trichlorofluoromethane	102		102		70-130	0		20
iso-Propyl Alcohol	97		96		70-130	1		20
1,1-Dichloroethene	100		99		70-130	1		20
Carbon disulfide	100		99		70-130	1		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	107		107		70-130	0		20
1,1-Dichloroethane	102		102		70-130	0		20
2-Butanone	90		90		70-130	0		20
cis-1,2-Dichloroethene	111		109		70-130	2		20
Chloroform	103		104		70-130	1		20
1,1,1-Trichloroethane	92		91		70-130	1		20
Carbon tetrachloride	99		98		70-130	1		20
Trichloroethene	100		99		70-130	1		20
4-Methyl-2-pentanone	86		86		70-130	0		20
Toluene	104		104		70-130	0		20
Tetrachloroethene	110		111		70-130	1		20
Ethylbenzene	106		106		70-130	0		20
p/m-Xylene	106		107		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER BUILDING 982

Project Number: 3623.00

Lab Number: L1317525

Report Date: 10/01/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 Batch: WG635055-3 WG635055-4								
o-Xylene	106		106		70-130	0		20
1,2,4-Trimethylbenzene	110		110		70-130	0		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		92		70-130
Toluene-d8	110		110		70-130
Bromofluorobenzene	109		109		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317525
Report Date: 10/01/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 QC Batch ID: WG635055-6 QC Sample: L1317525-01 Client ID: IA1002						
Propylene	ND	ND	ppbV	NC		20
Dichlorodifluoromethane	0.255	0.197	ppbV	**26**	Q	20
Vinyl chloride	ND	ND	ppbV	NC		20
Acetone	62.2	61.5	ppbV	1		20
Trichlorofluoromethane	0.219	0.217	ppbV	1		20
iso-Propyl Alcohol	ND	ND	ppbV	NC		20
1,1-Dichloroethene	ND	ND	ppbV	NC		20
Carbon disulfide	ND	ND	ppbV	NC		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.070	0.070	ppbV	0		20
1,1-Dichloroethane	ND	ND	ppbV	NC		20
2-Butanone	ND	ND	ppbV	NC		20
cis-1,2-Dichloroethene	ND	ND	ppbV	NC		20
Chloroform	0.082	0.079	ppbV	4		20
1,1,1-Trichloroethane	ND	ND	ppbV	NC		20
Carbon tetrachloride	0.058	0.057	ppbV	2		20
Trichloroethene	ND	ND	ppbV	NC		20
4-Methyl-2-pentanone	ND	ND	ppbV	NC		20
Toluene	0.305	0.307	ppbV	1		20
Tetrachloroethene	ND	ND	ppbV	NC		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317525
Report Date: 10/01/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 QC Batch ID: WG635055-6 QC Sample: L1317525-01 Client ID: IA1002					
Ethylbenzene	0.077	0.078	ppbV	1	20
p/m-Xylene	0.340	0.340	ppbV	0	20
o-Xylene	0.140	0.141	ppbV	1	20
1,2,4-Trimethylbenzene	0.066	0.066	ppbV	0	20

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	86		84		70-130
Toluene-d8	102		99		70-130
Bromofluorobenzene	88		74		70-130

Project Name: FORMER BUILDING 982

Project Number: 3623.00

Lab Number: L1317525

Report Date: 10/01/13

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1317525-01	IA1002	0212	#20 AMB	09/05/13	92455		-	-	-	Pass	4.0	4.2	5
L1317525-01	IA1002	500	2.7L Can	09/05/13	92455	L1317027-16	Pass	-29.5	-6.5	-	-	-	-
L1317525-02	IA1003	0002	#16 AMB	09/05/13	92455		-	-	-	Pass	4.4	4.8	9
L1317525-02	IA1003	425	2.7L Can	09/05/13	92455	L1317027-12	Pass	-29.5	-5.4	-	-	-	-
L1317525-03	IA1005	0147	#16 AMB	09/05/13	92455		-	-	-	Pass	4.0	4.4	10
L1317525-03	IA1005	134	2.7L Can	09/05/13	92455	L1317027-04	Pass	-29.5	-3.4	-	-	-	-
L1317525-04	IA1012	0291	#16 AMB	09/05/13	92455		-	-	-	Pass	4.2	4.7	11
L1317525-04	IA1012	113	2.7L Can	09/05/13	92455	L1317027-11	Pass	-29.5	-0.5	-	-	-	-
L1317525-05	IA1013	0415	#16 AMB	09/05/13	92455		-	-	-	Pass	4.2	4.6	9
L1317525-05	IA1013	466	2.7L Can	09/05/13	92455	L1317027-06	Pass	-29.5	-7.7	-	-	-	-
L1317525-06	IA1014	0334	#16 AMB	09/05/13	92455		-	-	-	Pass	4.1	4.5	9
L1317525-06	IA1014	232	2.7L Can	09/05/13	92455	L1317027-08	Pass	-29.5	-6.7	-	-	-	-
L1317525-07	IA1015	0012	#16 AMB	09/05/13	92455		-	-	-	Pass	4.3	4.7	9
L1317525-07	IA1015	125	2.7L Can	09/05/13	92455	L1317027-03	Pass	-29.5	-8.2	-	-	-	-
L1317525-08	IA1016	0294	#16 AMB	09/05/13	92455		-	-	-	Pass	4.4	4.8	9

Project Name: FORMER BUILDING 982 **Lab Number:** L1317525

Project Number: 3623.00 **Report Date:** 10/01/13

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1317525-08	IA1016	235	2.7L Can	09/05/13	92455	L1317027-05	Pass	-29.5	-7.9	-	-	-	-
L1317525-09	IA1017	0402	#16 AMB	09/05/13	92455		-	-	-	Pass	4.1	4.5	9
L1317525-09	IA1017	1750	2.7L Can	09/05/13	92455	L1317027-09	Pass	-29.5	-4.0	-	-	-	-
L1317525-10	IA1023	0091	#16 AMB	09/05/13	92455		-	-	-	Pass	4.4	4.8	9
L1317525-10	IA1023	169	2.7L Can	09/05/13	92455	L1317027-01	Pass	-29.5	-5.1	-	-	-	-
L1317525-11	IA1025	0439	#16 AMB	09/05/13	92455		-	-	-	Pass	4.5	5.0	11
L1317525-11	IA1025	1804	2.7L Can	09/05/13	92455	L1317027-17	Pass	-29.5	-6.7	-	-	-	-
L1317525-12	DUP1	0323	#16 AMB	09/05/13	92455		-	-	-	Pass	4.5	8.7	64
L1317525-12	DUP1	358	2.7L Can	09/05/13	92455	L1317027-02	Pass	-29.5	-6.0	-	-	-	-
L1317525-13	AA1	0143	#16 AMB	09/05/13	92455		-	-	-	Pass	4.3	5.2	19
L1317525-13	AA1	399	2.7L Can	09/05/13	92455	L1317027-07	Pass	-29.5	-6.9	-	-	-	-
L1317525-14	UNUSED CAN 381	0145	#16 AMB	09/05/13	92455		-	-	-	Pass	4.5	4.8	6
L1317525-14	UNUSED CAN 381	381	2.7L Can	09/05/13	92455	L1317027-31	Pass	0.0	-6.0	-	-	-	-

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-01
Client ID: CAN 169 FC 091
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 18:09
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-01
Client ID: CAN 169 FC 091
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	105		60-140
bromochloromethane	112		60-140
chlorobenzene-d5	105		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-02
Client ID: CAN 358 FC 0323
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 18:39
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-02
Client ID: CAN 358 FC 0323
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	122		60-140
chlorobenzene-d5	104		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-03
Client ID: CAN 125 FC 0012
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 19:10
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-03
Client ID: CAN 125 FC 0012
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	116		60-140
chlorobenzene-d5	106		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-04
Client ID: CAN 134 FC 0147
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 19:41
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-04
Client ID: CAN 134 FC 0147
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	105		60-140
bromochloromethane	116		60-140
chlorobenzene-d5	106		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-05
Client ID: CAN 235 FC 0294
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 20:12
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-05
Client ID: CAN 235 FC 0294
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	113		60-140
chlorobenzene-d5	106		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-06
Client ID: CAN 466 FC 0415
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 20:42
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name: **Lab Number:** L1317027

Project Number: Not Specified **Report Date:** 10/01/13

Air Canister Certification Results

Lab ID: L1317027-06 Date Collected: 08/30/13 17:38

Client ID: CAN 466 FC 0415 Date Received: 08/30/13

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	102		60-140
bromochloromethane	116		60-140
chlorobenzene-d5	103		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-07
Client ID: CAN 399 FC 0143
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 21:13
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-07
Client ID: CAN 399 FC 0143
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	114		60-140
chlorobenzene-d5	104		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-08
Client ID: CAN 232 FC 0334
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 21:43
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-08
Client ID: CAN 232 FC 0334
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	118		60-140
chlorobenzene-d5	103		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-09
Client ID: CAN 1750 FC 0402
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 22:13
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-09
Client ID: CAN 1750 FC 0402
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	101		60-140
bromochloromethane	116		60-140
chlorobenzene-d5	102		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-11
Client ID: CAN 113 FC 0291
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 23:14
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-11
Client ID: CAN 113 FC 0291
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	125		60-140
chlorobenzene-d5	105		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-12
Client ID: CAN 425 FC 0002
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/30/13 23:44
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-12
Client ID: CAN 425 FC 0002
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	105		60-140
bromochloromethane	126		60-140
chlorobenzene-d5	105		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-16
Client ID: CAN 500 FC 212
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 08/31/13 01:45
Analyst: MB

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-16
Client ID: CAN 500 FC 212
Sample Location:

Date Collected: 08/30/13 17:38
Date Received: 08/30/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	105		60-140
bromochloromethane	118		60-140
chlorobenzene-d5	107		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-17	Date Collected:	09/03/13 15:32
Client ID:	CAN 1804 FC 439	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 16:05		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-17
Client ID: CAN 1804 FC 439
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	110		60-140
bromochloromethane	134		60-140
chlorobenzene-d5	95		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-31	Date Collected:	09/03/13 15:32
Client ID:	CAN 381	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/04/13 00:12		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-31
Client ID: CAN 381
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	108		60-140
bromochloromethane	125		60-140
chlorobenzene-d5	97		60-140

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317525
Report Date: 10/01/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**
Cooler
N/A Present/Intact

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1317525-01A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-02A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-03A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-04A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-05A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-06A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-07A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-08A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-09A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-10A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-11A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-12A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-13A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317525-14A	Canister - 2.7 Liter	N/A	N/A		Y	Present/Intact	CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317525
Project Number:	3623.00	**Report Date:**	10/01/13

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317525
Project Number:	3623.00	**Report Date:**	10/01/13

Data Qualifiers

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317525
Project Number:	3623.00	**Report Date:**	10/01/13

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised October 1, 2013 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . Organic Parameters: EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060, 9060A. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D, 9060A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15, TO-10A.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Non-Potable Water (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D .)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via NJ-DEP.***

Refer to NJ-DEP Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

AIR ANALYSIS

PAGE 1 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1317525

Client Information

Client: Sanborn Head
Address: 20 Foundry St
Concord, NH 03301
Phone: 603 229-1900
Fax: -
Email: twhite@sanbornhead.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Building 982
Project Location: POK, NY
Project #: 3623.00
Project Manager: TMW
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
NY		

Other Project Specific Requirements/Comments:

* B982 specific analyte list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	ID Can	ID - Flow Controller	TO-14A by TO-15	TO-15	TO-15 SIM *	APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
17525-01	1A1002	9/6/13	0522	1332	30.44	6.45	1A	MTS	2.7L	500	212			X					
-02	1003		0523	1334	30.14	5.20				425	002								
-03	1005		0525	1337	30.24	3.26				134	147								
-04	1012		0526	1250	30.11	0.27				113	291								
-05	1013		0527	1347	30.06	5.20				466	415								
-06	1014		0528	1339	30.58	6.42				232	334								
-07	1015		0530	1340	30.52	7.89				125	012								
-08	1016		0531	1400	30.39	7.78				235	294								
-09	1017		0532	1345	29.15	2.85				1750	402								
-10	1023		0534	1341	29.96	4.90				169	091								

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Matthew Stern	9/6/13 1610		
Tom Tower 18.13	9/6/13	Tom Tower 18.13	9/6/13 16:10
SDA	9/6/13 0005	SDA	9/7/13 0800
SDA	9/7/13 0300	Mansfield Lab	9/7/13 0300

AIR ANALYSIS

PAGE 2 OF 2

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1317525

Client Information

Client: Sanborn Head
Address: 20 Foundry St
Concord, NH 03301
Phone: 603 229-1900
Fax: -
Email: twhite@sanbornhead.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Building 982
Project Location: POK, NY
Project #: 3623.00
Project Manager: TMW
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH *(only confirmed if pre-approved!)*
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
NY		

Other Project Specific Requirements/Comments:
* B982 specific analyte list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS: TO-14A by TO-15	TO-15	TO-15 SIM *	APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
1317525 -1	IA1025	9/6/13	0534	1342	29.96	6.46	IA	MTS	2.7L	1804	439			X					
-2	DUP1	↓	0530	1340	30.06	5.70	IA	↓	↓	358	323			X					
-3	AA1	↓	0540	1353	30.15	6.11	AA	↓	↓	339	143			X					

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
Matthew Stern	9/6/13 1610		
Tom Tobey SBA	9/7/13 00:05	Tom Tobey SBA	9/7/13 00:05
	9/7/13 0300	Mansfield Lab	9/7/13 0300

APPENDIX B.2

Subslab Vapor Sample Data

ANALYTICAL REPORT

Lab Number:	L1317522
Client:	Sanborn, Head & Associates, Inc. 20 Foundry Street Concord, NH 03301
ATTN:	Timothy White
Phone:	(603) 415-6139
Project Name:	FORMER BUILDING 982
Project Number:	3623.00
Report Date:	10/01/13

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317522
Report Date: 10/01/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1317522-01	SSV1002	POUGHKEEPSIE, NY	09/06/13 10:42
L1317522-02	SSV1003	POUGHKEEPSIE, NY	09/06/13 10:41
L1317522-03	SSV1005	POUGHKEEPSIE, NY	09/06/13 10:43
L1317522-04	SSV1012	POUGHKEEPSIE, NY	09/06/13 10:43
L1317522-05	SSV1013	POUGHKEEPSIE, NY	09/06/13 10:44
L1317522-06	SSV1014	POUGHKEEPSIE, NY	09/06/13 10:47
L1317522-07	SSV1015	POUGHKEEPSIE, NY	09/06/13 10:46
L1317522-08	SSV1016	POUGHKEEPSIE, NY	09/06/13 10:44
L1317522-09	SSV1017	POUGHKEEPSIE, NY	09/06/13 11:13
L1317522-10	SSV1023	POUGHKEEPSIE, NY	09/06/13 10:45
L1317522-11	SSV1025	POUGHKEEPSIE, NY	09/06/13 10:52
L1317522-12	DUP1	POUGHKEEPSIE, NY	09/06/13 10:45
L1317522-13	FB1	POUGHKEEPSIE, NY	09/06/13 11:56
L1317522-14	UNUSED CAN 829	POUGHKEEPSIE, NY	
L1317522-15	UNUSED CAN 837	POUGHKEEPSIE, NY	
L1317522-16	UNUSED CAN 802	POUGHKEEPSIE, NY	

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317522
Project Number:	3623.00	**Report Date:**	10/01/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317522
Project Number:	3623.00	**Report Date:**	10/01/13

Case Narrative (continued)

REISSUE

Report Submission

This report replaces the report previously issued on September 18, 2013. At the request of the client this report has been reissued. There are no changes to the data in this report. However the root cause of the issue that previously impacted the cis-1,2-Dichloroethene result for L1317522-10 (SSV1023) has been corrected so it cannot happen again in future air jobs.

REISSUE

Report Submission

This report replaces the report previously issued on September 13, 2013. At the request of the client this report has been revised to change the sample IDs for the canisters returned without samples to UNUSED CANISTER ###. Additionally the ppbv result for cis-1,2-Dichloroethene for L1317522-10 (SSV1023) should have rounded up to be reported at the reporting limit as it was in ug/m3 column. This result has been revised.

Volatile Organics in Air

Canisters were released from the laboratory on September 5, 2013. The canister certification results are provided as an addendum.

The canister ID numbers for SSV1002 and SSV1003 are transposed on the chain of custody form and should be 0668 and 0658, respectively.

The flow contorller for the sample designated SSV1013 (L1317522-05) was not received with the samples subsequently the final flow rate of the controller could not be determined. The final pressure was consistent with the other samples in this job.

Samples L1317522-01 to -13: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen due to canister size. The pressurization resulted in a dilution of the samples. The reporting limits have been elevated accordingly.

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317522
Project Number:	3623.00	**Report Date:**	10/01/13

Case Narrative (continued)

Samples L1317522-01 through -06 and -08 through -10, have elevated detection limits due to the dilutions required by the elevated concentrations of target compounds in the samples.

WG635344-6: The relative percent difference for Dichlorodifluoromethane (23%) is above the RPD limit of 20%. This compound represented less than 10% of the compounds detected, therefore no further action was taken.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 10/01/13

AIR

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-01 D
Client ID: SSV1002
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 17:16
Analyst: RY

Date Collected: 09/06/13 10:42
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	2.01	--	ND	3.46	--		4.024
Dichlorodifluoromethane	4.24	0.201	--	21.0	0.994	--		4.024
Vinyl chloride	ND	0.081	--	ND	0.206	--		4.024
Acetone	14.2	8.05	--	33.7	19.1	--		4.024
Trichlorofluoromethane	0.660	0.201	--	3.71	1.13	--		4.024
iso-Propyl Alcohol	ND	2.01	--	ND	4.94	--		4.024
1,1-Dichloroethene	13.4	0.081	--	53.1	0.319	--		4.024
Carbon disulfide	0.833	0.805	--	2.59	2.51	--		4.024
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.30	0.201	--	17.6	1.54	--		4.024
1,1-Dichloroethane	6.57	0.081	--	26.6	0.326	--		4.024
2-Butanone	4.84	2.01	--	14.3	5.93	--		4.024
cis-1,2-Dichloroethene	5.44	0.081	--	21.6	0.319	--		4.024
Chloroform	4.56	0.081	--	22.3	0.393	--		4.024
1,1,1-Trichloroethane	133	0.081	--	726	0.439	--		4.024
Carbon tetrachloride	ND	0.081	--	ND	0.506	--		4.024
Trichloroethene	70.4	0.081	--	378	0.433	--		4.024
4-Methyl-2-pentanone	ND	2.01	--	ND	8.24	--		4.024
Toluene	0.801	0.201	--	3.02	0.757	--		4.024
Tetrachloroethene	0.700	0.081	--	4.75	0.546	--		4.024
Ethylbenzene	0.201	0.081	--	0.873	0.350	--		4.024
p/m-Xylene	1.11	0.161	--	4.82	0.699	--		4.024
o-Xylene	0.410	0.081	--	1.78	0.350	--		4.024
1,2,4-Trimethylbenzene	0.378	0.081	--	1.86	0.396	--		4.024

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-01 D Date Collected: 09/06/13 10:42

Client ID: SSV1002 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-01 D Date Collected: 09/06/13 10:42

Client ID: SSV1002 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	106		70-130
Bromofluorobenzene	92		70-130
Toluene-d8	93		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	87		60-140
bromochloromethane	109		60-140
chlorobenzene-d5	106		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-02 D
Client ID: SSV1003
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 18:20
Analyst: RY

Date Collected: 09/06/13 10:41
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	2.00	--	ND	3.44	--		3.992
Dichlorodifluoromethane	0.539	0.200	--	2.67	0.989	--		3.992
Vinyl chloride	ND	0.080	--	ND	0.204	--		3.992
Acetone	8.53	7.98	--	20.3	19.0	--		3.992
Trichlorofluoromethane	1.27	0.200	--	7.14	1.12	--		3.992
iso-Propyl Alcohol	ND	2.00	--	ND	4.92	--		3.992
1,1-Dichloroethene	13.3	0.080	--	52.7	0.316	--		3.992
Carbon disulfide	ND	0.798	--	ND	2.49	--		3.992
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.44	0.200	--	11.0	1.53	--		3.992
1,1-Dichloroethane	1.89	0.080	--	7.65	0.323	--		3.992
2-Butanone	2.12	2.00	--	6.25	5.90	--		3.992
cis-1,2-Dichloroethene	0.120	0.080	--	0.476	0.316	--		3.992
Chloroform	3.42	0.080	--	16.7	0.390	--		3.992
1,1,1-Trichloroethane	130	0.080	--	709	0.435	--		3.992
Carbon tetrachloride	0.112	0.080	--	0.705	0.502	--		3.992
Trichloroethene	1.31	0.080	--	7.04	0.429	--		3.992
4-Methyl-2-pentanone	ND	2.00	--	ND	8.20	--		3.992
Toluene	0.295	0.200	--	1.11	0.754	--		3.992
Tetrachloroethene	19.9	0.080	--	135	0.541	--		3.992
Ethylbenzene	0.092	0.080	--	0.399	0.347	--		3.992
p/m-Xylene	0.232	0.160	--	1.01	0.695	--		3.992
o-Xylene	0.10	0.080	--	0.433	0.347	--		3.992
1,2,4-Trimethylbenzene	0.108	0.080	--	0.531	0.392	--		3.992

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-02 D Date Collected: 09/06/13 10:41

Client ID: SSV1003 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-02 D Date Collected: 09/06/13 10:41

Client ID: SSV1003 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	106		70-130
Bromofluorobenzene	92		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	85		60-140
bromochloromethane	107		60-140
chlorobenzene-d5	105		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-03 D
Client ID: SSV1005
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 18:52
Analyst: RY

Date Collected: 09/06/13 10:43
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	4.12	--	ND	7.09	--		8.25
Dichlorodifluoromethane	1.35	0.412	--	6.68	2.04	--		8.25
Vinyl chloride	ND	0.165	--	ND	0.422	--		8.25
Acetone	ND	16.5	--	ND	39.2	--		8.25
Trichlorofluoromethane	0.710	0.412	--	3.99	2.32	--		8.25
iso-Propyl Alcohol	ND	4.12	--	ND	10.1	--		8.25
1,1-Dichloroethene	76.3	0.165	--	303	0.654	--		8.25
Carbon disulfide	ND	1.65	--	ND	5.14	--		8.25
1,1,2-Trichloro-1,2,2-Trifluoroethane	8.25	0.412	--	63.2	3.16	--		8.25
1,1-Dichloroethane	13.9	0.165	--	56.3	0.668	--		8.25
2-Butanone	5.26	4.12	--	15.5	12.2	--		8.25
cis-1,2-Dichloroethene	0.231	0.165	--	0.916	0.654	--		8.25
Chloroform	2.64	0.165	--	12.9	0.806	--		8.25
1,1,1-Trichloroethane	300	0.165	--	1640	0.900	--		8.25
Carbon tetrachloride	ND	0.165	--	ND	1.04	--		8.25
Trichloroethene	12.1	0.165	--	65.0	0.887	--		8.25
4-Methyl-2-pentanone	ND	4.12	--	ND	16.9	--		8.25
Toluene	0.446	0.412	--	1.68	1.55	--		8.25
Tetrachloroethene	0.544	0.165	--	3.69	1.12	--		8.25
Ethylbenzene	0.223	0.165	--	0.969	0.717	--		8.25
p/m-Xylene	1.06	0.330	--	4.60	1.43	--		8.25
o-Xylene	0.512	0.165	--	2.22	0.717	--		8.25
1,2,4-Trimethylbenzene	0.223	0.165	--	1.10	0.811	--		8.25

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-03 D Date Collected: 09/06/13 10:43

Client ID: SSV1005 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-03 D Date Collected: 09/06/13 10:43

Client ID: SSV1005 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	106		70-130
Bromofluorobenzene	91		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	85		60-140
bromochloromethane	108		60-140
chlorobenzene-d5	105		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-04 D
Client ID: SSV1012
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 19:23
Analyst: RY

Date Collected: 09/06/13 10:43
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	6.18	--	ND	10.6	--		12.36
Dichlorodifluoromethane	6.67	0.618	--	33.0	3.06	--		12.36
Vinyl chloride	ND	0.247	--	ND	0.631	--		12.36
Acetone	ND	24.7	--	ND	58.7	--		12.36
Trichlorofluoromethane	1.16	0.618	--	6.52	3.47	--		12.36
iso-Propyl Alcohol	ND	6.18	--	ND	15.2	--		12.36
1,1-Dichloroethene	74.1	0.247	--	294	0.979	--		12.36
Carbon disulfide	ND	2.47	--	ND	7.69	--		12.36
1,1,2-Trichloro-1,2,2-Trifluoroethane	7.97	0.618	--	61.1	4.74	--		12.36
1,1-Dichloroethane	7.92	0.247	--	32.1	1.00	--		12.36
2-Butanone	ND	6.18	--	ND	18.2	--		12.36
cis-1,2-Dichloroethene	ND	0.247	--	ND	0.979	--		12.36
Chloroform	4.33	0.247	--	21.1	1.21	--		12.36
1,1,1-Trichloroethane	504	0.247	--	2750	1.35	--		12.36
Carbon tetrachloride	ND	0.247	--	ND	1.55	--		12.36
Trichloroethene	0.260	0.247	--	1.40	1.33	--		12.36
4-Methyl-2-pentanone	ND	6.18	--	ND	25.3	--		12.36
Toluene	0.779	0.618	--	2.94	2.33	--		12.36
Tetrachloroethene	1.08	0.247	--	7.32	1.67	--		12.36
Ethylbenzene	0.766	0.247	--	3.33	1.07	--		12.36
p/m-Xylene	3.08	0.494	--	13.4	2.15	--		12.36
o-Xylene	1.02	0.247	--	4.43	1.07	--		12.36
1,2,4-Trimethylbenzene	0.272	0.247	--	1.34	1.21	--		12.36

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-04 D Date Collected: 09/06/13 10:43

Client ID: SSV1012 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-04 D Date Collected: 09/06/13 10:43

Client ID: SSV1012 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Bromofluorobenzene	91		70-130
Toluene-d8	92		70-130

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	84		60-140
bromochloromethane	107		60-140
chlorobenzene-d5	104		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-05 D
Client ID: SSV1013
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 19:55
Analyst: RY

Date Collected: 09/06/13 10:44
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	2.48	--	ND	4.27	--		4.967
Dichlorodifluoromethane	1.25	0.248	--	6.18	1.23	--		4.967
Vinyl chloride	ND	0.099	--	ND	0.254	--		4.967
Acetone	ND	9.93	--	ND	23.6	--		4.967
Trichlorofluoromethane	1.61	0.248	--	9.05	1.39	--		4.967
iso-Propyl Alcohol	ND	2.48	--	ND	6.10	--		4.967
1,1-Dichloroethene	0.392	0.099	--	1.55	0.394	--		4.967
Carbon disulfide	ND	0.993	--	ND	3.09	--		4.967
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.750	0.248	--	5.75	1.90	--		4.967
1,1-Dichloroethane	2.20	0.099	--	8.90	0.402	--		4.967
2-Butanone	ND	2.48	--	ND	7.31	--		4.967
cis-1,2-Dichloroethene	ND	0.099	--	ND	0.394	--		4.967
Chloroform	2.74	0.099	--	13.4	0.485	--		4.967
1,1,1-Trichloroethane	234	0.099	--	1280	0.542	--		4.967
Carbon tetrachloride	ND	0.099	--	ND	0.625	--		4.967
Trichloroethene	0.492	0.099	--	2.64	0.534	--		4.967
4-Methyl-2-pentanone	ND	2.48	--	ND	10.2	--		4.967
Toluene	ND	0.248	--	ND	0.935	--		4.967
Tetrachloroethene	0.224	0.099	--	1.52	0.673	--		4.967
Ethylbenzene	0.159	0.099	--	0.691	0.431	--		4.967
p/m-Xylene	0.800	0.199	--	3.47	0.864	--		4.967
o-Xylene	0.368	0.099	--	1.60	0.431	--		4.967
1,2,4-Trimethylbenzene	ND	0.099	--	ND	0.488	--		4.967

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-05 D
Client ID: SSV1013
Sample Location: POUGHKEEPSIE, NY

Date Collected: 09/06/13 10:44
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-05 D Date Collected: 09/06/13 10:44

Client ID: SSV1013 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	105		70-130
Bromofluorobenzene	92		70-130
Toluene-d8	93		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	85		60-140
bromochloromethane	107		60-140
chlorobenzene-d5	103		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-06 D
Client ID: SSV1014
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 20:27
Analyst: RY

Date Collected: 09/06/13 10:47
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	2.55	--	ND	4.39	--		5.094
Dichlorodifluoromethane	1.33	0.255	--	6.58	1.26	--		5.094
Vinyl chloride	ND	0.102	--	ND	0.261	--		5.094
Acetone	17.7	10.2	--	42.0	24.2	--		5.094
Trichlorofluoromethane	1.19	0.255	--	6.69	1.43	--		5.094
iso-Propyl Alcohol	ND	2.55	--	ND	6.27	--		5.094
1,1-Dichloroethene	0.209	0.102	--	0.829	0.404	--		5.094
Carbon disulfide	2.32	1.02	--	7.22	3.18	--		5.094
1,1,2-Trichloro-1,2,2-Trifluoroethane	5.92	0.255	--	45.4	1.95	--		5.094
1,1-Dichloroethane	0.423	0.102	--	1.71	0.413	--		5.094
2-Butanone	5.44	2.55	--	16.0	7.52	--		5.094
cis-1,2-Dichloroethene	ND	0.102	--	ND	0.404	--		5.094
Chloroform	6.02	0.102	--	29.4	0.498	--		5.094
1,1,1-Trichloroethane	198	0.102	--	1080	0.557	--		5.094
Carbon tetrachloride	ND	0.102	--	ND	0.642	--		5.094
Trichloroethene	ND	0.102	--	ND	0.548	--		5.094
4-Methyl-2-pentanone	ND	2.55	--	ND	10.5	--		5.094
Toluene	0.820	0.255	--	3.09	0.961	--		5.094
Tetrachloroethene	2.14	0.102	--	14.5	0.692	--		5.094
Ethylbenzene	0.886	0.102	--	3.85	0.443	--		5.094
p/m-Xylene	3.52	0.204	--	15.3	0.886	--		5.094
o-Xylene	1.45	0.102	--	6.30	0.443	--		5.094
1,2,4-Trimethylbenzene	0.224	0.102	--	1.10	0.501	--		5.094

Project Name: FORMER BUILDING 982
Project Number: 3623.00
Lab Number: L1317522
Report Date: 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-06 D
Client ID: SSV1014
Sample Location: POUGHKEEPSIE, NY
Date Collected: 09/06/13 10:47
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-06 D Date Collected: 09/06/13 10:47

Client ID: SSV1014 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	106		70-130
Bromofluorobenzene	91		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	103		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-07 D
Client ID: SSV1015
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 20:59
Analyst: RY

Date Collected: 09/06/13 10:46
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	1.19	--	ND	2.05	--		2.387
Dichlorodifluoromethane	2.53	0.119	--	12.5	0.588	--		2.387
Vinyl chloride	ND	0.048	--	ND	0.122	--		2.387
Acetone	7.13	4.77	--	16.9	11.3	--		2.387
Trichlorofluoromethane	0.895	0.119	--	5.03	0.669	--		2.387
iso-Propyl Alcohol	ND	1.19	--	ND	2.93	--		2.387
1,1-Dichloroethene	0.053	0.048	--	0.208	0.189	--		2.387
Carbon disulfide	0.788	0.477	--	2.45	1.49	--		2.387
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.37	0.119	--	18.2	0.912	--		2.387
1,1-Dichloroethane	0.060	0.048	--	0.242	0.193	--		2.387
2-Butanone	2.20	1.19	--	6.49	3.51	--		2.387
cis-1,2-Dichloroethene	ND	0.048	--	ND	0.189	--		2.387
Chloroform	1.11	0.048	--	5.42	0.233	--		2.387
1,1,1-Trichloroethane	75.9	0.048	--	414	0.260	--		2.387
Carbon tetrachloride	ND	0.048	--	ND	0.300	--		2.387
Trichloroethene	ND	0.048	--	ND	0.256	--		2.387
4-Methyl-2-pentanone	ND	1.19	--	ND	4.88	--		2.387
Toluene	1.91	0.119	--	7.20	0.448	--		2.387
Tetrachloroethene	0.972	0.048	--	6.59	0.323	--		2.387
Ethylbenzene	1.24	0.048	--	5.39	0.207	--		2.387
p/m-Xylene	1.24	0.096	--	5.39	0.415	--		2.387
o-Xylene	0.609	0.048	--	2.65	0.207	--		2.387
1,2,4-Trimethylbenzene	0.432	0.048	--	2.12	0.235	--		2.387

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-07 D Date Collected: 09/06/13 10:46

Client ID: SSV1015 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-07 D Date Collected: 09/06/13 10:46

Client ID: SSV1015 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	105		70-130
Bromofluorobenzene	91		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	107		60-140
chlorobenzene-d5	103		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-08 D
Client ID: SSV1016
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 21:31
Analyst: RY

Date Collected: 09/06/13 10:44
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	3.85	--	ND	6.63	--		7.708
Dichlorodifluoromethane	1.63	0.385	--	8.06	1.90	--		7.708
Vinyl chloride	ND	0.154	--	ND	0.394	--		7.708
Acetone	31.9	15.4	--	75.8	36.6	--		7.708
Trichlorofluoromethane	1.17	0.385	--	6.57	2.16	--		7.708
iso-Propyl Alcohol	ND	3.85	--	ND	9.46	--		7.708
1,1-Dichloroethene	4.87	0.154	--	19.3	0.611	--		7.708
Carbon disulfide	1.55	1.54	--	4.83	4.80	--		7.708
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.771	0.385	--	5.91	2.95	--		7.708
1,1-Dichloroethane	2.40	0.154	--	9.71	0.623	--		7.708
2-Butanone	7.45	3.85	--	22.0	11.4	--		7.708
cis-1,2-Dichloroethene	ND	0.154	--	ND	0.611	--		7.708
Chloroform	1.17	0.154	--	5.71	0.752	--		7.708
1,1,1-Trichloroethane	279	0.154	--	1520	0.840	--		7.708
Carbon tetrachloride	ND	0.154	--	ND	0.969	--		7.708
Trichloroethene	0.239	0.154	--	1.28	0.828	--		7.708
4-Methyl-2-pentanone	ND	3.85	--	ND	15.8	--		7.708
Toluene	1.16	0.385	--	4.37	1.45	--		7.708
Tetrachloroethene	0.748	0.154	--	5.07	1.04	--		7.708
Ethylbenzene	0.154	0.154	--	0.669	0.669	--		7.708
p/m-Xylene	0.408	0.308	--	1.77	1.34	--		7.708
o-Xylene	0.193	0.154	--	0.838	0.669	--		7.708
1,2,4-Trimethylbenzene	0.200	0.154	--	0.983	0.757	--		7.708

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-08 D Date Collected: 09/06/13 10:44

Client ID: SSV1016 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-08 D Date Collected: 09/06/13 10:44

Client ID: SSV1016 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	105		70-130
Bromofluorobenzene	91		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	103		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-09 D
Client ID: SSV1017
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 22:03
Analyst: RY

Date Collected: 09/06/13 11:13
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	6.12	--	ND	10.5	--		12.23
Dichlorodifluoromethane	1.58	0.612	--	7.81	3.03	--		12.23
Vinyl chloride	ND	0.245	--	ND	0.626	--		12.23
Acetone	ND	24.5	--	ND	58.2	--		12.23
Trichlorofluoromethane	1.48	0.612	--	8.32	3.44	--		12.23
iso-Propyl Alcohol	ND	6.12	--	ND	15.0	--		12.23
1,1-Dichloroethene	88.5	0.245	--	351	0.971	--		12.23
Carbon disulfide	ND	2.45	--	ND	7.63	--		12.23
1,1,2-Trichloro-1,2,2-Trifluoroethane	8.12	0.612	--	62.2	4.69	--		12.23
1,1-Dichloroethane	3.83	0.245	--	15.5	0.992	--		12.23
2-Butanone	ND	6.12	--	ND	18.0	--		12.23
cis-1,2-Dichloroethene	ND	0.245	--	ND	0.971	--		12.23
Chloroform	7.61	0.245	--	37.2	1.20	--		12.23
1,1,1-Trichloroethane	554	0.245	--	3020	1.34	--		12.23
Carbon tetrachloride	ND	0.245	--	ND	1.54	--		12.23
Trichloroethene	ND	0.245	--	ND	1.32	--		12.23
4-Methyl-2-pentanone	ND	6.12	--	ND	25.1	--		12.23
Toluene	ND	0.612	--	ND	2.31	--		12.23
Tetrachloroethene	0.281	0.245	--	1.91	1.66	--		12.23
Ethylbenzene	ND	0.245	--	ND	1.06	--		12.23
p/m-Xylene	ND	0.489	--	ND	2.12	--		12.23
o-Xylene	ND	0.245	--	ND	1.06	--		12.23
1,2,4-Trimethylbenzene	ND	0.245	--	ND	1.20	--		12.23

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-09 D Date Collected: 09/06/13 11:13

Client ID: SSV1017 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-09 D Date Collected: 09/06/13 11:13

Client ID: SSV1017 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	105		70-130
Bromofluorobenzene	91		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	105		60-140
chlorobenzene-d5	102		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-10 D
Client ID: SSV1023
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 22:34
Analyst: RY

Date Collected: 09/06/13 10:45
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	2.04	--	ND	3.51	--		4.091
Dichlorodifluoromethane	0.802	0.204	--	3.97	1.01	--		4.091
Vinyl chloride	ND	0.082	--	ND	0.209	--		4.091
Acetone	ND	8.18	--	ND	19.4	--		4.091
Trichlorofluoromethane	2.14	0.204	--	12.0	1.15	--		4.091
iso-Propyl Alcohol	ND	2.04	--	ND	5.01	--		4.091
1,1-Dichloroethene	5.13	0.082	--	20.3	0.324	--		4.091
Carbon disulfide	ND	0.818	--	ND	2.55	--		4.091
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.274	0.204	--	2.10	1.56	--		4.091
1,1-Dichloroethane	1.84	0.082	--	7.45	0.331	--		4.091
2-Butanone	2.29	2.04	--	6.75	6.02	--		4.091
cis-1,2-Dichloroethene	0.082	0.082	--	0.324	0.324	--		4.091
Chloroform	2.07	0.082	--	10.1	0.399	--		4.091
1,1,1-Trichloroethane	141	0.082	--	769	0.446	--		4.091
Carbon tetrachloride	0.090	0.082	--	0.566	0.515	--		4.091
Trichloroethene	0.147	0.082	--	0.790	0.440	--		4.091
4-Methyl-2-pentanone	ND	2.04	--	ND	8.36	--		4.091
Toluene	0.376	0.204	--	1.42	0.769	--		4.091
Tetrachloroethene	0.233	0.082	--	1.58	0.555	--		4.091
Ethylbenzene	0.241	0.082	--	1.05	0.355	--		4.091
p/m-Xylene	1.01	0.164	--	4.39	0.712	--		4.091
o-Xylene	0.421	0.082	--	1.83	0.355	--		4.091
1,2,4-Trimethylbenzene	0.127	0.082	--	0.624	0.402	--		4.091

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-10 D Date Collected: 09/06/13 10:45

Client ID: SSV1023 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-10 D Date Collected: 09/06/13 10:45

Client ID: SSV1023 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	106		70-130
Bromofluorobenzene	92		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	83		60-140
bromochloromethane	105		60-140
chlorobenzene-d5	102		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-11 D
Client ID: SSV1025
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 23:06
Analyst: RY

Date Collected: 09/06/13 10:52
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	1.44	1.15	--	2.48	1.98	--		2.292
Dichlorodifluoromethane	0.603	0.115	--	2.98	0.569	--		2.292
Vinyl chloride	ND	0.046	--	ND	0.117	--		2.292
Acetone	19.3	4.58	--	45.8	10.9	--		2.292
Trichlorofluoromethane	0.316	0.115	--	1.78	0.646	--		2.292
iso-Propyl Alcohol	ND	1.15	--	ND	2.83	--		2.292
1,1-Dichloroethene	ND	0.046	--	ND	0.182	--		2.292
Carbon disulfide	1.52	0.458	--	4.73	1.43	--		2.292
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.557	0.115	--	4.27	0.881	--		2.292
1,1-Dichloroethane	0.071	0.046	--	0.287	0.185	--		2.292
2-Butanone	5.22	1.15	--	15.4	3.39	--		2.292
cis-1,2-Dichloroethene	ND	0.046	--	ND	0.182	--		2.292
Chloroform	3.07	0.046	--	15.0	0.224	--		2.292
1,1,1-Trichloroethane	2.50	0.046	--	13.6	0.250	--		2.292
Carbon tetrachloride	ND	0.046	--	ND	0.288	--		2.292
Trichloroethene	0.124	0.046	--	0.666	0.246	--		2.292
4-Methyl-2-pentanone	ND	1.15	--	ND	4.71	--		2.292
Toluene	2.58	0.115	--	9.72	0.433	--		2.292
Tetrachloroethene	1.03	0.046	--	6.98	0.311	--		2.292
Ethylbenzene	10.8	0.046	--	46.9	0.199	--		2.292
p/m-Xylene	52.8	0.092	--	229	0.398	--		2.292
o-Xylene	17.1	0.046	--	74.3	0.199	--		2.292
1,2,4-Trimethylbenzene	0.360	0.046	--	1.77	0.225	--		2.292

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-11 D Date Collected: 09/06/13 10:52

Client ID: SSV1025 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-11 D Date Collected: 09/06/13 10:52

Client ID: SSV1025 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	105		70-130
Bromofluorobenzene	94		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	83		60-140
bromochloromethane	105		60-140
chlorobenzene-d5	102		60-140

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-12 D
Client ID: DUP1
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 23:38
Analyst: RY

Date Collected: 09/06/13 10:45
Date Received: 09/06/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	1.85	1.23	--	3.18	2.12	--		2.467
Dichlorodifluoromethane	0.819	0.123	--	4.05	0.608	--		2.467
Vinyl chloride	ND	0.049	--	ND	0.126	--		2.467
Acetone	22.5	4.93	--	53.4	11.7	--		2.467
Trichlorofluoromethane	0.363	0.123	--	2.04	0.691	--		2.467
iso-Propyl Alcohol	ND	1.23	--	ND	3.02	--		2.467
1,1-Dichloroethene	ND	0.049	--	ND	0.195	--		2.467
Carbon disulfide	1.58	0.493	--	4.92	1.54	--		2.467
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.592	0.123	--	4.54	0.943	--		2.467
1,1-Dichloroethane	0.081	0.049	--	0.329	0.200	--		2.467
2-Butanone	5.95	1.23	--	17.5	3.63	--		2.467
cis-1,2-Dichloroethene	ND	0.049	--	ND	0.195	--		2.467
Chloroform	3.70	0.049	--	18.1	0.241	--		2.467
1,1,1-Trichloroethane	2.83	0.049	--	15.4	0.269	--		2.467
Carbon tetrachloride	ND	0.049	--	ND	0.310	--		2.467
Trichloroethene	0.141	0.049	--	0.758	0.265	--		2.467
4-Methyl-2-pentanone	ND	1.23	--	ND	5.04	--		2.467
Toluene	2.95	0.123	--	11.1	0.464	--		2.467
Tetrachloroethene	1.22	0.049	--	8.27	0.334	--		2.467
Ethylbenzene	12.7	0.049	--	55.2	0.214	--		2.467
p/m-Xylene	62.0	0.099	--	269	0.429	--		2.467
o-Xylene	20.0	0.049	--	86.9	0.214	--		2.467
1,2,4-Trimethylbenzene	0.429	0.049	--	2.11	0.242	--		2.467

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-12 D Date Collected: 09/06/13 10:45

Client ID: DUP1 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-12 D Date Collected: 09/06/13 10:45

Client ID: DUP1 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	105		70-130
Bromofluorobenzene	94		70-130
Toluene-d8	92		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	84		60-140
bromochloromethane	105		60-140
chlorobenzene-d5	102		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-13 D
Client ID: FB1
Sample Location: POUGHKEEPSIE, NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 15:41
Analyst: RY

Date Collected: 09/06/13 11:56
Date Received: 09/06/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	1.38	--	ND	2.38	--		2.75
Dichlorodifluoromethane	ND	0.138	--	ND	0.682	--		2.75
Vinyl chloride	ND	0.055	--	ND	0.141	--		2.75
Acetone	ND	5.50	--	ND	13.1	--		2.75
Trichlorofluoromethane	ND	0.138	--	ND	0.776	--		2.75
iso-Propyl Alcohol	ND	1.38	--	ND	3.39	--		2.75
1,1-Dichloroethene	ND	0.055	--	ND	0.218	--		2.75
Carbon disulfide	ND	0.550	--	ND	1.71	--		2.75
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.138	--	ND	1.06	--		2.75
1,1-Dichloroethane	ND	0.055	--	ND	0.223	--		2.75
2-Butanone	ND	1.38	--	ND	4.07	--		2.75
cis-1,2-Dichloroethene	ND	0.055	--	ND	0.218	--		2.75
Chloroform	ND	0.055	--	ND	0.269	--		2.75
1,1,1-Trichloroethane	ND	0.055	--	ND	0.300	--		2.75
Carbon tetrachloride	ND	0.055	--	ND	0.346	--		2.75
Trichloroethene	ND	0.055	--	ND	0.296	--		2.75
4-Methyl-2-pentanone	ND	1.38	--	ND	5.66	--		2.75
Toluene	ND	0.138	--	ND	0.520	--		2.75
Tetrachloroethene	ND	0.055	--	ND	0.373	--		2.75
Ethylbenzene	0.104	0.055	--	0.452	0.239	--		2.75
p/m-Xylene	ND	0.110	--	ND	0.478	--		2.75
o-Xylene	ND	0.055	--	ND	0.239	--		2.75
1,2,4-Trimethylbenzene	0.063	0.055	--	0.311	0.270	--		2.75

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-13 D Date Collected: 09/06/13 11:56

Client ID: FB1 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: FORMER BUILDING 982 ***Lab Number:*** L1317522

Project Number: 3623.00 ***Report Date:*** 10/01/13

SAMPLE RESULTS

Lab ID: L1317522-13 D Date Collected: 09/06/13 11:56

Client ID: FB1 Date Received: 09/06/13

Sample Location: POUGHKEEPSIE, NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	108		70-130
Bromofluorobenzene	75		70-130
Toluene-d8	94		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	86		60-140
bromochloromethane	108		60-140
chlorobenzene-d5	106		60-140

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 14:49

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-13 Batch: WG635344-5								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 09/11/13 14:49

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-13 Batch: WG635344-5								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Bromofluorobenzene	86		70-130
Toluene-d8	87		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER BUILDING 982

Project Number: 3623.00

Lab Number: L1317522

Report Date: 10/01/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 Batch: WG635344-3 WG635344-4								
Propylene	94		94		70-130	0		20
Dichlorodifluoromethane	96		95		70-130	1		20
Vinyl chloride	101		101		70-130	0		20
Acetone	102		102		70-130	0		20
Trichlorofluoromethane	104		104		70-130	0		20
iso-Propyl Alcohol	94		96		70-130	2		20
1,1-Dichloroethene	100		100		70-130	0		20
Carbon disulfide	99		99		70-130	0		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	109		110		70-130	1		20
1,1-Dichloroethane	101		101		70-130	0		20
2-Butanone	89		89		70-130	0		20
cis-1,2-Dichloroethene	110		110		70-130	0		20
Chloroform	104		104		70-130	0		20
1,1,1-Trichloroethane	92		92		70-130	0		20
Carbon tetrachloride	99		100		70-130	1		20
Trichloroethene	101		101		70-130	0		20
4-Methyl-2-pentanone	84		83		70-130	1		20
Toluene	104		105		70-130	1		20
Tetrachloroethene	113		113		70-130	0		20
Ethylbenzene	107		107		70-130	0		20
p/m-Xylene	107		106		70-130	1		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: FORMER BUILDING 982

Project Number: 3623.00

Lab Number: L1317522

Report Date: 10/01/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 Batch: WG635344-3 WG635344-4								
o-Xylene	106		107		70-130	1		20
1,2,4-Trimethylbenzene	110		111		70-130	1		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	93		93		70-130
Toluene-d8	111		111		70-130
Bromofluorobenzene	111		111		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317522
Report Date: 10/01/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 QC Batch ID: WG635344-6 QC Sample: L1317522-01 Client ID: SSV1002						
Propylene	ND	ND	ppbV	NC		20
Dichlorodifluoromethane	4.24	3.37	ppbV	**23**	Q	20
Vinyl chloride	ND	ND	ppbV	NC		20
Acetone	14.2	14.0	ppbV	1		20
Trichlorofluoromethane	0.660	0.660	ppbV	0		20
iso-Propyl Alcohol	ND	ND	ppbV	NC		20
1,1-Dichloroethene	13.4	13.3	ppbV	1		20
Carbon disulfide	0.833	0.845	ppbV	1		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	2.30	2.36	ppbV	3		20
1,1-Dichloroethane	6.57	6.51	ppbV	1		20
2-Butanone	4.84	4.82	ppbV	0		20
cis-1,2-Dichloroethene	5.44	5.40	ppbV	1		20
Chloroform	4.56	4.55	ppbV	0		20
1,1,1-Trichloroethane	133	132	ppbV	1		20
Carbon tetrachloride	ND	ND	ppbV	NC		20
Trichloroethene	70.4	70.0	ppbV	1		20
4-Methyl-2-pentanone	ND	ND	ppbV	NC		20
Toluene	0.801	0.789	ppbV	2		20
Tetrachloroethene	0.700	0.696	ppbV	1		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317522
Report Date: 10/01/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-13 QC Batch ID: WG635344-6 QC Sample: L1317522-01 Client ID: SSV1002					
Ethylbenzene	0.201	0.201	ppbV	0	20
p/m-Xylene	1.11	1.10	ppbV	1	20
o-Xylene	0.410	0.398	ppbV	3	20
1,2,4-Trimethylbenzene	0.378	0.374	ppbV	1	20

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		106		70-130
Toluene-d8	93		92		70-130
Bromofluorobenzene	92		92		70-130

Project Name: FORMER BUILDING 982

Project Number: 3623.00

Lab Number: L1317522

Report Date: 10/01/13

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1317522-01	SSV1002	0024	#16 AMB	09/05/13	92455		-	-	-	Pass	12.9	13.0	1
L1317522-01	SSV1002	668	1.0L Can	09/05/13	92455	L1317027-23	Pass	-29.5	-3.9	-	-	-	-
L1317522-02	SSV1003	0174	#20 AMB	09/05/13	92455		-	-	-	Pass	12.5	13.0	4
L1317522-02	SSV1003	658	1.0L Can	09/05/13	92455	L1317027-24	Pass	-29.4	-3.7	-	-	-	-
L1317522-03	SSV1005	0349	#20 SV	09/05/13	92455		-	-	-	Pass	12.5	12.9	3
L1317522-03	SSV1005	848	1.0L Can	09/05/13	92455	L1317027-19	Pass	-29.4	-4.7	-	-	-	-
L1317522-04	SSV1012	0100	#20 AMB	09/05/13	92455		-	-	-	Pass	12.9	13.3	3
L1317522-04	SSV1012	862	1.0L Can	09/05/13	92455	L1317027-21	Pass	-29.5	-4.2	-	-	-	-
L1317522-05	SSV1013	562	1.0L Can	09/05/13	92455	L1317027-47	Pass	-29.5	-4.5	-	-	-	-
L1317522-06	SSV1014	0041	#16 SV	09/05/13	92455		-	-	-	Pass	13.0	13.6	5
L1317522-06	SSV1014	812	1.0L Can	09/05/13	92455	L1317027-27	Pass	-29.4	-5.1	-	-	-	-
L1317522-07	SSV1015	0116	#16 SV	09/05/13	92455		-	-	-	Pass	13.0	13.7	5
L1317522-07	SSV1015	662	1.0L Can	09/05/13	92455	L1317027-22	Pass	-29.5	-4.1	-	-	-	-
L1317522-08	SSV1016	0256	#16 SV	09/05/13	92455		-	-	-	Pass	13.1	13.3	2
L1317522-08	SSV1016	864	1.0L Can	09/05/13	92455	L1317027-45	Pass	-29.5	-4.3	-	-	-	-

Project Name: FORMER BUILDING 982 **Lab Number:** L1317522

Project Number: 3623.00 **Report Date:** 10/01/13

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1317522-09	SSV1017	0553	#20 SV	09/05/13	92455		-	-	-	Pass	13.2	12.4	6
L1317522-09	SSV1017	718	1.0L Can	09/05/13	92455	L1317027-46	Pass	-29.5	-5.0	-	-	-	-
L1317522-10	SSV1023	0101	#20 SV	09/05/13	92455		-	-	-	Pass	13.0	13.2	2
L1317522-10	SSV1023	671	1.0L Can	09/05/13	92455	L1317027-25	Pass	-29.5	-5.0	-	-	-	-
L1317522-11	SSV1025	0558	#20 SV	09/05/13	92455		-	-	-	Pass	12.7	13.2	4
L1317522-11	SSV1025	720	1.0L Can	09/05/13	92455	L1317027-20	Pass	-29.5	-6.1	-	-	-	-
L1317522-12	DUP1	0103	#30 SV	09/05/13	92455		-	-	-	Pass	12.9	14.0	8
L1317522-12	DUP1	794	1.0L Can	09/05/13	92455	L1317027-44	Pass	-29.5	-5.1	-	-	-	-
L1317522-13	FB1	0026	#20 AMB	09/05/13	92455		-	-	-	Pass	12.8	13.4	5
L1317522-13	FB1	861	1.0L Can	09/05/13	92455	L1317027-26	Pass	-29.5	-6.9	-	-	-	-
L1317522-14	UNUSED CAN 829	0332	#30 AMB	09/05/13	92455		-	-	-	Pass	13.0	14.3	10
L1317522-15	UNUSED CAN 837	0435	#30 SV	09/05/13	92455		-	-	-	Pass	12.8	14.0	9

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-19	Date Collected:	09/03/13 15:32
Client ID:	CAN 848 FC 349	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 18:06		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-19
Client ID: CAN 848 FC 349
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	109		60-140
bromochloromethane	121		60-140
chlorobenzene-d5	90		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-20	Date Collected:	09/03/13 15:32
Client ID:	CAN 720 FC 558	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 18:37		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name: **Lab Number:** L1317027

Project Number: Not Specified **Report Date:** 10/01/13

Air Canister Certification Results

Lab ID: L1317027-20 Date Collected: 09/03/13 15:32

Client ID: CAN 720 FC 558 Date Received: 09/03/13

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	109		60-140
bromochloromethane	125		60-140
chlorobenzene-d5	93		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-21	Date Collected:	09/03/13 15:32
Client ID:	CAN 862 FC 100	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 19:07		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-21
Client ID: CAN 862 FC 100
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	124		60-140
chlorobenzene-d5	92		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-22	Date Collected:	09/03/13 15:32
Client ID:	CAN 662 FC 116	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 19:38		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-22
Client ID: CAN 662 FC 116
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	125		60-140
chlorobenzene-d5	91		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-23	Date Collected:	09/03/13 15:32
Client ID:	CAN 668 FC 0024	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 20:08		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-23
Client ID: CAN 668 FC 0024
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	118		60-140
chlorobenzene-d5	91		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-24	Date Collected:	09/03/13 15:32
Client ID:	CAN 658 FC 0174	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 20:38		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-24
Client ID: CAN 658 FC 0174
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	126		60-140
chlorobenzene-d5	93		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-25	Date Collected:	09/03/13 15:32
Client ID:	CAN 671 FC 0101	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 21:09		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-25
Client ID: CAN 671 FC 0101
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	103		60-140
bromochloromethane	122		60-140
chlorobenzene-d5	91		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-26	Date Collected:	09/03/13 15:32
Client ID:	CAN 861 FC 0026	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 21:40		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-26
Client ID: CAN 861 FC 0026
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	104		60-140
bromochloromethane	125		60-140
chlorobenzene-d5	92		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-27	Date Collected:	09/03/13 15:32
Client ID:	CAN 812 FC 0041	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/03/13 22:10		
Analyst:	MB		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name: **Lab Number:** L1317027

Project Number: Not Specified **Report Date:** 10/01/13

Air Canister Certification Results

Lab ID: L1317027-27 Date Collected: 09/03/13 15:32

Client ID: CAN 812 FC 0041 Date Received: 09/03/13

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	111		60-140
bromochloromethane	126		60-140
chlorobenzene-d5	96		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-39	Date Collected:	09/03/13 15:32
Client ID:	CAN 802 FC G	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/04/13 20:51		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-39
Client ID: CAN 802 FC G
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	99		60-140
bromochloromethane	105		60-140
chlorobenzene-d5	102		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-41	Date Collected:	09/03/13 15:32
Client ID:	CAN 837 FC H	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/04/13 21:53		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-41
Client ID: CAN 837 FC H
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	101		60-140
bromochloromethane	116		60-140
chlorobenzene-d5	102		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-42	Date Collected:	09/03/13 15:32
Client ID:	CAN 829 FC 332	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/04/13 22:23		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Project Name: **Lab Number:** L1317027

Project Number: Not Specified **Report Date:** 10/01/13

Air Canister Certification Results

Lab ID: L1317027-42 Date Collected: 09/03/13 15:32

Client ID: CAN 829 FC 332 Date Received: 09/03/13

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	100		60-140
bromochloromethane	110		60-140
chlorobenzene-d5	105		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-44	Date Collected:	09/03/13 15:32
Client ID:	CAN 794 FC 103	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/04/13 23:24		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-44
Client ID: CAN 794 FC 103
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	101		60-140
bromochloromethane	114		60-140
chlorobenzene-d5	105		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-45	Date Collected:	09/03/13 15:32
Client ID:	CAN 864 FC 256	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/04/13 23:55		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Project Name: **Lab Number:** L1317027

Project Number: Not Specified **Report Date:** 10/01/13

Air Canister Certification Results

Lab ID: L1317027-45 Date Collected: 09/03/13 15:32

Client ID: CAN 864 FC 256 Date Received: 09/03/13

Sample Location: Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	98		60-140
bromochloromethane	106		60-140
chlorobenzene-d5	103		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-46
Client ID: CAN 718 FC 553
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 09/05/13 07:45
Analyst: RY

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-46
Client ID: CAN 718 FC 553
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	100		60-140
bromochloromethane	101		60-140
chlorobenzene-d5	96		60-140

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID:	L1317027-47	Date Collected:	09/03/13 15:32
Client ID:	CAN 562 FC 556	Date Received:	09/03/13
Sample Location:		Field Prep:	Not Specified
Matrix:	Air		
Anaytical Method:	48,TO-15-SIM		
Analytical Date:	09/05/13 08:15		
Analyst:	RY		

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1

Project Name:

Lab Number: L1317027

Project Number: Not Specified

Report Date: 10/01/13

Air Canister Certification Results

Lab ID: L1317027-47
Client ID: CAN 562 FC 556
Sample Location:

Date Collected: 09/03/13 15:32
Date Received: 09/03/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-difluorobenzene	101		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	100		60-140

Project Name: FORMER BUILDING 982
Project Number: 3623.00

Lab Number: L1317522
Report Date: 10/01/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**
Cooler
N/A Present/Intact

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1317522-01A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-02A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-03A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-04A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-05A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-06A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-07A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-08A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-09A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-10A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-11A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-12A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-13A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	NYSDEC-TO15-SIM(30)
L1317522-14A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	CLEAN-FEE()
L1317522-15A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	CLEAN-FEE()
L1317522-16A	Canister - 1 Liter	N/A	N/A		Y	Present/Intact	CLEAN-FEE()

*Values in parentheses indicate holding time in days

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317522
Project Number:	3623.00	**Report Date:**	10/01/13

GLOSSARY

Acronyms

EDL - Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).

EPA - Environmental Protection Agency.

LCS - Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

LCSD - Laboratory Control Sample Duplicate: Refer to LCS.

LFB - Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.

MDL - Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

MS - Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.

MSD - Matrix Spike Sample Duplicate: Refer to MS.

NA - Not Applicable.

NC - Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.

NI - Not Ignitable.

RL - Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.

RPD - Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.

SRM - Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A - Spectra identified as "Aldol Condensation Product".

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317522
Project Number:	3623.00	**Report Date:**	10/01/13

Data Qualifiers

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name:	FORMER BUILDING 982	**Lab Number:**	L1317522
Project Number:	3623.00	**Report Date:**	10/01/13

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certificate/Approval Program Summary

Last revised October 1, 2013 – Mansfield Facility

The following list includes only those analytes/methods for which certification/approval is currently held.
For a complete listing of analytes for the referenced methods, please contact your Alpha Customer Service Representative.

Connecticut Department of Public Health Certificate/Lab ID: PH-0141.

Wastewater/Non-Potable Water (Inorganic Parameters: pH, Turbidity, Conductivity, Alkalinity, Aluminum, Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Strontium, Thallium, Tin, Titanium, Vanadium, Zinc, Total Residue (Solids), Total Suspended Solids (non-filterable). Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Acid Extractables, Benzidines, Phthalate Esters, Nitrosamines, Nitroaromatics & Isophorone, PAHs, Haloethers, Chlorinated Hydrocarbons, Volatile Organics.)

Solid Waste/Soil (Inorganic Parameters: pH, Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Calcium, Chromium, Hexavalent Chromium, Cobalt, Copper, Iron, Lead, Magnesium, Manganese, Mercury, Molybdenum, Nickel, Potassium, Selenium, Silver, Sodium, Thallium, Titanium, Vanadium, Zinc, Total Organic Carbon, Corrosivity, TCLP 1311, SPLP 1312. Organic Parameters: PCBs, Organochlorine Pesticides, Technical Chlordane, Toxaphene, Volatile Organics, Acid Extractables, Benzidines, Phthalates, Nitrosamines, Nitroaromatics & Cyclic Ketones, PAHs, Haloethers, Chlorinated Hydrocarbons.)

Florida Department of Health Certificate/Lab ID: E87814. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, SM2540G.)

Solid & Chemical Materials (Inorganic Parameters: 6020, 7470, 7471, 9045. Organic Parameters: EPA 8260, 8270, 8082, 8081.)

Air & Emissions (EPA TO-15.)

Louisiana Department of Environmental Quality Certificate/Lab ID: 03090. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 245.7, 1631E, 3020A, 6020A, 7470A, 9040, 9050A, SM2320B, 2540D, 2540G, 4500H-B, Organic Parameters: EPA 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 5030B, 8015D, 3570, 8081B, 8082A, 8260B, 8270C, 8270D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 1311, 3050B, 3051A, 3060A, 6020A, 7196A, 7470A, 7471B, 7474, 9040B, 9045C, 9060. Organic Parameters: EPA 3540C, 3570, 3580A, 3630C, 3640A, 3660, 3665A, 5035, 8015D, 8081B, 8082A, 8260B, 8270C, 8270D.)

Biological Tissue (Inorganic Parameters: EPA 6020A. Organic Parameters: EPA 3570, 3510C, 3610B, 3630C, 3640A, 8270C, 8270D.)

Air & Emissions (EPA TO-15.)

New Hampshire Department of Environmental Services Certificate/Lab ID: 2206. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: EPA 180.1, 1631E, 6020A, 7470A, 9040B, 9050A, SM2540D, 2540G, 4500H+B, 2320B, 3020A, . Organic Parameters: EPA 3510C, 3630C, 3640A, 3660B, 8081B, 8082A, 8270C, 8270D, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 3050B, 3051A, 6020A, 7471B, 9040B, 9045C. Organic Parameters: SW-846 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8015D, 8082A, 8081B.)

New Jersey Department of Environmental Protection Certificate/Lab ID: MA015. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SW-846 1312, 3020A, SM2320B, SM2540D, 2540G, 4500H-B, EPA 180.1, 1631E, SW-846 7470A, 9040C, 6020A, 9050A. Organic Parameters: SW-846 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D)

Solid & Chemical Materials (Inorganic Parameters: SW-846 1311, 1312, 3050B, 3051A, 6020A, 7471B, 7474, 9040B, 9040C, 9045C, 9045D, 9060, 9060A. Organic Parameters: SW-846 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8081B, 8082A, 8270C, 8270D, 8015D.)

Atmospheric Organic Parameters (EPA 3C, TO-15, TO-10A, TO-13A-SIM.)

Biological Tissue (Inorganic Parameters: SW-846 6020A. Organic Parameters: SW-846 8270C, 8270D, 3510C, 3570, 3610C, 3630C, 3640A)

New York Department of Health Certificate/Lab ID: 11627. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters: SM2320B, SM2540D, 6020A, 1631E, 7470A, 9050A, EPA 180.1, 3020A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 3510C.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 6020A, 7471B, 7474, 9040C, 9045D, 9060A. Organic Parameters: EPA 8270C, 8270D, 8081B, 8082A, 1311, 3050B, 3580A, 3570, 3051A.)

Air & Emissions (EPA TO-15, TO-10A.)

Pennsylvania Certificate/Lab ID: 68-02089 ***NELAP Accredited***

Non-Potable Water (Inorganic Parameters: 1312, 1631E, 180.1, 3020A, 6020A, 7470A, 9040B, 9050A, 2320B, 2540D, 2540G, SM4500H+-B. Organic Parameters: 3510C, 3580A, 3630C, 3640A, 3660B, 3665A, 8015D, 8081B, 8082A, 8270C, 8270D .)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3051A, 6020A, 7471B, 7474 9040B, 9045C, 9060. Organic Parameters: EPA3050B, 3540C, 3570, 3580A, 3630C, 3640A, 3660B, 3665A, 8270C, 8270D, 8081B, 8015D, 8082A.)

Rhode Island Department of Health Certificate/Lab ID: LAO00299. ***NELAP Accredited via NJ-DEP.***

Refer to NJ-DEP Certificate for Non-Potable Water.

Texas Commission of Environmental Quality Certificate/Lab ID: T104704419-08-TX. ***NELAP Accredited.***

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 1311, 9040, 9045, 9060. Organic Parameters: EPA 8015, 8270, 8081, 8082.)

Air (Organic Parameters: EPA TO-15)

Virginia Division of Consolidated Laboratory Services Certificate/Lab ID:460194. ***NELAP Accredited.***

Non-Potable Water (Inorganic Parameters:EPA 3020A, 6020A, 245.7, 9040B. Organic Parameters: EPA 3510C, 3640A, 3660B, 3665A, 8270C, 8270D, 8082A, 8081B, 8015D.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020A,7470A,7471B,9040B,9045C,3050B,3051, 9060. Organic Parameters: EPA 3540C, 3580A, 3630C, 3640A, 3660B, 3665A, 3570, 8270C, 8270D, 8081B, 8082A, 8015D.)

Washington State Department of Ecology Certificate/Lab ID: C954. *Non-Potable Water* (Inorganic Parameters: SM2540D, 180.1, 1631E.)

Solid & Chemical Materials (Inorganic Parameters: EPA 6020, 7470, 7471, 7474, 9045C, 9050A, 9060. Organic Parameters: EPA 8081, 8082, 8015, 8270.)

U.S. Army Corps of Engineers

Department of Defense, L-A-B Certificate/Lab ID: L2217.01.

Non-Potable Water (Inorganic Parameters: EPA 6020A, SM4500H-B. Organic Parameters: 3020A, 3510C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH, 8082A, 8081B, 8015D-SHC, 8015D.)

Solid & Hazardous Waste (Inorganic Parameters: EPA 1311, 3050B, 6020A, 7471A, 9045C, 9060, SM 2540G, ASTM D422-63. Organic Parameters: EPA 3580A, 3570, 3540C, 8270C, 8270D, 8270C-ALK-PAH, 8270D-ALK-PAH 8082A, 8081B, 8015D-SHC, 8015D.

Air & Emissions (EPA TO-15.)

Analytes Not Accredited by NELAP

Certification is not available by NELAP for the following analytes: **8270C:** Biphenyl. **TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 2-Methylnaphthalene, 1-Methylnaphthalene.

AIR ANALYSIS

PAGE 1 OF 2

CHAIN OF CUSTODY

ALPHA ANALYTICAL
320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1317522

Client Information

Client: Sanborn Head
Address: 20 Foundry St
Concord, NH 03301
Phone: 603-229-1900
Fax: -
Email: twhite@sanbornhead.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Building 982
Project Location: Poughkeepsie, NY
Project #: 3623.00
Project Manager: Tim White
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
NY		

Other Project Specific Requirements/Comments:
*B982 Specific Analyte list

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-14A by TO-15	TO-15	TO-15 SIM * APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
17522 01	SSV1002	9-6-13	0934	1042	-29.9	-4.02	SV	JSP	1L	658	0024			X				
02	SSV1003	9-6-13	0934	1041	-30.53	-4.24	SV	JSP	1L	668	0174			X				
03	SSV1005	9-6-13	0935	1043	-29.69	-5.03	SV	JSP	1L	848	349			X				
04	SSV1012	9-6-13	0936	1043	-30.65	-4.96	SV	JSP	1L	862	100			X				
05	SSV1013	9-6-13	0937	1044	-30.81	-5.12	SV	JSP	1L	562	556			X				
06	SSV1014	9-6-13	0941	1047	-30.31	-5.8	SV	JSP	1L	812	0041			X				
07	SSV1015	9-6-13	0940	1046	-30.01	-4.37	SV	JSP	1L	662	116			X				
08	SSV1016	9-6-13	0938	10:44	-30.[illegible]	-4.82	SV	JSP	1L	864	256			X				
09	SSV1017	9-6-13	10:08	11:13	-30.98	-5.57	SV	JSP	1L	718	553			X				
10	SSV1023	9-6-13	09:39	10:45	-29.59	-5.37	SV	JSP	1L	671	0101			X				

*SAMPLE MATRIX CODES
AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
[signature]	9-6-13 1610	[signature]	9/6/13 16:10
[signature] 18:13	9/6/13	[signature]	9/6/13 18:13
Tom Tobin	00:05	Tom Tobin	9/7/13 00:05
[signature]	9/7/13 03:00	Mansfield Lab	9/7/13 03:00

AIR ANALYSIS

PAGE 2 OF 2

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1317522

Client Information

Client: Sanborn Head
Address: 20 Foundry St.
Concord, NH 03301
Phone: 603-229-1900
Fax: -
Email: twhite@sanbornhead.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Former Bldg 982
Project Location: Poughkeepsie, NY
Project #: 3623.00
Project Manager: Tim White
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☐ EMAIL (standard pdf report)
☐ Additional Deliverables:
Report to: (if different than Project Manager)

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria
NY		

Other Project Specific Requirements/Comments:

B982 Specific Analyte List

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-14A by TO-15	TO-15	TO-15 SIM	APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
17522-1	SSV1025	9-6-13	0940	1052	-30.96	-6.77	SV	JSP	1L	720	558			X					
-2	DUP1	9-6-13	0940	1045	-30.20	-5.56	SV	JSP	1L	794	103			X					
-3	FB1	9-6-13	10:37	1156	-29.57	-7.00	SV	JSP	1L	861	0026			X					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type: CS

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By:	Date/Time	Received By:	Date/Time:
[signature] 18:13	9-6-13 / 1610	[signature]	9/6/13 16:10
[signature]	9/6/13	[signature]	9/6/13 18:13
		[signature]	9/7/13 00:05
[signature]	9/7/13 0300	Mansfield Lab	9/7/13 0300

APPENDIX B.3

SSDS Operation Treatment System Sample Data

ANALYTICAL REPORT

Lab Number:	L1325544
Client:	Sanborn, Head & Associates, Inc. 20 Foundry Street Concord, NH 03301
ATTN:	Seth Soos
Phone:	(603) 229-1900
Project Name:	NEPTUNE RD/FORMER B982
Project Number:	3623.00
Report Date:	12/20/13

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NY (11627), CT (PH-0141), NH (2206), NJ NELAP (MA015), RI (LAO00299), PA (68-02089), LA NELAP (03090), FL (E87814), TX (T104704419), WA (C954), DOD (L2217.01), USDA (Permit #P330-11-00109), US Army Corps of Engineers.

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: NEPTUNE RD/FORMER B982
Project Number: 3623.00

Lab Number: L1325544
Report Date: 12/20/13

Alpha Sample ID	Client ID	Sample Location	Collection Date/Time
L1325544-01	SSDS-I	NY	12/13/13 15:58
L1325544-02	SSDS-M	NY	12/13/13 16:02
L1325544-03	SSDS-E	NY	12/13/13 16:06

Project Name: NEPTUNE RD/FORMER B982 **Lab Number:** L1325544
Project Number: 3623.00 **Report Date:** 12/20/13

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	NEPTUNE RD/FORMER B982	**Lab Number:**	L1325544
Project Number:	3623.00	**Report Date:**	12/20/13

Case Narrative (continued)

Volatile Organics in Air

Canisters were released from the laboratory on December 10, 2013. The canister certification results are provided as an addendum.

Samples L1325544-01 through -03 and WG660307-5 Duplicate: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen due to canister size. The pressurization resulted in a dilution of the samples. The reporting limits have been elevated accordingly.

Samples L1325544-02 and -03 results for Acetone should be considered estimated due to co-elution with a non-target peak.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Christopher J. Anderson

Title: Technical Director/Representative Date: 12/20/13

AIR

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-01 D
Client ID: SSDS-I
Sample Location: NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/19/13 15:20
Analyst: RY

Date Collected: 12/13/13 15:58
Date Received: 12/16/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	1.93	1.26	--	3.32	2.17	--		2.53
Dichlorodifluoromethane	1.09	0.126	--	5.39	0.623	--		2.53
Vinyl chloride	ND	0.051	--	ND	0.129	--		2.53
Acetone	157	5.06	--	373	12.0	--		2.53
Trichlorofluoromethane	0.486	0.126	--	2.73	0.708	--		2.53
iso-Propyl Alcohol	2.79	1.26	--	6.86	3.10	--		2.53
1,1-Dichloroethene	6.88	0.051	--	27.3	0.201	--		2.53
Carbon disulfide	ND	0.506	--	ND	1.58	--		2.53
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.93	0.126	--	14.8	0.966	--		2.53
1,1-Dichloroethane	0.989	0.051	--	4.00	0.205	--		2.53
2-Butanone	18.2	1.26	--	53.7	3.72	--		2.53
cis-1,2-Dichloroethene	1.07	0.051	--	4.24	0.201	--		2.53
Chloroform	0.486	0.051	--	2.37	0.247	--		2.53
1,1,1-Trichloroethane	20.1	0.051	--	110	0.276	--		2.53
Carbon tetrachloride	0.063	0.051	--	0.398	0.318	--		2.53
Trichloroethene	11.7	0.051	--	62.9	0.272	--		2.53
4-Methyl-2-pentanone	ND	1.26	--	ND	5.16	--		2.53
Toluene	22.5	0.126	--	84.8	0.475	--		2.53
Tetrachloroethene	0.260	0.051	--	1.76	0.343	--		2.53
Ethylbenzene	16.9	0.051	--	73.4	0.220	--		2.53
p/m-Xylene	67.3	0.101	--	292	0.439	--		2.53
o-Xylene	16.0	0.051	--	69.5	0.220	--		2.53
1,2,4-Trimethylbenzene	3.12	0.051	--	15.3	0.249	--		2.53

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-01 D Date Collected: 12/13/13 15:58

Client ID: SSDS-I Date Received: 12/16/13

Sample Location: NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-01 D Date Collected: 12/13/13 15:58

Client ID: SSDS-I Date Received: 12/16/13

Sample Location: NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	103		70-130
Bromofluorobenzene	108		70-130
Toluene-d8	106		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	91		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	93		60-140

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-02 D
Client ID: SSDS-M
Sample Location: NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/19/13 16:24
Analyst: RY

Date Collected: 12/13/13 16:02
Date Received: 12/16/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	2.44	1.26	--	4.20	2.17	--		2.53
Dichlorodifluoromethane	0.192	0.126	--	0.949	0.623	--		2.53
Vinyl chloride	ND	0.051	--	ND	0.129	--		2.53
Acetone	13.0	5.06	--	30.9	12.0	--		2.53
Trichlorofluoromethane	ND	0.126	--	ND	0.708	--		2.53
iso-Propyl Alcohol	ND	1.26	--	ND	3.10	--		2.53
1,1-Dichloroethene	0.147	0.051	--	0.583	0.201	--		2.53
Carbon disulfide	ND	0.506	--	ND	1.58	--		2.53
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.126	--	ND	0.966	--		2.53
1,1-Dichloroethane	ND	0.051	--	ND	0.205	--		2.53
2-Butanone	8.94	1.26	--	26.4	3.72	--		2.53
cis-1,2-Dichloroethene	ND	0.051	--	ND	0.201	--		2.53
Chloroform	ND	0.051	--	ND	0.247	--		2.53
1,1,1-Trichloroethane	0.390	0.051	--	2.13	0.276	--		2.53
Carbon tetrachloride	ND	0.051	--	ND	0.318	--		2.53
Trichloroethene	0.240	0.051	--	1.29	0.272	--		2.53
4-Methyl-2-pentanone	ND	1.26	--	ND	5.16	--		2.53
Toluene	2.91	0.126	--	11.0	0.475	--		2.53
Tetrachloroethene	ND	0.051	--	ND	0.343	--		2.53
Ethylbenzene	4.01	0.051	--	17.4	0.220	--		2.53
p/m-Xylene	17.1	0.101	--	74.3	0.439	--		2.53
o-Xylene	3.65	0.051	--	15.9	0.220	--		2.53
1,2,4-Trimethylbenzene	0.792	0.051	--	3.89	0.249	--		2.53

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-02 D Date Collected: 12/13/13 16:02

Client ID: SSDS-M Date Received: 12/16/13

Sample Location: NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-02 D Date Collected: 12/13/13 16:02

Client ID: SSDS-M Date Received: 12/16/13

Sample Location: NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	100		70-130
Bromofluorobenzene	101		70-130
Toluene-d8	101		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	95		60-140
chlorobenzene-d5	96		60-140

Project Name: NEPTUNE RD/FORMER B982 **Lab Number:** L1325544

Project Number: 3623.00 **Report Date:** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-03 D
Client ID: SSDS-E
Sample Location: NY
Matrix: Soil_Vapor
Anaytical Method: 48,TO-15-SIM
Analytical Date: 12/19/13 16:55
Analyst: RY

Date Collected: 12/13/13 16:06
Date Received: 12/16/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Propylene	ND	1.36	--	ND	2.34	--		2.725
Dichlorodifluoromethane	0.169	0.136	--	0.836	0.672	--		2.725
Vinyl chloride	ND	0.055	--	ND	0.139	--		2.725
Acetone	15.8	5.45	--	37.5	12.9	--		2.725
Trichlorofluoromethane	ND	0.136	--	ND	0.764	--		2.725
iso-Propyl Alcohol	1.47	1.36	--	3.61	3.34	--		2.725
1,1-Dichloroethene	ND	0.055	--	ND	0.216	--		2.725
Carbon disulfide	ND	0.545	--	ND	1.70	--		2.725
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.136	--	ND	1.04	--		2.725
1,1-Dichloroethane	ND	0.055	--	ND	0.221	--		2.725
2-Butanone	7.10	1.36	--	20.9	4.01	--		2.725
cis-1,2-Dichloroethene	ND	0.055	--	ND	0.216	--		2.725
Chloroform	ND	0.055	--	ND	0.266	--		2.725
1,1,1-Trichloroethane	ND	0.055	--	ND	0.297	--		2.725
Carbon tetrachloride	ND	0.055	--	ND	0.343	--		2.725
Trichloroethene	ND	0.055	--	ND	0.293	--		2.725
4-Methyl-2-pentanone	ND	1.36	--	ND	5.57	--		2.725
Toluene	3.07	0.136	--	11.6	0.513	--		2.725
Tetrachloroethene	ND	0.055	--	ND	0.370	--		2.725
Ethylbenzene	3.75	0.055	--	16.3	0.237	--		2.725
p/m-Xylene	15.9	0.109	--	69.1	0.473	--		2.725
o-Xylene	3.30	0.055	--	14.3	0.237	--		2.725
1,2,4-Trimethylbenzene	0.722	0.055	--	3.55	0.268	--		2.725

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-03 D Date Collected: 12/13/13 16:06

Client ID: SSDS-E Date Received: 12/16/13

Sample Location: NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Project Name: NEPTUNE RD/FORMER B982 ***Lab Number:*** L1325544

Project Number: 3623.00 ***Report Date:*** 12/20/13

SAMPLE RESULTS

Lab ID: L1325544-03 D Date Collected: 12/13/13 16:06

Client ID: SSDS-E Date Received: 12/16/13

Sample Location: NY Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								

Surrogate	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,2-Dichloroethane-d4	100		70-130
Bromofluorobenzene	100		70-130
Toluene-d8	101		70-130

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	92		60-140
bromochloromethane	94		60-140
chlorobenzene-d5	96		60-140

Project Name: NEPTUNE RD/FORMER B982 **Lab Number:** L1325544

Project Number: 3623.00 **Report Date:** 12/20/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 12/19/13 14:33

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG660307-5								
Propylene	ND	0.500	--	ND	0.861	--		1
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
iso-Propyl Alcohol	ND	0.500	--	ND	1.23	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	0.050	--	ND	0.383	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1

Project Name: NEPTUNE RD/FORMER B982 **Lab Number:** L1325544

Project Number: 3623.00 **Report Date:** 12/20/13

Method Blank Analysis
Batch Quality Control

Analytical Method: 48,TO-15-SIM
Analytical Date: 12/19/13 14:33

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab for sample(s): 01-03 Batch: WG660307-5								

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	100		70-130
Bromofluorobenzene	100		70-130
Toluene-d8	106		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEPTUNE RD/FORMER B982

Project Number: 3623.00

Lab Number: L1325544

Report Date: 12/20/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG660307-3 WG660307-4								
Propylene	94		97		70-130	3		20
Dichlorodifluoromethane	92		91		70-130	1		20
Vinyl chloride	101		105		70-130	4		20
Acetone	100		103		70-130	3		20
Trichlorofluoromethane	110		112		70-130	2		20
iso-Propyl Alcohol	91		93		70-130	2		20
1,1-Dichloroethene	102		105		70-130	3		20
Carbon disulfide	97		99		70-130	2		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	110		113		70-130	3		20
1,1-Dichloroethane	103		106		70-130	3		20
2-Butanone	91		93		70-130	2		20
cis-1,2-Dichloroethene	109		112		70-130	3		20
Chloroform	108		111		70-130	3		20
1,1,1-Trichloroethane	105		107		70-130	2		20
Carbon tetrachloride	114		116		70-130	2		20
Trichloroethene	116		118		70-130	2		20
4-Methyl-2-pentanone	93		94		70-130	1		20
Toluene	108		111		70-130	3		20
Tetrachloroethene	119		121		70-130	2		20
Ethylbenzene	111		113		70-130	2		20
p/m-Xylene	113		115		70-130	2		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: NEPTUNE RD/FORMER B982

Project Number: 3623.00

Lab Number: L1325544

Report Date: 12/20/13

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 Batch: WG660307-3 WG660307-4								
o-Xylene	114		117		70-130	3		20
1,2,4-Trimethylbenzene	121		123		70-130	2		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	95		97		70-130
Toluene-d8	103		105		70-130
Bromofluorobenzene	102		104		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEPTUNE RD/FORMER B982
Project Number: 3623.00

Lab Number: L1325544
Report Date: 12/20/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG660307-6 QC Sample: L1325544-01 Client ID: SSDS-I						
Propylene	1.93	1.84	ppbV	5		20
Dichlorodifluoromethane	1.09	0.939	ppbV	15		20
Vinyl chloride	ND	ND	ppbV	NC		20
Acetone	157	158	ppbV	1		20
Trichlorofluoromethane	0.486	0.476	ppbV	2		20
iso-Propyl Alcohol	2.79	2.77	ppbV	1		20
1,1-Dichloroethene	6.88	6.61	ppbV	4		20
Carbon disulfide	ND	ND	ppbV	NC		20
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.93	1.89	ppbV	2		20
1,1-Dichloroethane	0.989	0.966	ppbV	2		20
2-Butanone	18.2	17.9	ppbV	2		20
cis-1,2-Dichloroethene	1.07	1.04	ppbV	3		20
Chloroform	0.486	0.470	ppbV	3		20
1,1,1-Trichloroethane	20.1	19.5	ppbV	3		20
Carbon tetrachloride	0.063	0.061	ppbV	4		20
Trichloroethene	11.7	11.4	ppbV	3		20
4-Methyl-2-pentanone	ND	ND	ppbV	NC		20
Toluene	22.5	21.8	ppbV	3		20
Tetrachloroethene	0.260	0.250	ppbV	4		20

Lab Duplicate Analysis
Batch Quality Control

Project Name: NEPTUNE RD/FORMER B982
Project Number: 3623.00

Lab Number: L1325544
Report Date: 12/20/13

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Volatile Organics in Air by SIM - Mansfield Lab Associated sample(s): 01-03 QC Batch ID: WG660307-6 QC Sample: L1325544-01 Client ID: SSDS-I					
Ethylbenzene	16.9	16.6	ppbV	2	20
p/m-Xylene	67.3	65.9	ppbV	2	20
o-Xylene	16.0	15.6	ppbV	3	20
1,2,4-Trimethylbenzene	3.12	3.04	ppbV	3	20

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		99		70-130
Toluene-d8	106		101		70-130
Bromofluorobenzene	108		104		70-130

Project Name: NEPTUNE RD/FORMER B982

Lab Number: L1325544

Project Number: 3623.00

Report Date: 12/20/13

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt (in. Hg)	Flow Controler Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L1325544-01	SSDS-I	839	1.0L Can	12/10/13	96597	L1323696-03	Pass	-29.8	-4.8	-	-	-	-
L1325544-02	SSDS-M	729	1.0L Can	12/10/13	96597	L1323696-03	Pass	-29.6	-4.6	-	-	-	-
L1325544-03	SSDS-E	663	1.0L Can	12/10/13	96597	L1323696-03	Pass	-29.7	-6.5	-	-	-	-

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15
Analytical Date: 11/21/13 19:56
Analyst: RY

Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								
Chlorodifluoromethane	ND	0.200	--	ND	0.707	--		1
Propylene	ND	0.500	--	ND	0.861	--		1
Propane	ND	0.500	--	ND	0.902	--		1
Dichlorodifluoromethane	ND	0.200	--	ND	0.989	--		1
Chloromethane	ND	0.200	--	ND	0.413	--		1
Freon-114	ND	0.200	--	ND	1.40	--		1
Methanol	ND	5.00	--	ND	6.55	--		1
Vinyl chloride	ND	0.200	--	ND	0.511	--		1
1,3-Butadiene	ND	0.200	--	ND	0.442	--		1
Butane	ND	0.200	--	ND	0.475	--		1
Bromomethane	ND	0.200	--	ND	0.777	--		1
Chloroethane	ND	0.200	--	ND	0.528	--		1
Ethanol	ND	2.50	--	ND	4.71	--		1
Dichlorofluoromethane	ND	0.200	--	ND	0.842	--		1
Vinyl bromide	ND	0.200	--	ND	0.874	--		1
Acrolein	ND	0.500	--	ND	1.15	--		1
Acetone	ND	1.00	--	ND	2.38	--		1
Acetonitrile	ND	0.200	--	ND	0.336	--		1
Trichlorofluoromethane	ND	0.200	--	ND	1.12	--		1
Isopropanol	ND	0.500	--	ND	1.23	--		1
Acrylonitrile	ND	0.200	--	ND	0.434	--		1
Pentane	ND	0.200	--	ND	0.590	--		1
Ethyl ether	ND	0.200	--	ND	0.606	--		1
1,1-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Tertiary butyl Alcohol	ND	0.500	--	ND	1.52	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:
Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Methylene chloride	ND	1.00	--	ND	3.47	--		1
3-Chloropropene	ND	0.200	--	ND	0.626	--		1
Carbon disulfide	ND	0.200	--	ND	0.623	--		1
Freon-113	ND	0.200	--	ND	1.53	--		1
trans-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
1,1-Dichloroethane	ND	0.200	--	ND	0.809	--		1
Methyl tert butyl ether	ND	0.200	--	ND	0.721	--		1
Vinyl acetate	ND	0.200	--	ND	0.704	--		1
2-Butanone	ND	0.200	--	ND	0.590	--		1
cis-1,2-Dichloroethene	ND	0.200	--	ND	0.793	--		1
Ethyl Acetate	ND	0.500	--	ND	1.80	--		1
Chloroform	ND	0.200	--	ND	0.977	--		1
Tetrahydrofuran	ND	0.200	--	ND	0.590	--		1
2,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
1,2-Dichloroethane	ND	0.200	--	ND	0.809	--		1
n-Hexane	ND	0.200	--	ND	0.705	--		1
Diisopropyl ether	ND	0.200	--	ND	0.836	--		1
tert-Butyl Ethyl Ether	ND	0.200	--	ND	0.836	--		1
1,1,1-Trichloroethane	ND	0.200	--	ND	1.09	--		1
1,1-Dichloropropene	ND	0.200	--	ND	0.908	--		1
Benzene	ND	0.200	--	ND	0.639	--		1
Carbon tetrachloride	ND	0.200	--	ND	1.26	--		1
Cyclohexane	ND	0.200	--	ND	0.688	--		1
tert-Amyl Methyl Ether	ND	0.200	--	ND	0.836	--		1
Dibromomethane	ND	0.200	--	ND	1.42	--		1
1,2-Dichloropropane	ND	0.200	--	ND	0.924	--		1
Bromodichloromethane	ND	0.200	--	ND	1.34	--		1
1,4-Dioxane	ND	0.200	--	ND	0.721	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:
Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
Trichloroethene	ND	0.200	--	ND	1.07	--		1
2,2,4-Trimethylpentane	ND	0.200	--	ND	0.934	--		1
Methyl Methacrylate	ND	0.500	--	ND	2.05	--		1
Heptane	ND	0.200	--	ND	0.820	--		1
cis-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
4-Methyl-2-pentanone	ND	0.200	--	ND	0.820	--		1
trans-1,3-Dichloropropene	ND	0.200	--	ND	0.908	--		1
1,1,2-Trichloroethane	ND	0.200	--	ND	1.09	--		1
Toluene	ND	0.200	--	ND	0.754	--		1
1,3-Dichloropropane	ND	0.200	--	ND	0.924	--		1
2-Hexanone	ND	0.200	--	ND	0.820	--		1
Dibromochloromethane	ND	0.200	--	ND	1.70	--		1
1,2-Dibromoethane	ND	0.200	--	ND	1.54	--		1
Butyl acetate	ND	0.500	--	ND	2.38	--		1
Octane	ND	0.200	--	ND	0.934	--		1
Tetrachloroethene	ND	0.200	--	ND	1.36	--		1
1,1,1,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
Chlorobenzene	ND	0.200	--	ND	0.921	--		1
Ethylbenzene	ND	0.200	--	ND	0.869	--		1
p/m-Xylene	ND	0.400	--	ND	1.74	--		1
Bromoform	ND	0.200	--	ND	2.07	--		1
Styrene	ND	0.200	--	ND	0.852	--		1
1,1,2,2-Tetrachloroethane	ND	0.200	--	ND	1.37	--		1
o-Xylene	ND	0.200	--	ND	0.869	--		1
1,2,3-Trichloropropane	ND	0.200	--	ND	1.21	--		1
Nonane	ND	0.200	--	ND	1.05	--		1
Isopropylbenzene	ND	0.200	--	ND	0.983	--		1
Bromobenzene	ND	0.200	--	ND	0.793	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT

Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:

Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air - Mansfield Lab								
2-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
n-Propylbenzene	ND	0.200	--	ND	0.983	--		1
4-Chlorotoluene	ND	0.200	--	ND	1.04	--		1
4-Ethyltoluene	ND	0.200	--	ND	0.983	--		1
1,3,5-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
tert-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2,4-Trimethylbenzene	ND	0.200	--	ND	0.983	--		1
Decane	ND	0.200	--	ND	1.16	--		1
Benzyl chloride	ND	0.200	--	ND	1.04	--		1
1,3-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
1,4-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
sec-Butylbenzene	ND	0.200	--	ND	1.10	--		1
p-Isopropyltoluene	ND	0.200	--	ND	1.10	--		1
1,2-Dichlorobenzene	ND	0.200	--	ND	1.20	--		1
n-Butylbenzene	ND	0.200	--	ND	1.10	--		1
1,2-Dibromo-3-chloropropane	ND	0.200	--	ND	1.93	--		1
Undecane	ND	0.200	--	ND	1.28	--		1
Dodecane	ND	0.200	--	ND	1.39	--		1
1,2,4-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Naphthalene	ND	0.200	--	ND	1.05	--		1
1,2,3-Trichlorobenzene	ND	0.200	--	ND	1.48	--		1
Hexachlorobutadiene	ND	0.200	--	ND	2.13	--		1

	Results	**Qualifier**	**Units**	**RDL**	**Dilution Factor**
Tentatively Identified Compounds					

No Tentatively Identified Compounds

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:
Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air - Mansfield Lab								

Internal Standard	% Recovery	Qualifier	Acceptance Criteria
1,4-Difluorobenzene	92		60-140
Bromochloromethane	88		60-140
chlorobenzene-d5	94		60-140

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:
Matrix: Air
Anaytical Method: 48,TO-15-SIM
Analytical Date: 11/21/13 19:56
Analyst: RY

Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

Parameter	ppbV Results	ppbV RL	ppbV MDL	ug/m3 Results	ug/m3 RL	ug/m3 MDL	Qualifier	Dilution Factor
Volatile Organics in Air by SIM - Mansfield Lab								
Dichlorodifluoromethane	ND	0.050	--	ND	0.247	--		1
Chloromethane	ND	0.500	--	ND	1.03	--		1
Freon-114	ND	0.050	--	ND	0.349	--		1
Vinyl chloride	ND	0.020	--	ND	0.051	--		1
1,3-Butadiene	ND	0.020	--	ND	0.044	--		1
Bromomethane	ND	0.020	--	ND	0.078	--		1
Chloroethane	ND	0.020	--	ND	0.053	--		1
Acetone	ND	2.00	--	ND	4.75	--		1
Trichlorofluoromethane	ND	0.050	--	ND	0.281	--		1
Acrylonitrile	ND	0.500	--	ND	1.09	--		1
1,1-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Methylene chloride	ND	1.00	--	ND	3.47	--		1
Freon-113	ND	0.050	--	ND	0.383	--		1
Halothane	ND	0.050	--	ND	0.404	--		1
trans-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
1,1-Dichloroethane	ND	0.020	--	ND	0.081	--		1
Methyl tert butyl ether	ND	0.020	--	ND	0.072	--		1
2-Butanone	ND	0.500	--	ND	1.47	--		1
cis-1,2-Dichloroethene	ND	0.020	--	ND	0.079	--		1
Chloroform	ND	0.020	--	ND	0.098	--		1
1,2-Dichloroethane	ND	0.020	--	ND	0.081	--		1
1,1,1-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Benzene	ND	0.100	--	ND	0.319	--		1
Carbon tetrachloride	ND	0.020	--	ND	0.126	--		1
1,2-Dichloropropane	ND	0.020	--	ND	0.092	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:
Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
Bromodichloromethane	ND	0.020	--	ND	0.134	--		1
1,4-Dioxane	ND	0.100	--	ND	0.360	--		1
Trichloroethene	ND	0.020	--	ND	0.107	--		1
cis-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
4-Methyl-2-pentanone	ND	0.500	--	ND	2.05	--		1
trans-1,3-Dichloropropene	ND	0.020	--	ND	0.091	--		1
1,1,2-Trichloroethane	ND	0.020	--	ND	0.109	--		1
Toluene	ND	0.050	--	ND	0.188	--		1
Dibromochloromethane	ND	0.020	--	ND	0.170	--		1
1,2-Dibromoethane	ND	0.020	--	ND	0.154	--		1
Tetrachloroethene	ND	0.020	--	ND	0.136	--		1
1,1,1,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
Chlorobenzene	ND	0.020	--	ND	0.092	--		1
Ethylbenzene	ND	0.020	--	ND	0.087	--		1
p/m-Xylene	ND	0.040	--	ND	0.174	--		1
Bromoform	ND	0.020	--	ND	0.207	--		1
Styrene	ND	0.020	--	ND	0.085	--		1
1,1,2,2-Tetrachloroethane	ND	0.020	--	ND	0.137	--		1
o-Xylene	ND	0.020	--	ND	0.087	--		1
Isopropylbenzene	ND	0.500	--	ND	2.46	--		1
4-Ethyltoluene	ND	0.020	--	ND	0.098	--		1
1,3,5-Trimethybenzene	ND	0.020	--	ND	0.098	--		1
1,2,4-Trimethylbenzene	ND	0.020	--	ND	0.098	--		1
1,3-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
1,4-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1
sec-Butylbenzene	ND	0.500	--	ND	2.74	--		1
p-Isopropyltoluene	ND	0.500	--	ND	2.74	--		1
1,2-Dichlorobenzene	ND	0.020	--	ND	0.120	--		1

Project Name: BATCH CANISTER CERTIFICATION
Project Number: CANISTER QC BAT
Lab Number: L1323696
Report Date: 12/20/13

Air Canister Certification Results

Lab ID: L1323696-03
Client ID: CAN 677 SHELF 1
Sample Location:
Date Collected: 11/20/13 17:51
Date Received: 11/21/13
Field Prep: Not Specified

	ppbV			ug/m3				
Parameter	**Results**	**RL**	**MDL**	**Results**	**RL**	**MDL**	**Qualifier**	**Dilution Factor**
Volatile Organics in Air by SIM - Mansfield Lab								
n-Butylbenzene	ND	0.500	--	ND	2.74	--		1
1,2,4-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Naphthalene	ND	0.050	--	ND	0.262	--		1
1,2,3-Trichlorobenzene	ND	0.050	--	ND	0.371	--		1
Hexachlorobutadiene	ND	0.050	--	ND	0.533	--		1

Internal Standard	**% Recovery**	**Qualifier**	**Acceptance Criteria**
1,4-difluorobenzene	93		60-140
bromochloromethane	93		60-140
chlorobenzene-d5	95		60-140

Project Name: NEPTUNE RD/FORMER B982
Project Number: 3623.00

Lab Number: L1325544
Report Date: 12/20/13

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information **Custody Seal**
Cooler
N/A Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1325544-01A	Canister - 1 Liter	N/A	N/A		Y	Absent	NYSDEC-TO15-SIM(30)
L1325544-02A	Canister - 1 Liter	N/A	N/A		Y	Absent	NYSDEC-TO15-SIM(30)
L1325544-03A	Canister - 1 Liter	N/A	N/A		Y	Absent	NYSDEC-TO15-SIM(30)

*Values in parentheses indicate holding time in days

Project Name:	NEPTUNE RD/FORMER B982	**Lab Number:**	L1325544
Project Number:	3623.00	**Report Date:**	12/20/13

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.
H	- The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
I	- The lower value for the two columns has been reported due to obvious interference.

Report Format: Data Usability Report

Project Name:	NEPTUNE RD/FORMER B982	**Lab Number:**	L1325544
Project Number:	3623.00	**Report Date:**	12/20/13

Data Qualifiers

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: Data Usability Report

Project Name:	NEPTUNE RD/FORMER B982	**Lab Number:**	L1325544
Project Number:	3623.00	**Report Date:**	12/20/13

REFERENCES

48 Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air. Second Edition. EPA/625/R-96/010b, January 1999.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised December 11, 2013

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

AIR ANALYSIS

PAGE 1 OF 1

CHAIN OF CUSTODY

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab:

ALPHA Job #: L1325544

Client Information

Client: Sanborn Head + Assoc.
Address: 20 Foundry St
Concord, NH 03301
Phone: 603-229-1900
Fax:
Email: SSOOS@sanbornhead.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Neptune Rd / B982 Former
Project Location: NY
Project #: 3623.00
Project Manager: Seth Soos
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH *(only confirmed if pre-approved!)*

Date Due: Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
Criteria Checker:
(Default based on Regulatory Criteria Indicated)
Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:

Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #: 3623.00

Regulatory Requirements/Report Limits

State/Fed	Program	Criteria

Other Project Specific Requirements/Comments:

*B982 Analyte List

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Start Time	End Time	Initial Vacuum	Final Vacuum	Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-14A by TO-15	TO-15	TO-15 SIM * APH	FIXED GASES	TO-13A	TO-4 / TO-10	Sample Comments (i.e. PID)
2355944-01	SSDS-I	12/13/13	1558	Grab	-29.5	-5	SV	REW	1L	839	NA			X				
-02	SSDS-M	"	1602	"	-29.5	-4.5	"	"	"	729	"			X				Call Regan
-03	SSDS-E	"	1606	"	-29.5	-7	"	"	"	663	"			X				Welch with questions 603-415-6123

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type												6S						

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Relinquished By:	Date/Time	Received By:	Date/Time:
	12/13/13 16:14		12/16/13 17:00
	12-16-13 1835		12-16-13 1835
	12-17-13 0059		12/17/13 0059
	12/17/13 03:00	Marshfield Lab	12/17/13 03:00

APPENDIX C

DATA VALIDATION REPORTS

APPENDIX C.1

Indoor Air Sample Data

Data Usability Report
Method TO-15 Analysis

Client/Company:	Sanborn, Head, & Associates, Inc., Concord, New Hampshire (SHA)
Site/Project Name:	Former IBM Building 982 – Neptune Road, Poughkeepsie, New York
Laboratory:	Alpha Analytical, Mansfield, Massachusetts
Sample Delivery Group:	L1317525
Date(s) of Collection:	September 6, 2013
Number and type Samples & analyses:	12 Indoor Air samples and 1 Ambient Air sample for 23 project-specific VOCs by Method TO-15
Senior Data Reviewers:	Dr. Nancy C. Rothman, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed:	September 27, 2013

A Data Validation Checklist Review was performed on the Work Order identified with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Remedial Design/Remedial Action Work Plan; Former IBM Building 982 – Neptune Road, Poughkeepsie, New York*, including *Appendix B, QAQC Plan*, prepared by Sanborn, Head & Associates, September 3, 2013 (Work Plan); USEPA Region 9, *Volatile Organic Compounds (VOCs) in Air (Ambient Air/Soil Vapor/Stack Gas) Samples Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, EPA Method TO-15, (January 1999), 01/21/2000 revision; NYSDEC *Analytical Services Protocol, June 2005, with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria*, February 2008; USEPA Region II SOP HW-31, *Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15*, Rev. 4, October 2006; and Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, Publication EPA/625/R-96/010b, January 1999; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to update the project database with appropriate data quality qualifiers.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification of MS/MSD/MD, FD, EB, TB, if applicable, and the analytical parameters reviewed in this In-Depth data usability review are listed in Table 1. Any deviations noted for sample collection or receipt (*e.g.*, temperature or preservation issues) are included in Section II, below.

Table 1. Sample Descriptions and Analytical Parameters

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
IA1002	L1317525-01	9/6/13	Indoor Air	VOCs	Field Sample [used for lab duplicate]
IA1003	L1317525-02	9/6/13	Indoor Air	VOCs	Field Sample
IA1005	L1317525-03	9/6/13	Indoor Air	VOCs	Field Sample
IA1012	L1317525-04	9/6/13	Indoor Air	VOCs	Field Sample
IA1013	L1317525-05	9/6/13	Indoor Air	VOCs	Field Sample
IA1014	L1317525-06	9/6/13	Indoor Air	VOCs	Field Sample
IA1015	L1317525-07	9/6/13	Indoor Air	VOCs	Field Sample
IA1016	L1317525-08	9/6/13	Indoor Air	VOCs	Field Sample
IA1017	L1317525-09	9/6/13	Indoor Air	VOCs	Field Sample
IA1023	L1317525-10	9/6/13	Indoor Air	VOCs	Field Sample
IA1025	L1317525-11	9/6/13	Indoor Air	VOCs	Field Sample
DUP1	L1317525-12	9/6/13	Indoor Air	VOCs	Field Duplicate of IA1015
AA1	L1317525-13	9/6/13	Ambient Air	VOCs	Field Sample

Analytical method references:

VOC: Method TO-15 operated in the Selected Ion Monitoring (SIM) mode for 23 project-specific VOCs

II. Data Discussion

An In-Depth Data Usability Review was performed on SDG L1317522. This review indicated, overall, that the laboratory met project DQOs. Therefore, compliant with the Work Plan requirements for data validation, an abbreviated checklist review of subsequent air data was performed. Please see the Data Usability Report for SDG L1317522 for complete details on the in-depth TO-15 review. The Data Review Checklist, attached, was completed during this abbreviated assessment to document the review of this SDG.

The flow controller QC check for sample DUP1 was outside criteria (RPD > 20%). Since the field final and laboratory receipt vacuums were comparable for this sample and since FD precision was acceptable (using the results of DUP1), professional judgment was used to accept these data without qualification.

During this review it was determined that the Reporting Limits (RLs) given in Table B.1 of the Work Plan were incorrect for propylene (a conversion error from ppbV to $\mu g/m^3$ was made by the laboratory). Sensitivity requirements compared to the RLs defined in Table B.1 of the Work Plan, amended for propylene, were met for all 23 target VOCs in all samples. The Data Review Checklist lists the correct RLs for the project-specific VOCs.

The method blank was non-detect for the target VOCs; however, the equipment blank, FB1 (included in SDG L1317522), reported detected results for 1,2,4-trimethylbenzene and ethylbenzene. All results for these two compounds in all field samples in this SDG were estimated (EB) with possible high bias as listed in Table 2.

Laboratory Duplicate (LD) precision evaluation was performed on sample IA1002. Precision was acceptable for all target VOCs except dichlorodifluoromethane. The result for this one compound was estimated (J) with indeterminate bias in sample IA1002, as listed in Table 2.

There was one field duplicate (FD) pair: IA1015 / DUP1. FD precision was acceptable for all target VOCs except dichlorodifluoromethane; therefore, the results for this one compound in IA1015 and DUP1 were estimated (J) with indeterminate bias, as listed in Table 2. The sample/LD and FD results are an indication of acceptable precision and representativeness of the samples to the locations collected for all target VOCs except dichlorodifluoromethane in these air samples.

All other quality control information associated with accuracy, precision, and sensitivity for the VOCs reported met project criteria for these samples with the exceptions summarized in Table 2, below. The attached Data Review Checklist includes all QA/QC reviewed during validation (including QC results that were acceptable) and details on the justification for actions taken.

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
IA1015 DUP1	Dichlorodifluoromethane	J	I	FD imprecision
IA1002	Dichlorodifluoromethane	J	I	LD imprecision
All samples	1,2,4-Trimethylbenzene Ethylbenzene	EB	H	Equipment Blank Action

Qualifiers: U = Analyte is non-detect at the "Analyte-Reporting Limit" value; UJ = Non-detect is estimated; J = Result is estimated; EB = detected in field equipment blank; R = Result is rejected and is unusable for project decisions.

Bias: L = Low; H = High; I = Indeterminate

Abbreviations used in Table 2:
EB = Equipment Blank
FD = Field Duplicate
LD = Laboratory Duplicate

Former IBM Building 982 – Neptune Road, Poughkeepsie, New York
Air Data Review Checklist - Method TO-15 SIM

SDG # L1317525

Lab: Alpha Analytical
Date Sampled: 9/6/2013
Method of Analysis: TO-15 SIM

No. Samples 11 IA + 1 IA FD + 1 AA

Data Element Acceptable	Canister Receipt	HT	GC/MS Tunes + Calibrations	Internal Stds	LCS	Lab Dup (LCS and LD)	Field Duplicates	RL & Quant.
Yes	√	√	√	√	√			√
No						Estimate (J) 1 result	Estimate (J) 2 results in FD pair	

Other Issues :

1,2,4-Trimethylbenzene and Ethylbenzene in all samples estimated (EB) with possible high bias since the associated Field Blank, reported in L1317522, also reported detected results for these compounds

A SIM Analysis was performed for each sample for 23 project-specific VOCs as shown on page 5 of this checklist. An in-depth review of Alpha Analytical Method TO-15 SIM for Subslab Vapor samples was performed on SDG L1317522.

2.7-L Canisters were sent from Alpha on 9/5/13 and were used to collect samples on 9/6/13. 12 Indoor Air (11 IA samples + 1 FD), 1 Ambient Air (AA) sample, and 1 Unused Canister (#381) were received intact at Alpha on 9/7/13 and there were no COC issues.

Canisters were Certified pre-cleaned - certificates of analysis were reported and indicate that all Target compounds were non-detect in the canisters prior to being sent to the field.

All canisters were shipped out of Alpha with vacuums of -29.4 to -29.5″ Hg (lab records). The COCs have initial field vacuums ranging from -29.15″ Hg to -30.58″ Hg. Since a complete vacuum is -30″ Hg, those readings which are > -30″ Hg are probably due to calibration issues of the vacuum/pressure gauge used in the field. Since the initial field vacuums indicate the canisters didn't leak prior to being used (i.e., initial field vacuum wasn't less than -26″ Hg) and since the field vacuum measurements are not used in actual reporting of results (i.e., the lab receipt vacuum is used in reporting results); all canisters met the requirements specified in the Work Plan. Field final and lab receipt vacuums met criteria. All flow controller checks were acceptable (RPDs < 20%) except DUP1 Flow Controller RPD = 64%. Since the field final vacuum and lab receipt vacuums were comparable for this sample and since FD precision was acceptable (using the results of DUP1), a decision was made based on professional judgment to not qualify the sample data based on the flow controller QC exceedance.

Samples were analyzed on 9/10/13 (within 4 days of collection); therefore HT was met. No Action required.

Date: ***9/26/13***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Alpha Analytical

Method of Analysis: TO-15 SIM

Associated Blanks: Method Blank: WG635055-5

Field Blanks: FB1 (reported in SDG L1317522)

Blank ID	Contaminant / Level (µg/m^3)	Action Level DF= 1	Sample and reported result (µg/m3)		Corrected Database Result
WG635055-5	None		No Blank Action Required		
FB1	1,2,4-Trimethylbenzene 0.063 (DF=2.75)	0.115	IA1002	0.066	0.066 EB
			IA1003	0.066	0.066 EB
			IA1005	0.065	0.065 EB
			IA1012	0.064	0.064 EB
			IA1013	0.062	0.062 EB
			IA1014	0.071	0.071 EB
			IA1015	0.068	0.068 EB
			IA1016	0.065	0.065 EB
			IA1017	0.068	0.068 EB
			IA1023	0.07	0.07 EB
			IA1025	0.08	0.08 EB
			DUP1	0.063	0.063 EB
			AA1	0.027	0.027 EB
FB1	Ethylbenzene 0.104 (DF=2.75)	0.189	IA1002	0.077	0.077 EB
			IA1003	0.077	0.077 EB
			IA1005	0.079	0.079 EB
			IA1012	0.077	0.077 EB
			IA1013	0.073	0.073 EB
			IA1014	0.084	0.084 EB
			IA1015	0.075	0.075 EB
			IA1016	0.07	0.07 EB
			IA1017	0.078	0.078 EB
			IA1023	0.071	0.071 EB
			IA1025	0.074	0.074 EB
			DUP1	0.074	0.074 EB
			AA1	0.022	0.022 EB

Date: *9/26/13*

Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Alpha Analytical

SDG # L1317525

Method of Analysis: TO-15 SIM
Additional Notes:

BFB Tunes: Instrument AIRPIANO2 Tunes 9/8/13 (ICAL) and 9/10/13 (CCAL) - all criteria in all tunes were met and all samples were analyzed within 12 hours of tune; therefore, No Action Required.

***ICAL*:** performed on 9/8/13. SIM 7- to 11-level calibration from 0.02, 0.04, or 0.5 to 50 or 250 ppbV for 23 Target compounds plus several non-target compounds. %RSD ≤ 30% and RRF > 0.05 for all 23 Target Compounds. RLs reported (as indicated in the table on page 5 of this checklist for DF=1 analysis) were supported by the ICALs.

***CCALs*:** 9/10/13 - %D < ±30% for all 23 Target compounds - No Action required.

Internal Standards: All 3 IS's had areas and RTs within criteria; therefore, No Action Required.

***LCS/LCSD*:** WG635055-3LCS/WG635055-4LCSD - %Recoveries for LCS and LCSD and RPDs between LCS & LCSD were acceptable for all 23 Target VOCs - No Action required.

LD: performed on IA1002. Form 3 comparison for Sample/LD was presented in the full-deliverable data package and precision was acceptable for all results except dichlorodifluoromethane RPD = 26% for results > 5 x RL. ****ACTION: Dichlorodifluoromethane estimated (J) in IA1002 with indeterminate bias due to LD imprecision.***

There were no "J" results reported. All data were reported within the instrument calibration range at DF=1.

All reporting limits were equivalent to those given in Table B.1 (and shown on page 5 of this checklist) for the TO-15 SIM DF=1 analysis. Therefore, sensitivity was acceptable for all data.

The narrative did not raise any additional issues that may affect data quality.

Date: ***9/26/13***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Alpha Analytical

Method of Analysis: TO-15 SIM

Additional Notes:
Field Duplicate Evaluation_ Sample IDs: Sample = IA1015 FD = DUP1

Analyte Name	DF = 1 RL ($\mu g/m^3$)	Sample Result $\mu g/m^3$	Q	FD Level	FD Result $\mu g/m^3$	Q	Level	RPD	Action
1,1,1-Trichloroethane	0.02	0.02	U	RL	0.02	U	RL	NA	None
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.05	0.071		< 5xRL	0.072		< 5xRL	1.4	None
1,1-Dichloroethane	0.02	0.02	U	RL	0.02	U	RL	NA	None
1,1-Dichloroethene	0.02	0.02	U	RL	0.02	U	RL	NA	None
1,2,4-Trimethylbenzene	0.02	0.068		< 5xRL	0.063		< 5xRL	7.6	None
2-Butanone	0.5	0.5	U	RL	0.5	U	RL	NA	None
4-Methyl-2-pentanone	0.5	0.5	U	RL	0.5	U	RL	NA	None
Acetone	2	69.8		> 5xRL	72.3		> 5xRL	3.5	None
Carbon disulfide	0.2	0.2	U	RL	0.2	U	RL	NA	None
Carbon tetrachloride	0.02	0.061		< 5xRL	0.056		< 5xRL	8.5	None
Chloroform	0.02	0.039		< 5xRL	0.05		< 5xRL	24.7	None *
cis-1,2-Dichloroethene	0.02	0.02	U	RL	0.02	U	RL	NA	None
Dichlorodifluoromethane	0.05	0.297		> 5xRL	0.241		> 5xRL	20.8	**J Both**
Ethylbenzene	0.02	0.075		< 5xRL	0.074		< 5xRL	1.3	None
iso-Propyl Alcohol	0.5	0.5	U	RL	0.5	U	RL	NA	None
o-Xylene	0.02	0.136		> 5xRL	0.135		> 5xRL	0.7	None
p/m-Xylene	0.04	0.327		> 5xRL	0.326		> 5xRL	0.3	None
Propylene	0.5	0.5	U	RL	0.5	U	RL	NA	None
Tetrachloroethene	0.02	0.02	U	RL	0.027		< 5xRL	NA	None
Toluene	0.05	0.28		> 5xRL	0.285		> 5xRL	1.8	None
Trichloroethene	0.02	0.02	U	RL	0.02	U	RL	NA	None
Trichlorofluoromethane	0.05	0.222		< 5xRL	0.222		< 5xRL	0.0	None
Vinyl chloride	0.02	0.02	U	RL	0.02	U	RL	NA	None

* Action only taken for RPD > 20% if one or both results are > 5 x RL

Q = Data Qualifier as reported by ATL and/or NEH; U = non-detect, J = estimated result; UJ = non-detect is estimated

NA = Not Applicable. RPD not calculated since one or both results were non-detect.

FD precision was acceptable for all Target VOCs in the FD pair of IA1015 and DUP1 except for dichlorodifluoromethane. ***ACTION: Dichlorodifluoromethane estimated (J) in IA1015 and DUP1 due to FD imprecision***

Date: ***9/26/13***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Alpha Analytical

Method of Analysis: TO-15 SIM

Compound List and Project-required Reporting Limits (RL), Table B.1 from Work Plan

Analyte List	USEPA Method TO-15 SIM DF=1 RL ($\mu g/m^3$)	USEPA Method TO-15 SIM DF=3 of 1-L canister RL ($\mu g/m^3$)	
1,1,1-Trichloroethane	0.11	0.327	
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	0.38	1.149	
1,1-Dichloroethane (1,1-DCA)	0.081	0.243	
1,1-Dichloroethylene (1,1-DCE)	0.079	0.237	
1,2,4-Trimethylbenzene	0.098	0.294	
2-Butanone (Methyl Ethyl Ketone [MEK])	1.48	4.44	
4-Methyl-2-Pentanone (2-Pentanone; Methyl Isobutyl Ketone	2.05	6.15	
Acetone	4.7	14.1	
Carbon disulfide	0.62	1.86	
Carbon tetrachloride	0.13	0.378	
Chloroform	0.098	0.294	
cis-1,2-Dichloroethylene (cis-1,2-DCE)	0.079	0.237	
Dichlorodifluoromethane (DCDFM; Freon 12)	0.25	0.741	
Ethylbenzene	0.09	0.261	
Isopropanol	1.23	3.69	
Propylene	0.86	2.58	The RLs for Propylene were adjusted during this review since Alpha incorrectly converted ppbV to $\mu g/m^3$ for this one compound when they reported RLs for Table B.1.
Tetrachloroethylene (PCE)	0.136	0.408	
Toluene	0.188	0.564	
Trichloroethylene (TCE)	0.107	0.321	
Trichlorofluoromethane (TCFM; Freon 11)	0.281	0.843	
Vinyl chloride (VC)	0.051	0.153	
m/p-Xylene	0.17	0.522	
o-Xylene	0.087	0.261	

Date: ***9/26/13***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

Lab: Alpha Analytical

Method of Analysis: TO-15 SIM

Actions (see References below):

Canister Integrity:	If certification forms indicate issues, J/U or UJ results in samples
Canister Condition & Receipt:	If canister vacuum prior to use was < 26" Hg, J/UJ results; If field final vacuum is not within 3-10" Hg or lab receipt vacuum and field final vacuum disagree by more than ± 5" Hg, J /UJ results. If RPD of the pre- and post-flow controller calibration checks > 20%, J or UJ results
Hold Time (HT):	HT > 30 days, J detects/ UJ non-detects
Blank Actions:	Action Level = 5 x Level in Blank; Sample-specific Blank Action Level = Action Level x (Sample DF/Blank DF) Method Blank (MB): Result < RL, U result at RL; RL<Result<Blank Action, U result at level reported Equipment Blank (EB): Result<Blank Action, EB result at level reported
BFB Tune:	SW-846 method 8260B tune criteria not met, professional judgment on R of all data; samples analyzed > 12-hours after tune; professional judgment on J/UJ or R of results
LCS and CCV:	Percent Recovery (%Rec) <10%, J detects, R non-detects; 10% < %Rec <70%; J/UJ all associated data; %Rec >130%, J detects - no action for non-detects
Initial Calibration (ICAL):	%RSD > 30% or RRF < 0.05, J/UJ associated results
Internal Standard (IS):	RT > ±0.33 min of IS RT in daily CCV, J/UJ associated results; Area < 25% Area in CCV, J detects, R non-detects (or professional judgment); 25%< Area < 60% of CCV Area, J/UJ associated results; Area > 140% of CCV Area, J detects, no action for non-detects
Laboratory Duplicates:	LCS/LCSD RPD or Sample/LD RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL
Field Duplicates:	RPD > 20% for detects > 5x RL, J associated data; professional judgment for results < 5 x RL
RLs + Quant:	Compound reported outside calibration range (< RL or at ppbV level > sample-specific highest ICAL standard for compound), J data. Note if RL > expected RL from Table B.1 of Work Plan (see above)

References: *Remedial Design/Remedial Action Work Plan; Former IBM Building 982 – Neptune Road, Poughkeepsie, New York,* including *Appendix B, QAQC Plan,* prepared by Sanborn, Head & Associates, September 3, 2013 (Work Plan); USEPA Region 9, *Volatile Organic Compounds (VOCs) in Air (Ambient Air/Soil Vapor/Stack Gas) Samples Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS),* EPA Method TO-15, (January 1999), 01/21/2000 revision; *NYSDEC Analytical Services Protocol, June 2005, with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria,* February 2008; USEPA Region II SOP HW-31, *Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15, Rev. 4, October 2006; a* nd Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS),* Publication EPA/625/R-96/010b, January 1999

Date: ***9/26/13***
Data Reviewer: ***Nancy C. Rothman, Ph.D.***

APPENDIX C.2

Subslab Vapor Sample Data

In- Depth Data Usability Review
Method TO-15 Analysis

Client/Company:	Sanborn, Head, & Associates, Inc., Concord, New Hampshire (SHA)
Site/Project Name:	Former IBM Building 982 – Neptune Road, Poughkeepsie, New York
Laboratory:	Alpha Analytical, Mansfield, Massachusetts
Sample Delivery Group:	L1317522 & L1317522-R1
Date(s) of Collection:	September 6, 2013
Number and type Samples & analyses:	12 Subslab Vapor samples and 1 equipment blank sample for 23 project-specific VOCs by Method TO-15
Senior Data Reviewers:	Dr. Nancy C. Rothman, New Environmental Horizons, Inc. Susan D. Chapnick, New Environmental Horizons, Inc.
Date Completed: ***Revised:***	September 20, 2013 September 26, 2013 ***(to correct an LD imprecision issue)***

An In-Depth Data Usability Review (DUR) was performed on the Work Order identified with the following intentions: 1) to determine if the data were generated and reported in accordance with the *Remedial Design/Remedial Action Work Plan; Former IBM Building 982 – Neptune Road, Poughkeepsie, New York*, including *Appendix B, QAQC Plan*, prepared by Sanborn, Head & Associates, September 3, 2013 (Work Plan); USEPA Region 9, *Volatile Organic Compounds (VOCs) in Air (Ambient Air/Soil Vapor/Stack Gas) Samples Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, EPA Method TO-15, (January 1999), 01/21/2000 revision; NYSDEC *Analytical Services Protocol, June 2005, with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria*, February 2008; USEPA Region II SOP HW-31, *Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15*, Rev. 4, October 2006; and Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, Publication EPA/625/R-96/010b, January 1999; 2) to determine if the data met project data quality objectives for acceptable accuracy, precision, sensitivity; and technical usability; and 3) to update the project database with appropriate data quality qualifiers.

I. Sample Descriptions and Analytical Parameters

The sample IDs, date of sampling, identification of MS/MSD/MD, FD, EB, TB, if applicable, and the analytical parameters reviewed in this In-Depth data usability review are listed in Table 1. Any deviations noted for sample collection or receipt (*e.g.*, temperature or preservation issues) are included in Section II, below.

Table 1. Sample Descriptions and Analytical Parameters

Sample ID	Lab Sample ID	Collection Date	Matrix	Analytical Parameters	Sample Type
SSV1002	L1317522-01	9/6/13	Subslab Vapor	VOCs	Field Sample [used for lab duplicate]
SSV1003	L1317522-02	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1005	L1317522-03	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1012	L1317522-04	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1013	L1317522-05	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1014	L1317522-06	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1015	L1317522-07	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1016	L1317522-08	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1017	L1317522-09	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1023	L1317522-10	9/6/13	Subslab Vapor	VOCs	Field Sample
SSV1025	L1317522-11	9/6/13	Subslab Vapor	VOCs	Field Sample
DUP1	L1317522-12	9/6/13	Subslab Vapor	VOCs	Field Duplicate of SSV1025
FB1	L1317522-13	9/6/13	Air	VOCs	Equipment Blank

Analytical method references:

VOC: Method TO-15 operated in the Selected Ion Monitoring (SIM) mode for 23 project-specific VOCs

II. Data Deficiencies, Analytical Protocol Deviations, and Quality Control Problems

The following QC elements, as applicable to the analytical methods, were reviewed during this validation:

- Data package completeness and reporting protocols
- Sample receipt, holding times, and canister condition
- Calibration criteria (instrument tuning, initial and continuing calibration verifications)
- Method and field blank results
- Laboratory Control Sample (LCS) recoveries
- Internal Standard (IS) Recoveries
- Sample/Laboratory Duplicate (LD) or sample/Field Duplicate (FD) Relative Percent Differences (RPDs)
- Sample result reporting (including reporting limits and units)
- Other method-specific QC if applicable and reported
- Deficiencies or protocol deviations as noted in the Laboratory Narrative

During this review of VOCs, several results were estimated (J and EB) due to QC issues. Table 2 summarizes the actions taken during this review. NEH generated a validated electronic project database file (validated EDD) based on the database file received from SHA for this SDG. There were no rejected results; therefore, all results were considered acceptable compared to Work Plan and method criteria, with the understanding of the potential uncertainty (bias) in the qualified results.

Table 2. Summary of Data Validation Actions

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
SSV1025 DUP1	Dichlorodifluoromethane	J	I	FD imprecision
SSV1002	Dichlorodifluoromethane	J	I	LD imprecision
SSV1002 SSV1003 SSV1005 SSV1012 SSV1014 SSV1015 SSV1016 SSV1023 SSV1025 DUP1	1,2,4-Trimethylbenzene	EB	H	Equipment Blank Action

Table 2. Summary of Data Validation Actions - *continued*

Field Sample ID	Analyte	Qualifier	Bias	Validation Comments
SSV1002 SSV1003 SSV1005 SSV1012 SSV1013 SSV1014 SSV1015 SSV1016 SSV1023 SSV1025 DUP1	Ethylbenzene	EB	H	Equipment Blank Action

Qualifiers: U = Analyte is non-detect at the "DV Result" value; UJ = Non-detect is estimated; J = Result is estimated; EB = Analyte was also present in Field Equipment Blank; R = Result is rejected and is unusable for project decisions.

Bias: L = Low; H = High; I = Indeterminate

Abbreviations used in Table 2:
FD = Field Duplicate
LD = Laboratory Duplicate

The following sections document the QC reviewed and the issues that required action or affected the data certainty in terms of the project data quality objectives (DQO) of accuracy, precision, representativeness, comparability, and sensitivity. The attached In-Depth Data Usability Review Checklist includes all QA/QC reviewed during validation (including QC results that were acceptable) and details on the justification for actions taken. The DQO of completeness can be evaluated by the project manager after all data are generated.

Data Package Completeness and Reporting Protocols

- SDG L1317522 was revised, as SDG L1317522-R1, to correct sample IDs for unused canisters and to correct the reporting of the ppbV result value for cis-1,2-dichloroethene in sample SSV1023.
- Canister IDs for SSV1002 and SSV1003 were transposed on the COC. The COC lists the Canister IDs as 0658 and 0668; however, according to the canister labels, the IDs were 0668 and 0658, respectively. No action was taken other than to note this COC discrepancy.
- The initial and continuing calibrations for VOCs contained many compounds in addition to the targets requested. During this review, only the 23 target compounds were assessed.

Sample Receipt, Holding Times, and Canister Condition

- The flow controller was not received with sample SSV1013; therefore, a flow controller check could not be performed for this one sample. Since the final vacuum for SSV1013 was consistent with the other samples, no action was taken.

Calibration Criteria

- The instrument tunes, initial and continuing calibrations all met criteria.

Method and Field Blank Results

- The method blank was non-detect for the target VOCs; however, the equipment blank, FB1, reported detected results for 1,2,4-trimethylbenzene and ethylbenzene. All detected results for these two compounds in the samples were estimated (EB) with possible high bias due to the presence of these compounds in the associated equipment blank as shown in Table 2.

Laboratory Control Sample (LCS) Recoveries and LCS/LCSD precision

- Accuracy and precision for the LCS/LCSD were acceptable for the target analytes.

Internal Standard Recoveries

- Internal standard recoveries met criteria for all samples and QC.

Matrix Quality Control (Laboratory Duplicate and Field Duplicate Samples)

- There was one laboratory duplicate (LD) performed on sample SSV1002. Laboratory duplicate precision was acceptable for all detected VOCs except for dichlorodifluoromethane; therefore, the result for this one compound in SSV1002 was estimated (J) with indeterminate bias.
- There was one field duplicate (FD) pair: SSV1025 / DUP1. FD precision was acceptable for all target VOCs except for dichlorodifluoromethane; therefore, the results for this one compound in SSV1025 and DUP1 were estimated (J) with indeterminate bias. The sample/LD and FD results are an indication of acceptable precision and representativeness of the samples to the locations collected for all VOCs except for dichlorodifluoromethane in subslab vapor.

Sample result reporting (including reporting limits and units)

- Sensitivity requirements compared to the Reporting Limits (RLs) defined in Table B.1 of the Work Plan were exceeded for samples SSV1002, SSV1003, SSV105, SSV1012, SSV1013, SSV1014, SSV1016, SSV1017, and SSV1023 due to dilutions made prior to analysis to ensure that all detects were reported within the instrument calibration. The data user will need to evaluate the elevated non-detects in all samples for project objectives.
- A check on the calculations made by Alpha to report calibration statistics, sample-specific RLs, and results indicated that the laboratory reported the data properly. See the In-Depth Data Usability Review Checklist for details.

TO-15 In-Depth Data Review Checklist

Lab: Alpha Analytical, Mansfield, New Jersey

Project ID: L1317522 & L1317522-R1

The Data Validation Criteria used within this checklist are based upon the following:

Remedial Design/Remedial Action Work Plan; Former IBM Building 982 – Neptune Road, Poughkeepsie, New York, with *Appendix B, QAQC Plan*, prepared by Sanborn, Head & Associates, September 3, 2013;

Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS),* Publication EPA/625/R-96/010b, January 1999.

USEPA Region 9, *Volatile Organic Compounds (VOCs) in Air (Ambient Air/Soil Vapor/Stack Gas) Samples Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, EPA Method TO-15 (January 1999), 01/21/2000 revision;

NYSDEC *Analytical Services Protocol, June 2005, with NYSDEC Modifications to the EPA Region 9 TO-15 QA/QC Criteria*, February 2008;

USEPA Region II SOP HW-31, *Validating Air Samples, Volatile Organic Analysis of Ambient Air in Canisters by Method TO-15*, Rev. 4, October 2006; and

USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review; Publication USEPA540/R-07/003, July 2007.

Date Reviewed: September 19, 2013
Revised: September 26, 2013 to correct LD precision evaluation

Data Reviewer: *Nancy C. Rothman, Ph.D,*
New Environmental Horizons, Inc.

II. Data Package Completeness

The data package is reviewed for completeness as follows:

Were all required reporting forms and associated raw data included in the data package? **Yes**

Was the data accompanied by a Data Review Checklist / Project Narrative explaining any non-compliance issues with the analyses? **Yes.**

Were all sample analyses requested on the Chain-of-Custody performed by the laboratory? **Yes**.

Were there any Chain-of-custody deviations noted? (e.g., labeling discrepancy between SUMMA canisters, obvious problems with canisters, etc.) **Yes**

ACTION: Estimate results (J and UJ) or Reject (R) based on professional judgment.

Comments:

11 Subslab Soil Vapor samples + 1 FD + 1 FB were received intact on 9/7/13, one day after sample collection. All Canisters used were 1-L with approximately 65 minutes sample collection time. 3 Clean unused 1-L canisters were returned to the Alpha from the field as well.

Resubmittal data package, SDG L1317522-R1, amended the sample IDs for these 3 clean canisters from, for example, "UNUSED CAN 829" to "UNUSED CANISTER 829".

The COC was properly completed, clearly indicating samples IDs, canister & flow controller IDs, start and stop date/time of sample collection, and initial and final field vacuums with the following exceptions:

- COC canister IDs for SSV1002 and SSV1003 were transposed on the COC. The COC lists the Canister IDs as 0658 and 0668 but, according to the canister labels, the IDs were 0668 and 0658, respectively.

No action required other than to note this COC discrepancy.

Case Narrative Review

1. Review the Case Narrative provided with the data package. Were there any issues addressed in the case narrative that were not addressed in the Data Usability Checklist. Was the narrative complete? **Yes**. If modifications to the TO-15 method were made, did Alpha clearly identify them in the project? **NA**

Comments:

Narrative clearly described any issues with the data.

III. Review of Volatile Air Data

1. Canister Condition

The quality control related to preparation of the canisters prior to sampling are reviewed to ensure the accuracy of the reported results.

Does the laboratory indicate that the canisters were cleaned prior to being shipped to the field for analysis? **Yes.** Was the cleanliness of the canisters verified by analysis? **Yes.** Was data presented in the data package to verify these results or did the laboratory indicate these canister conditions in their narrative? **Yes, data present.**

Did all canisters meet QAPP Canister integrity criteria (canister vacuum prior to use was 28 ± 2″ Hg, field final vacuum must be within 3-10 ″ Hg, lab receipt vacuum and field final vacuum must agree within ± 5 ″ Hg, and RPD of the pre- and post-flow controller calibration checks should be ≤ 20%) **Yes**

Were there any anomalies noted in the field sampling records about the SUMMA canister conditions? **No**. If yes, list issues below.

Were the canisters over-pressurized prior to analysis? **Yes**. Was a dilution factor properly applied to the reported results based on the over-pressurization? **Yes**

Action: If the initial Pressure (vacuum) in the field of a canister is < 25″ Hg, or pressure of a canister upon receipt at the lab is outside 3-10″ Hg, or the receipt pressure measured at Alpha is > ± 5″ Hg from the final pressure recorded for the canister in the field (as it appears on the COC), or flow controller check has RPD > 20%, estimate all results (J and UJ). Use professional judgment.

Comments:
Canister certifications present and all canisters were non-detect for all 23 target compounds at the RLs reported for DF=1 sample

All canisters were shipped out of Alpha with vacuums of -29.4 to -29.5″ Hg (lab records). The COCs have initial field vacuums ranging from -29.57″ Hg to -30.98″ Hg. Since a complete vacuum is -30″ Hg, those readings which are > -30″ Hg are probably due to calibration issues of the vacuum/pressure gauge used in the field. Since the initial field vacuums indicate the canisters didn't leak prior to being used (i.e., initial field vacuum wasn't less than -26″ Hg) and since the field vacuum measurements are not used in actual reporting of results (i.e., the lab receipt vacuum is used in reporting results); all canisters met the requirements specified in the Work Plan. The flow controller was not received with sample SSV1013 so check could not be performed. The RPD for the flow controller checks were < 10%. Since the final vacuum for SSV1013 was consistent with the other samples, no action for inability to perform flow controller check on this sample. Conditions all OK - No Action required.

All canisters were over-pressurized with UHP N_2 to ~ 2 atm prior to analysis since the 1-L canisters are relatively small so that obtaining a uniform sample from these can be difficult unless over-pressurization is done. Dilution factor worksheet present in the data. Dilutions also done at the instrument level (overall dilution factor = DF from Over-pressurization x Inst. DF).

2. Holding Times

Holding times are reviewed to ensure the accuracy of the reported results. The table on the following page (Table 2a) was completed to document the holding times and QC association for the samples.

Were the samples analyzed within 30 days of sample collection? **Yes**. If no, list below the affected samples and the number of days outside of holding time.

Action: If HT > 30 days, estimate (J) detects and reject (R) non-detects, or use professional judgment.

Comments:
Samples were all analyzed by 9/11/13 within 5 days of sample collection. HT met – No Action required.

Table 2a. Holding Time and Associated QC Table

Sample Matrix: Subslab Soil Vapor

Sample ID	Date Sampled	Field Blanks	Method Blank	LCS	Date Analyzed	DF
SSV1002	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	4.024
SSV1003	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	3.992
SSV1005	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	8.25
SSV1012	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	12.36
SSV1013	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	4.967
SSV1014	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	5.094
SSV1015	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	2.387
SSV1016	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	7.708
SSV1017	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	12.23
SSV1023	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	4.091
SSV1025	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	2.292
DUP1	9/6/13	FB1	WG635344-5	-3/ & -4	9/11/13	2.467
FB1	9/6/13	NA	WG635344-5	-3/ & -4	9/11/13	2.75

3. GC/MS Instrument Performance Check

The BFB instrument performance checks (tunes) are reviewed to assess the accuracy and sensitivity of the results relative to instrument performance.

Review the tune summaries for BFB

Were all SW-846 8260B defined mass calibration and ion abundance criteria met for the BFB analyses? **Yes**. If no, list below the tune and affected samples.

BFB MASS INTENSITY CRITERIA PER SW-846 METHOD 8260B

m/z	Required Intensity (relative abundance)
50	15 to 40% of m/z 95
75	30 to 60% of m/z 95
95	Base peak, 100% relative abundance
96	5 to 9% of m/z 95
173	Less than 2% of m/z 174
174	Greater than 50% of m/z 95
175	5 to 9% of m/z 174
176	Greater than 95% but less than 101% of m/z 174
177	5 to 9% of m/z 176

Review the raw data for one tune. Did the laboratory obtain the BFB mass spectrum in a straight-forward manner (e.g., average of three scans centered across the BFB peak with background subtraction from a scan within 20 scans prior to the BFB scan)? **Yes**. If no, list below the method used to obtain the mass spectrum and the affected samples.

Were all samples (including QC) analyzed within 12 hours of an acceptable tune (NYSDEC tune criteria – Method TO-15 criteria is 24 hours)? **Yes**. If no, list below the affected samples.

Action: If the mass assignment criteria were not met reject (R) all associated data. Use professional judgment to qualify data acquired outside of tune time.

Comments:
Tunes: 9/8/13 @ 20:57 (ICAL) & 9/11/13 @ 12:27 with last sample was injected on 9/11/13 @ 23:38. All tunes acceptable and samples were analyzed within 12-hr. NYSDEC tune criteria – No Action required.

Analysis was conducted using the Selected Ion Monitoring (SIM) mode of detection to ensure the lowest possible RLs for the target compounds.

4. Initial Calibration

The initial calibration (ICAL) data are reviewed to determine if the standards were compliant with the method protocols.

Review the Initial Calibration Data Summary. Check and recalculate the RRFs, avg. RRF and %RSD for at least one volatile analyte across the ICAL. Does the avg. RRF and %RSD check back to the raw data? **Yes.** Were the RRFs for all analytes in the standard all greater than or equal to 0.05 (HW-31 criteria)? **Yes.**

Were at least five concentration levels of each compound analyzed during the initial calibration? **Yes (see Table B.1, page 15 of this DV checklist, for the project-specific compound list).** Were all calibration standards analyzed within 12 hours of BFB tune? **Yes**

Were retention times for each target analyte stable across the calibration (i.e., within ± 0.06 RRT units of the mean RT for each compound)? **Yes**

Did the initial calibration meet %RSD criteria of ≤ 30% for all project target analytes? **Yes**. Was the average %RSD across all analytes ≤ 30%? **Yes**

Action: If RRF < 0.05, estimate (J) positive detects and reject (R) non-detects. If the %RSD >30%, qualify positive and non-detected results as estimated (J and UJ). Sound technical judgment should be used in qualification of the data. The results for each sample associated with ICAL should be evaluated to determine if a result reported would be impacted by the miss-calibration.

ICAL Check: Compound Checked Acetone / IS = Bromochloromethane

Level (ppbV)	0.5	1.0	2.5	5	12.5	25	50	100	250
Cpd. Response	14867	27018	62447	121861	313937	611687	1203888	2353715	4893430
IS Response	266166	263195	263838	264877	266813	266536	264989	268357	276538
IS Amount	10	10	10	10	10	10	10	10	10
RRF	1.117	1.027	0.947	0.920	0.941	0.918	0.909	0.877	0.708

Avg. RRF = 0.929; %RSD = 11.9%

Note: Acetone & Ethanol Levels were 5 times levels shown for standard (i.e., 0.1 ppbV standard contained Acetone at 0.5 ppbV, 2.5 ppbV standard contained acetone at 12.5 ppbV, etc.)

All 23 target compounds had 7- to 11-level ICAL from 0.02, 0.04, or 0.5 to 50 or 250 ppbV and All had RRFs > 0.05 and %RSD < 30% - valid ICAL – No Action required.

ICAL contained many compounds in addition to the targets requested – only targets evaluated.

5. Continuing Calibration Check

The continuing calibration (CCAL or CCV) data are reviewed to determine if the standards were contractually compliant.

Review the Continuing Calibrations and Summaries. Check and recalculate the RRF and %Recovery (%Rec or %R) for at least one of the target volatile compounds in one of the CCALs. Does the RRF and %R check back to the raw data? **Yes**. Were the RRFs for all analytes in the standard all greater than or equal to 0.05? **Yes.**

Was a continuing calibration check performed every 12 hours following tuning verification of the instrument? **Yes**. If no, list below all the affected samples.

Were the target analytes recovered within the expected retention time window based upon the initial calibration (i.e., drift of instrument was acceptable)? **Yes**.

Did the continuing calibrations meet criteria for verification of %R 70-130% (%D $\leq \pm$ 30%) for all compounds? **Yes**.

Were the daily calibration RRFs used to calculate sample results for those samples analyzed within the same 12-hour tune (Region 9 TO-15 Modification)? **No.** If No, were the average RRFs from the ICAL used (SW-846, TO-14A, and Alpha SOP requirements)? **Yes**

Action: If a %R outside of 70-130% (or 60-140%), this compound should be checked in each sample.
Non-detects: If the CCAL indicates the system had enhanced detection of the compound on the day of CCAL as compared in the ICAL, and the compound is non-detect in the associated samples, no action is required. If the CCAL indicates a loss in instrument sensitivity on day of analysis for detection of a compound, estimate (UJ) the result with possible low bias.
Positive detects if the ICAL RRFs are used for sample quantitation: If CCAL %R shows loss in instrument sensitivity, estimated (J) result with possible low bias. If CCAL %R shows increase in instrument sensitivity, estimated (J) result with possible high bias.
Positive detects if the CCAL RRFs are used for sample quantitation: estimate (J) results with indeterminate bias.

CCAL Check: Standard ID 130911SIM Compound Checked _1,1,1-Trichloroethane_

Responses	RRF	avg. RRF ICAL	% D
Cpd: 151349 & 5ppbV	0.4786	0.5224	8.38%
IS: 632425@10			

CCV acceptable – no action required.

6. Laboratory Method and Field Equipment Blank Results

   Laboratory method and field blank (equipment blanks) results are reviewed to assess the presence of contaminants, which affect the accuracy and sensitivity of the results. See Table 2a. where the Holding Time and Associated QC Table was completed for the samples within this SDG.

   Were equipment blanks (EB) associated with the samples received at the lab? **Yes**.

   Was each sample analysis associated with an appropriate method blank? **Yes**. Was there a method blank for each 12-hour tune? **Yes.** If no, list below affected samples.

   Review the reporting forms for each method and equipment blank. Were any target compounds in the blanks detected? **Yes**.

   NOTE: Ambient Air samples are evaluated as field samples and are not used in this assessment to associate with indoor air or subslab soil vapor samples to determine if blank action is warranted based on the "background" of the ambient air.
   Equipment Blanks are generated in the field using canisters received from Alpha for sampling. These canisters are hooked up through a pressure regulator to a clean zero-grade air tank and filled using the same procedures used for sampling ambient and indoor air samples from the site. These EBs evaluate the equipment in a general way and are not specifically related to the samples collected at a particular location.

Action: - Blanks should not contain contaminants above the RL. The Blank Action Level is defined as five times the level seen in the blanks on a sample-specific basis (i.e., all dilutions for a sample analysis taken into consideration). The following actions should be taken if conditions warrant:

Method Blank Evaluation

1. If the reported result in a sample is below the reporting limit (sample < RL) and if the method blank contains a result above the sample-equivalent level reported, the result in the sample should be negated (U) and raised to the sample-specific RL for that sample
2. If the sample result is between the reporting limit and the blank Action Level for the method blank (RL < sample < Action Level), the result for the sample is negated (U) at the level found in the sample.
3. If the sample result is greater than the RL and the blank Action Level, no action is taken.

Equipment Blank Evaluation

1. If there is a detected result in a sample, the result should be qualified (EB) to indicate that the results may be biased high.

Comments:
Blanks evaluated: MB: WG635344-5 and FB: FB1

6. Laboratory and Field Blank Results - continued

Blank ID	Contaminant / Level	Action Level	Sample/Reported Result	Corrected Result
WG635344-5	None		No Blank Action Required	
FB1	Ethylbenzene 0.104 ppbV	----	All samples except SSV1017 reported detected results for this compound	All detects qualified EB
FB1	1,2,4-Trimethylbenzene 0.063 ppbV	----	All samples except SSV013 & SSV1017 reported detected results for this compound	All detects qualified EB

7. Internal Standards and Surrogates

Internal Standard Responses and Surrogate Recoveries

Review the Internal Standard (IS) and Surrogate Recovery Summary information.

Was the Retention Time for the IS' within ± 0.33 min of the corresponding IS in the associated CCAL? **Yes**. Were the Area Counts for each IS within 60% to 140% of the Areas from the associated CCAL? **Yes**

Were the Surrogates recovered within 70-130%? **NA – No surrogates used, only IS which is acceptable by TO-15 and HW-31.**

Action: Action is taken on only those compounds associated with a specific IS. If 20% < IS Response < 60% compared to IS in CCAL, estimate all associated compound results (J and UJ) with possible low bias. If the IS response is > 140%, estimate (J) positive results with possible high bias, no action required for non-detects. If the IS response is < 20% relative to CCAL, estimate detects (J) and reject (R) non-detect. If surrogate recovery > 10% but <70%, U/UJ results, if %Rec > 130%, J detects only.

Comment:

IS = Bromochloromethane, 1,4-Difluorobenzene, and Chlorobenzene-d5

All IS' met criteria in all samples and QC – No Action required.

8. Laboratory Control Sample Analysis

The Laboratory Control Samples (LCS) are reviewed to assess the accuracy of the results relative to the analytical procedure.

Review the raw data and recovery information for the LCS.

Did the laboratory perform a LCS daily prior to sample analysis (at least once per every 12-hour tune)? **Yes**. If no, list below the affected samples.

Were the LCS recoveries within 70-130% for the 23 target compounds (see page TO-15-15)? **Yes**. Were reanalysis of the samples performed if the LCS or LCSD was outside of Alpha acceptance criteria? **NA**.

Was an LCSD performed? **Yes.** If yes, was the RPD between the LCS/LCSD ≤ 25%. **Yes**

Action: If the LCS recoveries are above criteria, estimate (J) positive results due to potential high bias, no qualification of non-detected results is necessary. If the LCS recoveries are between 10% and the lower recovery limit, estimate (J and UJ) positive and non-detect results for the samples associated with the analytical batch due to potential low bias in the results. If the recovery in the LCS is less than 10%, estimate (J) positive results due to low bias and use professional judgment to estimate (UJ) or reject (R) non-detect results due to potential false negatives. If the LCS/LCSD RPD > 25%, estimate results (J and UJ) for those compounds affected in the analytical batch.

Comments:
LCS/LCSD = WG635344-3LCS / WG635344-4LCSD. Accuracy and precision was acceptable for all 23 target compounds; therefore, No Action required.

9. Sample Quantitation/Reporting Limits

Review raw data and reporting forms. What was the lowest concentration (ppbv) standard analyzed with the samples? 0.02, 0.04, and 0.5 ppbV Were the sample-specific RLs based on this standard? **Not always; however, RLs were supported by the lowest standard but several samples had RLs > lowest standard analyzed. All RLs, were below the Table B.1 for the 3 x dilution for 1-liter canister (see next page).**

$\mu g/m^3 = (ppbv \times Mwt \times DF) / 24.47$

where: Mwt = Molecular weight for the compound, g/mole
DF = Dilution Factor for analysis, unitless
24.47 = Alpha conversion factor = RT/P from ideal gas law with R at 0.08206 L-atm/mole-K; P = 1 atm (Standard pressure), and T = 25°C=298.16K (Room Temperature)

Reporting Limit checked (pick a non-detect in one sample and using the sample-specific DF, verify the RL (compound checked Vinyl Chloride ; Mwt 62.5)
Lowest-level Standard and basis for RL = 0.02 ppbV;
Sample = SSV1017 ; Canister DF = 2.45; Inst. DF = 5; overall DF = 12.23
RL calculated 0.625 $\mu g/m^3$; RL reported 0.626 $\mu g/m^3$ √

Were all the compounds in the calibration standards reported for the samples? **No.** Were Tentatively Identified Compounds (TICs) reported for the samples? **No**

Did the sample-specific RLs for non-detected data meet the levels found in Table B.1 of QAPP (shown on next page)? **No. For samples with DF > 3 (all samples except SSV1015, DUP1, SSV1025, and FB1), RLs were above those given in Table B.1**

Comments:

All Samples were over-pressurized to about 2 atm with Nitrogen upon receipt which resulted in DFs > 2 but < 3. Additional dilutions were required for all but 3 samples + FB at the instrument level in order to report all target compounds within the instrument calibration range. Non-detects at elevated levels will need to be evaluated by SHA for project uses.

TABLE B.1
VOC Analyte List and TO-15 SIM Reporting Limits
Remedial Design/Remedial Action Work Plan
Former Building 982 - Neptune Road
Poughkeepsie, New York

Analyte List	USEPA Method TO-15 SIM	USEPA Method TO-15 SIM (3x dilution for 1-liter canister)
	RL ($\mu g/m^3$)	RL ($\mu g/m^3$)
1,1,1-Trichloroethane	0.11	0.327
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	0.38	1.149
1,1-Dichloroethane (1,1-DCA)	0.081	0.243
1,1-Dichloroethylene (1,1-DCE)	0.079	0.237
1,2,4-Trimethylbenzene	0.098	0.294
2-Butanone (Methyl Ethyl Ketone [MEK])	1.48	4.44
4-Methyl-2-Pentanone (2-Pentanone; Methyl Isobutyl Ketone [MIBK])	2.05	6.15
Acetone	4.7	14.1
Carbon disulfide	0.62	1.86
Carbon tetrachloride	0.13	0.378
Chloroform	0.098	0.294
cis-1,2-Dichloroethylene (cis-1,2-DCE)	0.079	0.237
Dichlorodifluoromethane (DCDFM; Freon 12)	0.25	0.741
Ethylbenzene	0.09	0.261
Isopropanol	1.23	3.69
Propylene	0.68	2.04
Tetrachloroethylene (PCE)	0.136	0.408
Toluene	0.188	0.564
Trichloroethylene (TCE)	0.107	0.321
Trichlorofluoromethane (TCFM; Freon 11)	0.281	0.843
Vinyl chloride (VC)	0.051	0.153
m/p-Xylene	0.17	0.522
o-Xylene	0.087	0.261

10. Sample Qualitative and Quantitative Determination

Were the canisters pressurized with zero grade nitrogen or humid air prior to analysis? **Yes.** If yes, was a dilution factor applied to the sample data? **Yes**

For samples, check the Mass Spectra of all positive detects. Did the Mass Spectra meet criteria (e.g., all ions > 10% matched those in reference spectra)? **Yes**

Was the retention time (RT) for the detected result within ± 0.06 relative RT minutes of the standard component RT? **Yes.** Did the primary/quantitation ion and secondary ion maximize at the same relative RT? **Yes**

Were all components reported in the samples quantitated within the calibration region of the instrument for the detected analytes? **Yes.** Were results reported below the sample-specific RL reported as estimated due to uncertainty in quantitation? **No.** Were there any other data qualifiers on the results which may affect usability of the data? **No**. Explain all qualifiers below

Comments:

Sample spectra and Retention Time for all detects verified – all results were reported properly.

Samples did contain trace levels (results < RL) for some of the compounds of concern; however, data below the RL ("J" qualified data) were not reported due to uncertainty in quantitation and for some instances, due to detection below the MDL. Dilutions at the instrument were done to ensure all detects were reported within the accurate instrument calibration range.

11. Sample Duplicates and Field Duplicate Precision

Sample Duplicates and Field duplicate samples are reviewed to assess representativeness of the sample aliquot to the area sampled and the precision of the results relative to field sampling techniques.

Action: For LDs, if RPD > 20% and both results are > 5xRL, then estimate both results (J) with indeterminate bias. If RPD > 20% and one result > 5xRL and the other < 5xRL, estimate both results (J). If one result is non-detect, and the other is < RL or < 5xRL, do not take action. If one result is non-detect and the other is > 5xRL, estimate (J and UJ) both results.

For FDs, If RPD > 20% and both results are > 5xRL, then estimate both results (J) with indeterminate bias. If RPD > 20% and one result > 5xRL and the other < 5xRL, estimate both results (J). If one result is non-detect, and the other is < RL or < 5xRL, do not take action. If one result is non-detect and the other is > 5xRL, estimate (J and UJ) both results.

Comments:

FD pair = SSV1025 / DUP1
And LD performed on SSV1002

Tables comparing precision for FD and LD are shown on the next 2 pages.

FD & LD precision were acceptable for all target compounds except for Dichlorodifluoromethane, which reported RPD > 20% for results > 5 x RL in both

ACTION: Dichlorodifluoromethane estimated (J) in samples SSV1025 and DUP1 with indeterminate bias due to the observed FD imprecision and estimated (J) in sample SSV1002 due to LD imprecision.

Analyte Name	DF = 2.467* RL (ppbV)	Sample (ppbV)	Q	Sample Result Level	Field Duplicate (ppbV)	Q	FD Result Level	RPD	Action
1,1,1-Trichloroethane	0.046	2.5		> 5 x RL	2.83		> 5 x RL	12.4	None
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.115	0.557		< 5 x RL	0.592		< 5 x RL	6.1	None
1,1-Dichloroethane	0.046	0.071		< 5 x RL	0.081		< 5 x RL	13.2	None
1,1-Dichloroethene	0.046	0.046	U	RL	0.049	U	RL	6.3	None
1,2,4-Trimethylbenzene	0.046	0.36	EB	> 5 x RL	0.429	EB	> 5 x RL	17.5	None
2-Butanone	1.15	5.22		< 5 x RL	5.95		< 5 x RL	13.1	None
4-Methyl-2-pentanone	1.15	1.15	U	RL	1.23	U	RL	6.7	None
Acetone	4.58	19.3		< 5 x RL	22.5		< 5 x RL	15.3	None
Carbon disulfide	0.458	1.52		< 5 x RL	1.58		< 5 x RL	3.9	None
Carbon tetrachloride	0.046	0.046	U	RL	0.049	U	RL	6.3	None
Chloroform	0.046	3.07		> 5 x RL	3.7		> 5 x RL	18.6	None
cis-1,2-Dichloroethene	0.046	0.046	U	RL	0.049	U	RL	6.3	None
Dichlorodifluoromethane	0.115	0.603		> 5 x RL	0.819		> 5 x RL	30.4	**J Both**
Ethylbenzene	0.046	10.8	EB	> 5 x RL	12.7	EB	> 5 x RL	16.2	None
iso-Propyl Alcohol	1.15	1.15	U	RL	1.23	U	RL	6.7	None
o-Xylene	0.046	17.1		> 5 x RL	20		> 5 x RL	15.6	None
p/m-Xylene	0.092	52.8		> 5 x RL	62		> 5 x RL	16.0	None
Propylene	1.15	1.44		< 5 x RL	1.85		< 5 x RL	24.9	None
Tetrachloroethene	0.046	1.03		> 5 x RL	1.22		> 5 x RL	16.9	None
Toluene	0.115	2.58		> 5 x RL	2.95		> 5 x RL	13.4	None
Trichloroethene	0.046	0.124		< 5 x RL	0.141		< 5 x RL	12.8	None
Trichlorofluoromethane	0.115	0.316		< 5 x RL	0.363		< 5 x RL	13.8	None
Vinyl chloride	0.046	0.046	U	RL	0.049	U	RL	6.3	None

* FD DF is 2.292 rather than 2.467

Laboratory Duplicate performed on SSV1002

Analyte Name	DF = 4.024 RL (ppbV)	Sample (ppbV)	Q	Sample Result Level	Lab Duplicate (ppbV)	Q	LD Result Level	RPD	Action
1,1,1-Trichloroethane	0.081	133		> 5 x RL	132		> 5 x RL	0.8	None
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.201	2.3		> 5 x RL	2.36		> 5 x RL	2.6	None
1,1-Dichloroethane	0.081	6.57		> 5 x RL	6.51		> 5 x RL	0.9	None
1,1-Dichloroethene	0.081	13.4		> 5 x RL	13.3	U	> 5 x RL	0.7	None
1,2,4-Trimethylbenzene	0.081	0.378	EB	< 5 x RL	0.374	EB	< 5 x RL	1.1	None
2-Butanone	2.01	4.84		< 5 x RL	4.82		< 5 x RL	0.4	None
4-Methyl-2-pentanone	2.01	2.01	U	RL	2.01	U	RL	0.0	None
Acetone	8.05	14.2		< 5 x RL	14		< 5 x RL	1.4	None
Carbon disulfide	0.805	0.833		< 5 x RL	0.845		< 5 x RL	1.4	None
Carbon tetrachloride	0.081	0.081	U	RL	0.081	U	RL	0.0	None
Chloroform	0.081	4.56		> 5 x RL	4.55		> 5 x RL	0.2	None
cis-1,2-Dichloroethene	0.081	5.44		> 5 x RL	5.4	U	> 5 x RL	0.7	None
Dichlorodifluoromethane	0.201	4.24		> 5 x RL	3.37		> 5 x RL	22.9	**J Both**
Ethylbenzene	0.081	0.201	EB	> 5 x RL	0.201	EB	> 5 x RL	0.0	None
iso-Propyl Alcohol	2.01	2.01	U	RL	2.01	U	RL	0.0	None
o-Xylene	0.081	0.41		> 5 x RL	0.398		> 5 x RL	3.0	None
p/m-Xylene	0.161	1.11		> 5 x RL	1.1		> 5 x RL	0.9	None
Propylene	2.01	2.01	U	RL	2.01		RL	0.0	None
Tetrachloroethene	0.081	0.7		> 5 x RL	0.696		> 5 x RL	0.6	None
Toluene	0.201	0.801		< 5 x RL	0.789		< 5 x RL	1.5	None
Trichloroethene	0.081	70.4		> 5 x RL	70		> 5 x RL	0.6	None
Trichlorofluoromethane	0.201	0.66		< 5 x RL	0.66		< 5 x RL	0.0	None
Vinyl chloride	0.081	0.081	U	RL	0.081	U	RL	0.0	None

12. Additional QA/QC Issues

Were there any additional QA/QC issues noted in the project narrative or found during this review that were not previously addressed? **No**

List any additional issues which may affect the quality of the results. List the affected samples, QA/QC issue, and necessary actions taken in the comments section below.

Cis-1,2-dichloroethene in sample SSV1023 was ND in ppbV but reported as a detect in µg/m^3 units at the RL. The chromatogram and quantitation report show that this compound was detected at the RL (0.02 ppbV not accounting for sample-specific dilutions). The laboratory indicated that a rounding issue in the data system caused this error and revised the data report as L1317522-R1. This revision also amended the sample IDs reported in the original report for the unused canisters to make it clear that samples were not collected in these canisters.

IV. Example Sample Calculations

Review of one sample per data package is performed to determine if sample results were correctly calculated and reported.

Sample ID: SSV1017 was selected for review in this data package.

A. Data Sheet Review

Were the data sheets completed according to the method requirements? **Yes**. If no, list below the affected fields.

B. Quantitation Review

Reproduce a calculation for one volatile analyte in one of the samples that contained a positive result and compare the calculated result to the result reported by the laboratory.

Analyte Checked: 1,1,1-Trichloroethane

Laboratory Result: 554 ppbV; 3020 µg/m^3 Calculated Result: 3020 µg/m^3

Example Calculation:

Sample DF = 12.23; 1,1,1-Trichloroethane Response = 1252255
1,4-difluorobenzene IS Response = 529123 @ 10 ppbV
Average RRF from ICAL = 0.5224

Conc. (ppbV) = (10 x 1252255 x 12.23) / (529123 x 0.5224) = 554.06 ppbV

1,1,1-Trichloroethane Mwt = 133.42

Conc. (µg/m^3) = (554.06 x 133.42)/24.47 = 3021 µg/m^3 = 3,020 µg/m^3 to reported to 3 significant figure

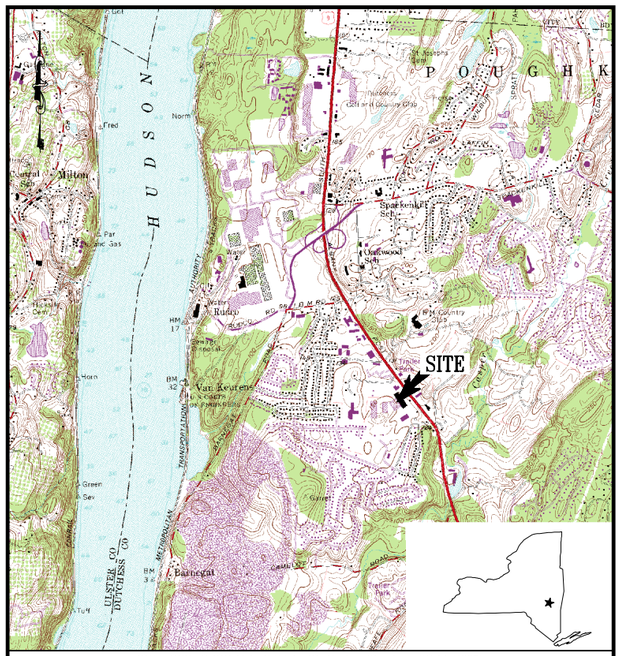
APPENDIX D

SSDS RECORD (AS-BUILT) DRAWINGS

©2013 SANBORN, HEAD ENGINEERING, P.C.

RECORD (AS-BUILT) DRAWINGS
FORMER BUILDING 982
SUBSLAB DEPRESSURIZATION SYSTEM

POUGHKEEPSIE, NEW YORK
JANUARY 2014



FROM: USGS TOPOGRAPHIC MAP - POUGHKEEPSIE, NEW YORK, (1995)

LOCUS PLAN

SCALE: 1:24,000

SHEET INDEX

SHEET C-1	VAPOR SUCTION PIT AND CONVEYANCE PIPE TRENCH LAYOUT
SHEET C-2	VAPOR SUCTION PIT AND PIPE TRENCH SECTIONS
SHEET M-1	PROCESS FLOW DIAGRAM
SHEET M-2	OVERHEAD VACUUM HEADER PIPE LAYOUT
SHEET M-3	VAPOR SUCTION PIT PORT RISER DETAILS
SHEET M-4	SUBSLAB VAPOR EXTRACTION PORT RISER DETAILS
SHEET M-5	EQUIPMENT LAYOUT
SHEET M-6	MECHANICAL ELEVATIONS I
SHEET M-7	MECHANICAL ELEVATIONS II
SHEET M-8	SSDS BUILDING ELEVATIONS
SHEET E-1	ELECTRICAL LAYOUT
SHEET E-2	POWER PANEL 100 ELECTRICAL LINE DIAGRAM
SHEET E-3	ELECTRICAL LINE DIAGRAMS AND WIRING SCHEMATIC
SHEET E-4	SSDS EQUIPMENT ROOM ELECTRICAL LAYOUT
SHEET IC-1	PIPING AND INSTRUMENTATION DIAGRAM
SHEET IC-2	INSTRUMENTATION LAYOUT

PREPARED FOR:

IBM

POUGHKEEPSIE
POUGHKEEPSIE, NEW YORK

PREPARED BY:

STATE OF NEW YORK · DAVID SHEA · 20026 · LICENSED PROFESSIONAL ENGINEER

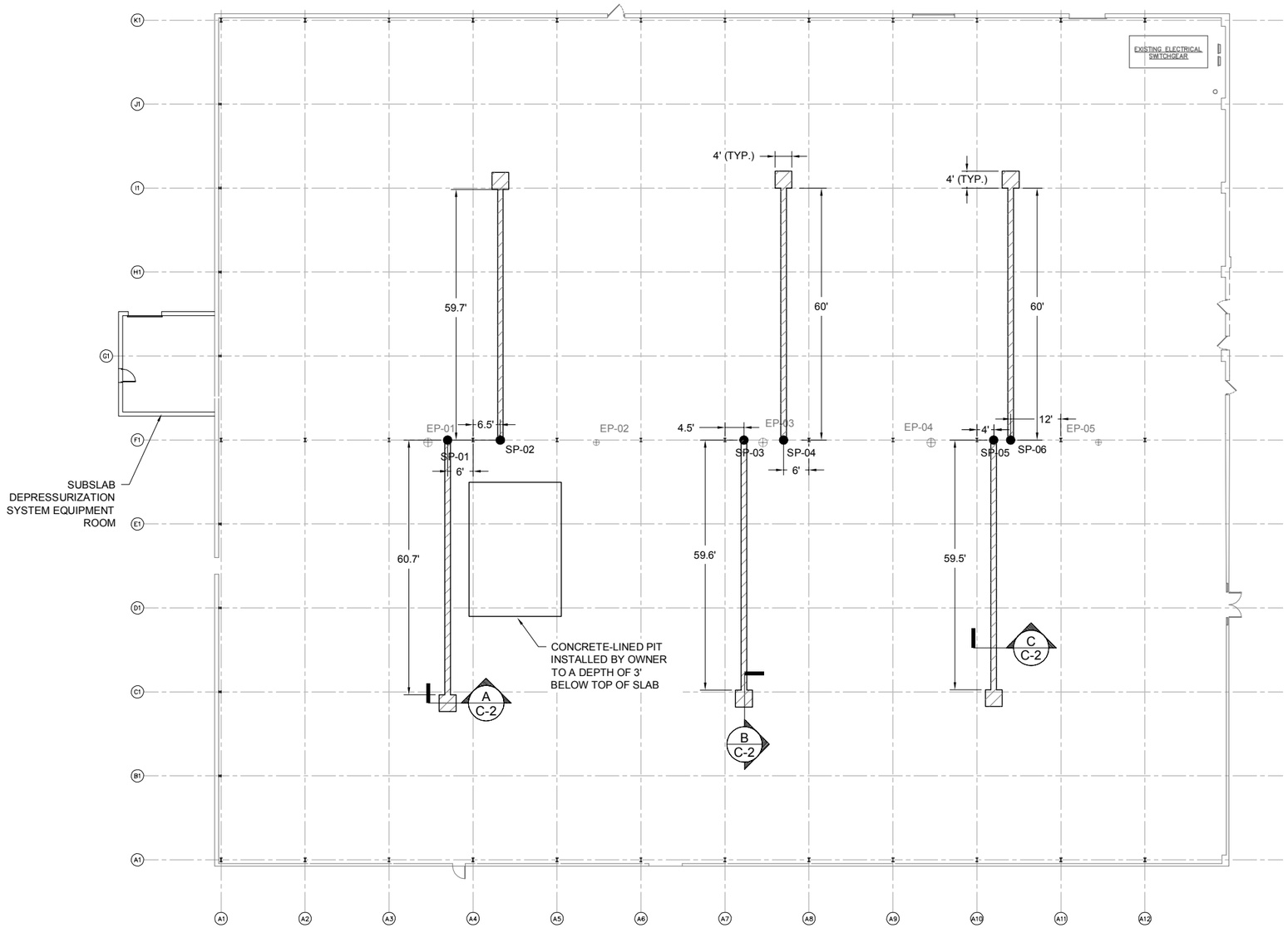
SANBORN HEAD ENGINEERING

20 FOUNDRY STREET, CONCORD, NEW HAMPSHIRE 03301
(603) 229-1900

©2013 SANBORN, HEAD ENGINEERING, P.C.

LEGEND:

- 4'x4' SUBSLAB VAPOR SUCTION PIT WITH CONVEYANCE PIPE TRENCH
- EP-01 ⊕ SUBSLAB EXTRACTION PORT CONNECTED TO VACUUM HEADER PIPE
- SP-01 ● SUCTION PIT RISER CONNECTED TO VACUUM HEADER PIPE



SANBORN HEAD ENGINEERING

GRAPHICAL SCALE
15' 8' 0' 15' 30'

STATE OF NEW YORK · DAVID SHEA · 70026 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

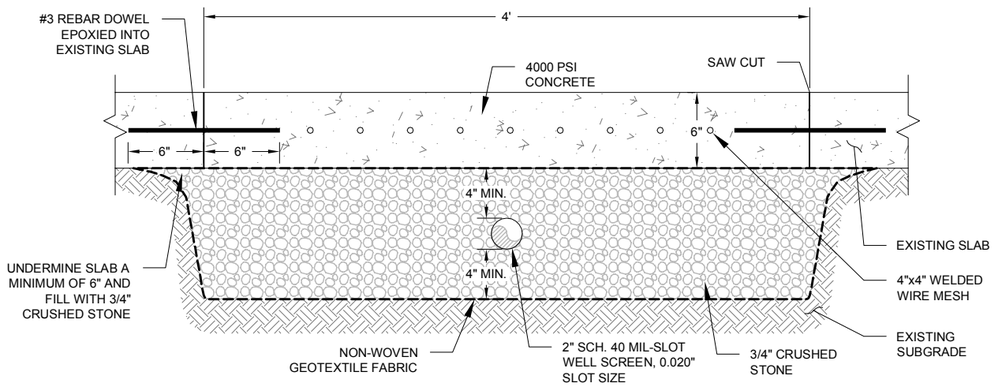
VAPOR SUCTION PIT AND CONVEYANCE PIPE TRENCH LAYOUT

SHEET NUMBER: C-1

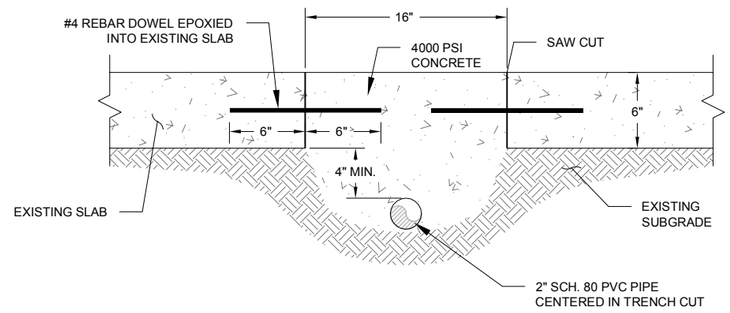
©2013 SANBORN, HEAD ENGINEERING, P.C.

NOTES:

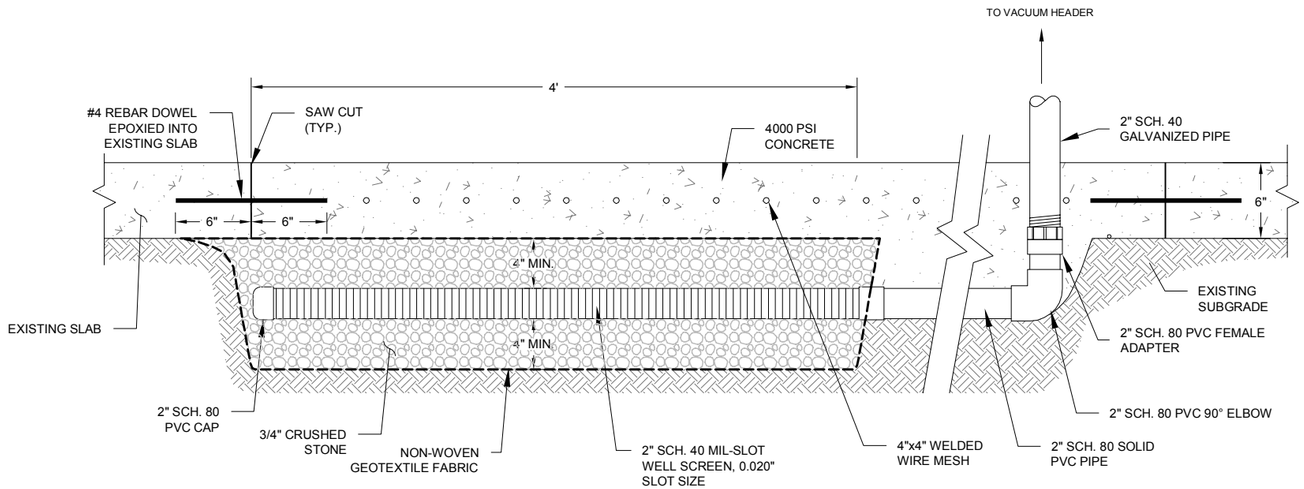
1. DOWEL SPACING IS NO GREATER THAN 18" ON CENTER ALONG ALL EDGES OF THE TRENCH AND SUMP OPENINGS.



A TYPICAL SUCTION PIT SECTION A



C TYPICAL CONVEYANCE PIPE TRENCH SECTION



B TYPICAL SUCTION PIT SECTION B

SANBORN HEAD ENGINEERING

NOT TO SCALE

STATE OF NEW YORK · DAVID SHEA · 70026 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

VAPOR SUCTION PIT AND CONVEYANCE PIPE TRENCH SECTIONS

SHEET NUMBER: C-2

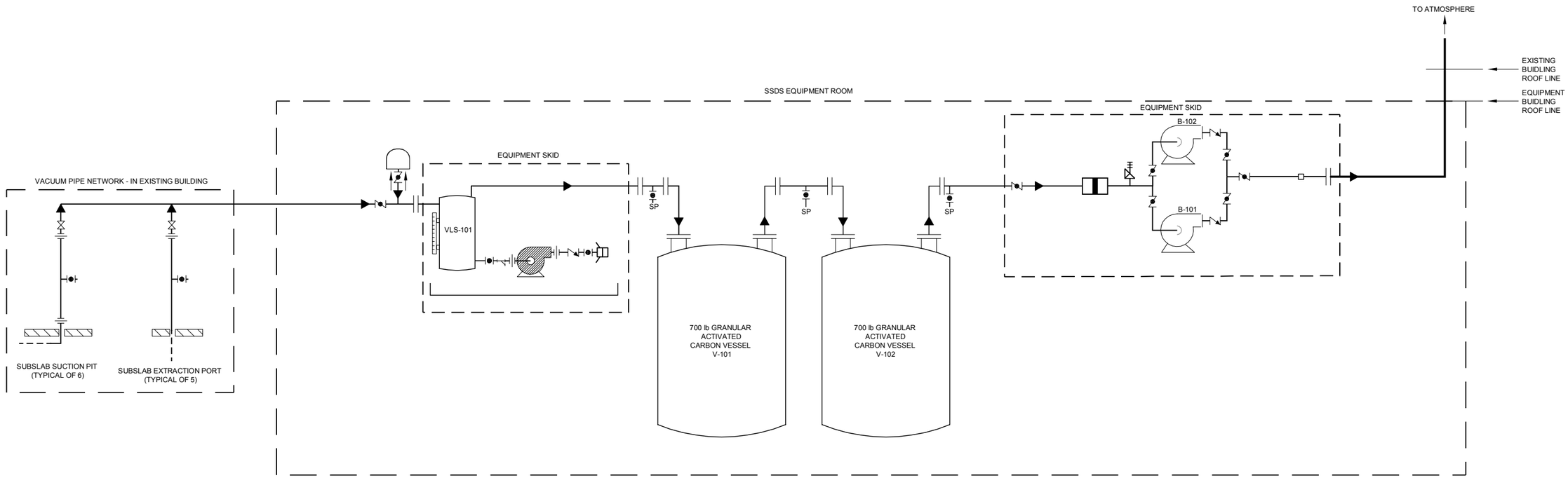
©2013 SANBORN, HEAD ENGINEERING, P.C.

NOTES:

1. THIS DRAWING IS FOR GENERAL INFORMATION ONLY. REFER TO OTHER DRAWINGS FOR ALL REQUIRED COMPONENTS.
2. REFER TO THE PIPING AND INSTRUMENTATION DIAGRAMS FOR ADDITIONAL DETAILS.

LEGEND:

- BALL VALVE
- CHECK VALVE OR DAMPER
- GATE VALVE
- VACUUM RELIEF VALVE
- Y-STRAINER
- BUTTERFLY VALVE
- UNION
- SP — SAMPLE PORT
- FLANGE
- CAM LOCK QUICK CONNECT
- RIGID CONVEYANCE PIPE
- RIGID CONVEYANCE PIPE WITH INSULATION AND INSULATION JACKET
- SECONDARY CONTAINMENT
- REGENERATIVE BLOWER (B-101)
- CENTRIFUGAL PUMP (P-101)
- IN-LINE PARTICULATE FILTER
- AIR INLET FILTER
- VLS — VAPOR LIQUID SEPARATOR



SANBORN HEAD ENGINEERING

NOT TO SCALE

STATE OF NEW YORK · DAVID SHEA · 70025 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

PROCESS FLOW DIAGRAM

SHEET NUMBER: M-1

©2013 SANBORN, HEAD ENGINEERING, P.C.

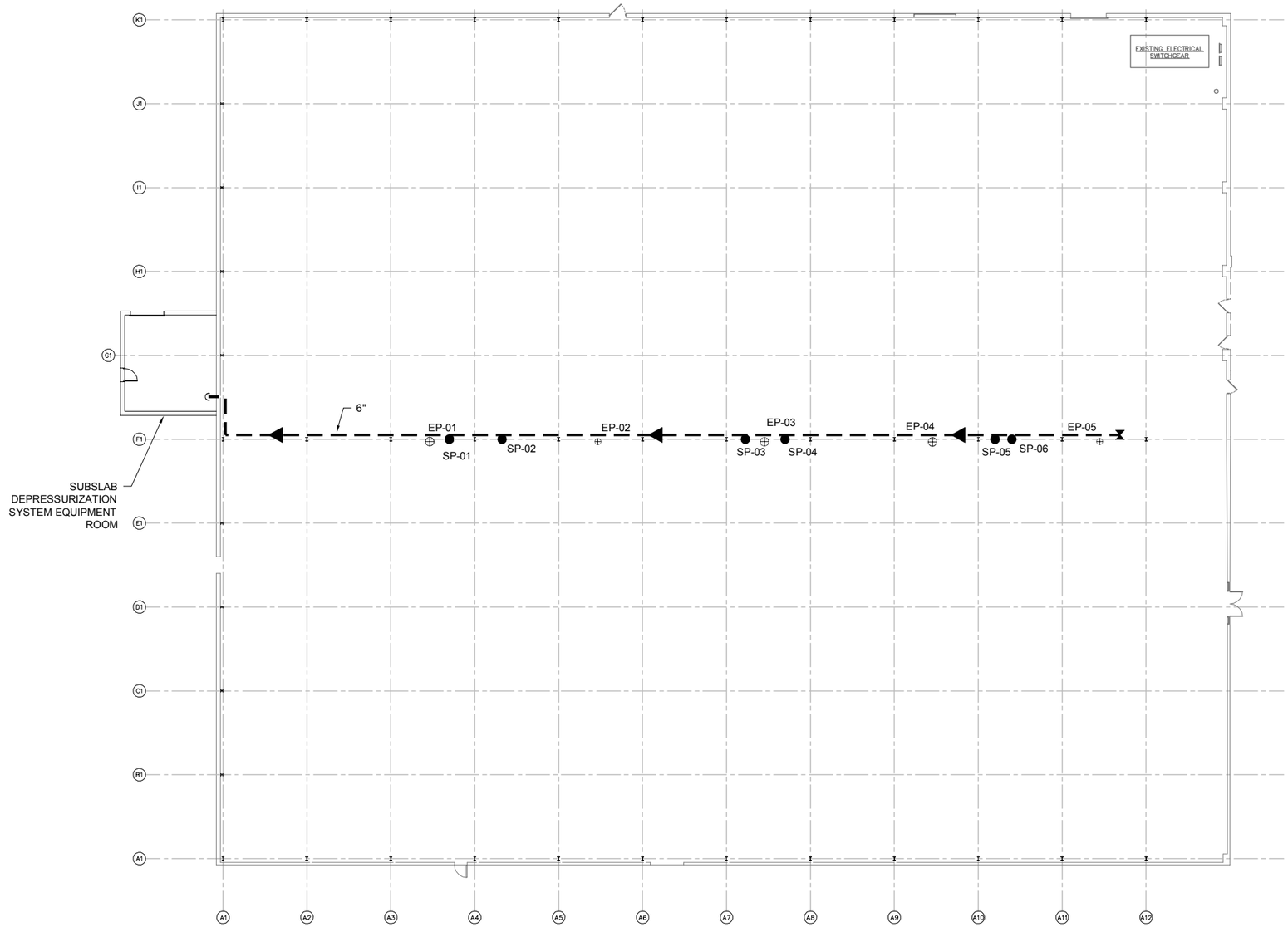
IMAGES: SVMSDATA\D0023\03\ArchitTrade\CAD\Helena Rivoli\SSDS_FCT1\Sheet Layout Revised 20130919.dwg
LAYOUT: M-2 | SAVED: 9/19/2013 2:50:47 PM | ACADVER: 18.1s (LMS Tech) | DWG: Sheet Layout Revised 20130919.dwg
Xrefs: I:\Shared\Land\CAD\Utility\GIS\SUMPS\YFOG\SHEETSET\SHEETS.dwt
Xrefs: I:\Shared\Land\CAD\Utility\GIS\SUMPS\YFOG\SHEETSET\SHEETS.dwt

XREFS: S:\WES\DATA\D0023\03\Graphics\Trade\CAD\Xrefs\VU3Bx_Layout.dwg

FILE: S:\WES\DATA\D0023\03\Graphics\Trade\CAD\Helena Rivoli\ASBUILTS-JAN'14\D0023016_SSDS\Sumps.dwg
LAYOUT: M-2
CTB FILE: SHA-Sheet.ctb
PLOT DATE: 1:1=1

LEGEND:

- SPENCER TUBING CAP
- NEW SPENCER TUBING VACUUM HEADER PIPE WITH NOMINAL SIZE AND FLOW DIRECTION
- EP-01 ⊕ SUBSLAB EXTRACTION PORT CONNECTED TO VACUUM HEADER PIPE
- SP-01 ● SUCTION PIT RISER CONNECTED TO VACUUM HEADER PIPE
- GATE VALVE



SANBORN HEAD ENGINEERING

GRAPHICAL SCALE
15' 8' 0' 15' 30'

STATE OF NEW YORK · DAVID SHEA · 72025 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

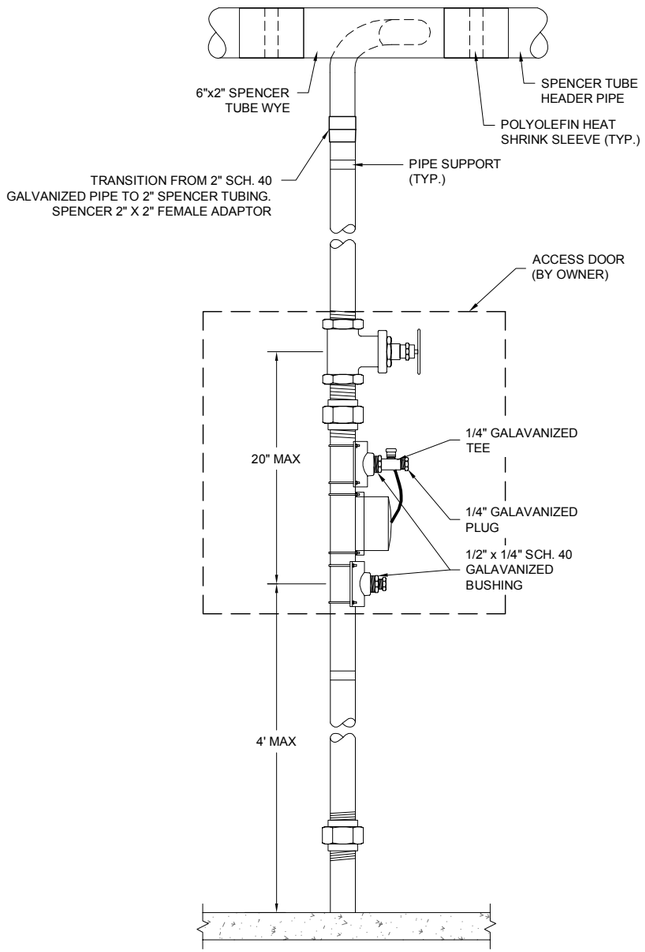
OVERHEAD VACUUM HEADER PIPE LAYOUT

SHEET NUMBER: M-2

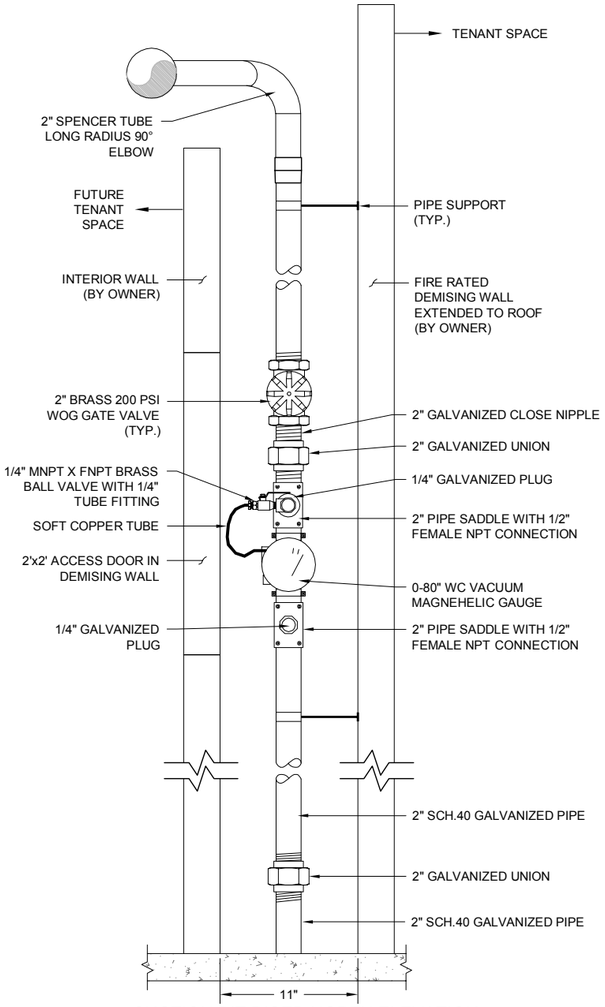
©2013 SANBORN, HEAD ENGINEERING, P.C.

NOTES:

1. VACUUM MAGNEHELIC GAUGES ARE DWYER INSTRUMENTS MODEL #2080, AND INCLUDE A-610 PIPE MOUNT KIT, A-310A VENT VALVE ON VACUUM SIDE, AND PRESSURE GAUGE SNUBBER WITH 0.5 MICRON FILTERING DISC ON HIGH PRESSURE PORT.
2. SPENCER TUBING AND FITTINGS ARE JOINED WITH POLYOLEFIN SHRINK SLEEVES.
3. THREADED JOINTS ARE MADE WITH TEFLON THREAD SEALANT TAPE THAT IS VACUUM AND/OR PRESSURE TIGHT.



A SUCTION PIT RISER EAST ELEVATION



B SUCTION PIT RISER NORTH ELEVATION

SANBORN HEAD ENGINEERING

NOT TO SCALE

STATE OF NEW YORK · DAVID SHEA · 70026 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

VAPOR SUCTION PIT RISER DETAILS

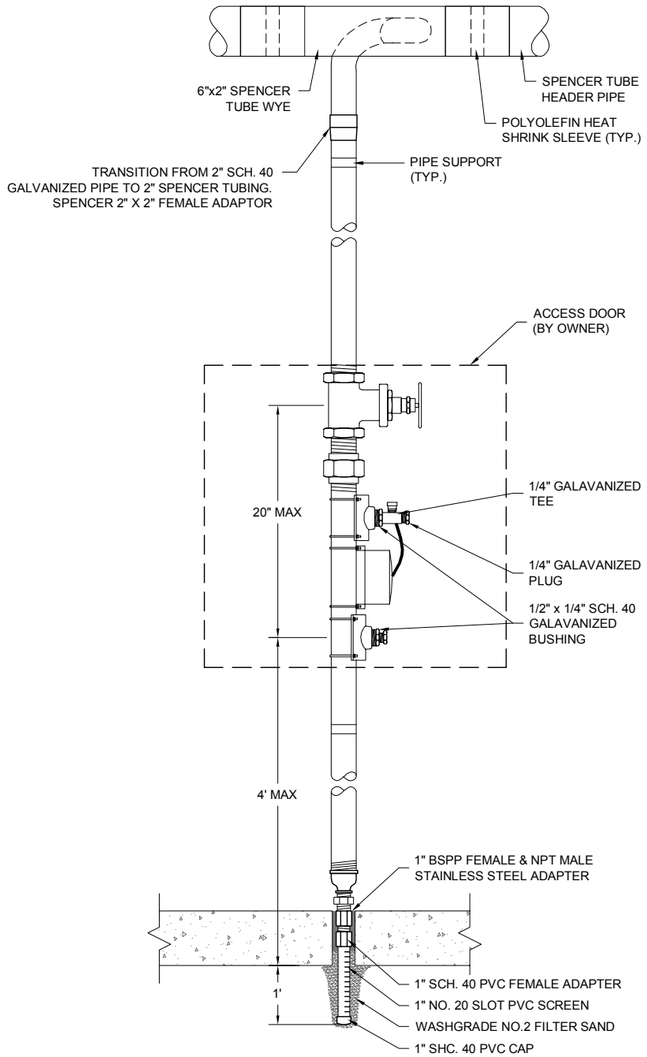
PROJECT NUMBER: 3623.00

SHEET NUMBER: M-3

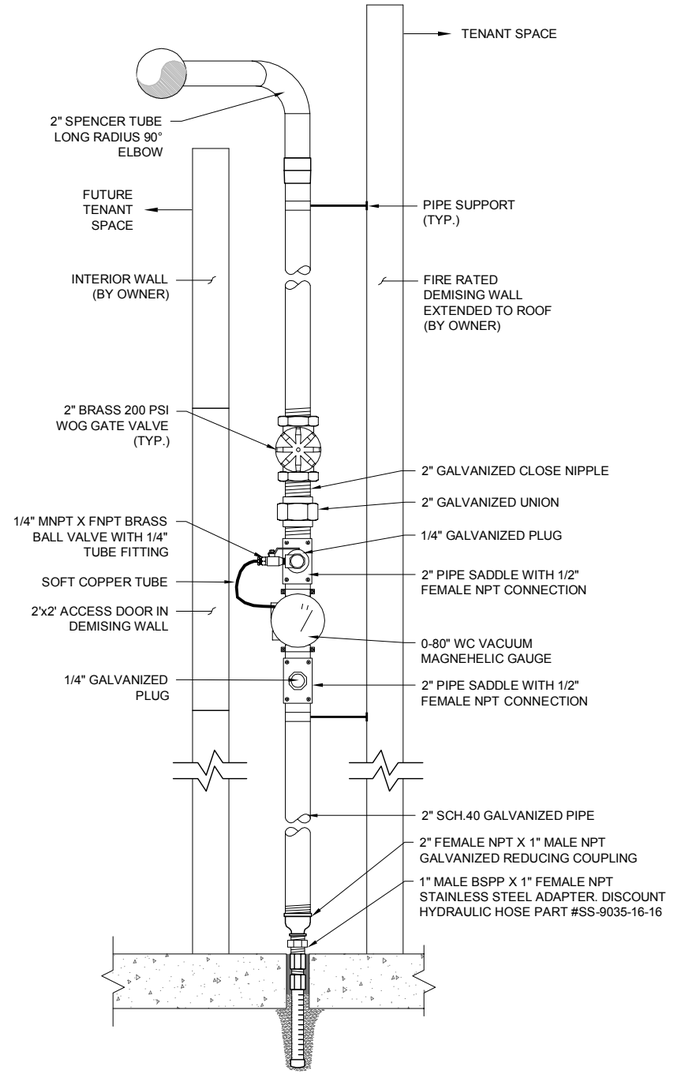
©2013 SANBORN, HEAD ENGINEERING, P.C.

NOTES:

1. VACUUM MAGNEHELIC GAUGES ARE DWYER INSTRUMENTS MODEL #2080, AND INCLUDE A-610 PIPE MOUNT KIT, A-310A VENT VALVE ON VACUUM SIDE, AND PRESSURE GAUGE SNUBBER WITH 0.5 MICRON FILTERING DISC ON HIGH PRESSURE PORT.
2. SPENCER TUBING AND FITTINGS ARE JOINED WITH POLYOLEFIN SHRINK SLEEVES.
3. THREADED JOINTS ARE MADE WITH TEFLON THREAD SEALANT TAPE THAT IS VACUUM AND/OR PRESSURE TIGHT.



A SUBSLAB EXTRACTION PORT RISER EAST ELEVATION



B SUBSLAB EXTRACTION PORT RISER NORTH ELEVATION

SANBORN HEAD ENGINEERING

NOT TO SCALE

STATE OF NEW YORK · DAVID SHEA · 70005 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

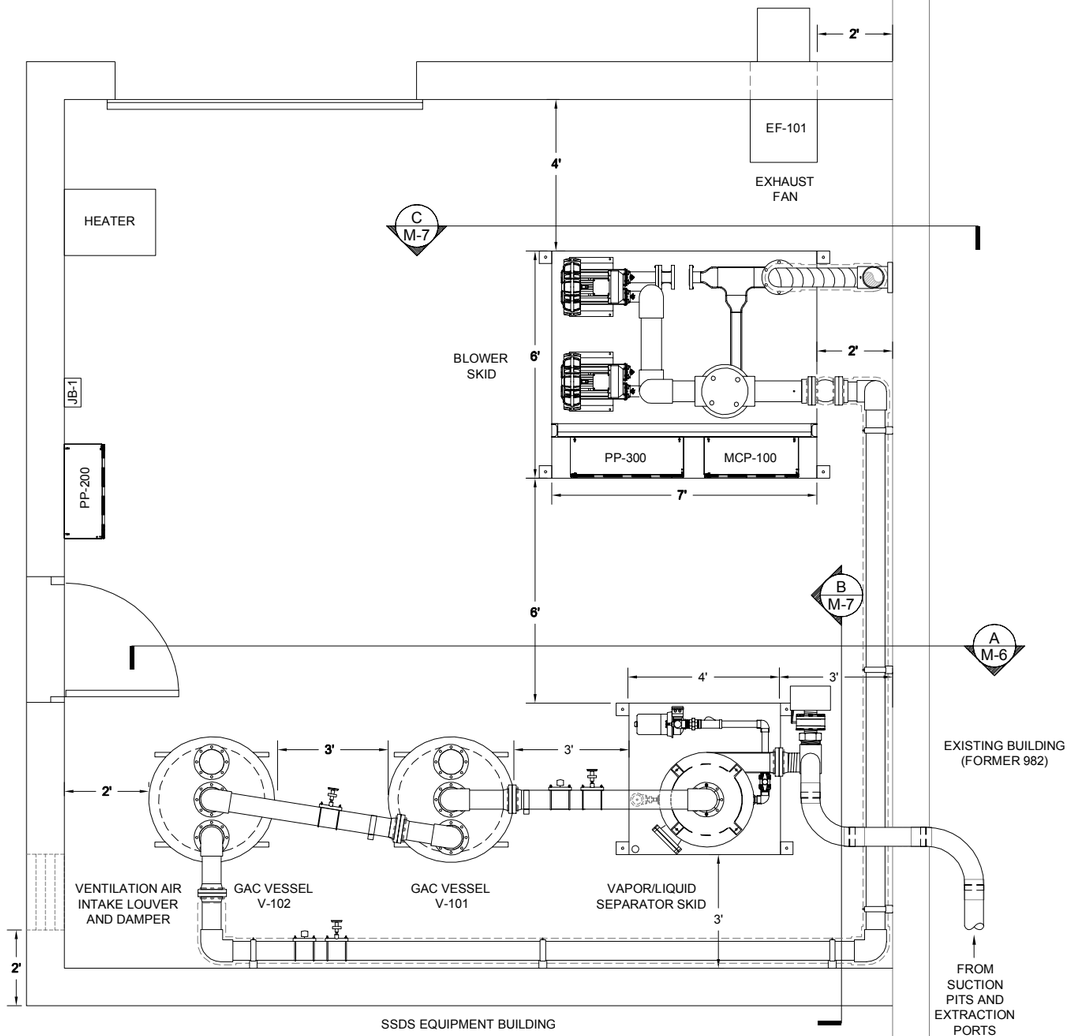
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

SUBSLAB VAPOR EXTRACTION PORT RISER DETAILS

SHEET NUMBER: M-4

©2013 SANBORN, HEAD ENGINEERING, P.C.



NOTES:

1. SPENCER TUBE JOINTS UNDER VACUUM ARE CONSTRUCTED USING POLYOLEFIN SHRINK SLEEVES MANUFACTURED BY SPENCER.
2. THE UTILITY HEATER IS McMASTER CARR MODEL #2022K4 MOUNTED APPROXIMATELY 10 FEET ABOVE THE SLAB. A THERMOSTAT IS MOUNTED TO THE ADJACENT WALL

SANBORN HEAD ENGINEERING

GRAPHICAL SCALE
2' 1' 0' 2' 4'

STATE OF NEW YORK · DAVID SHEA · 70025 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

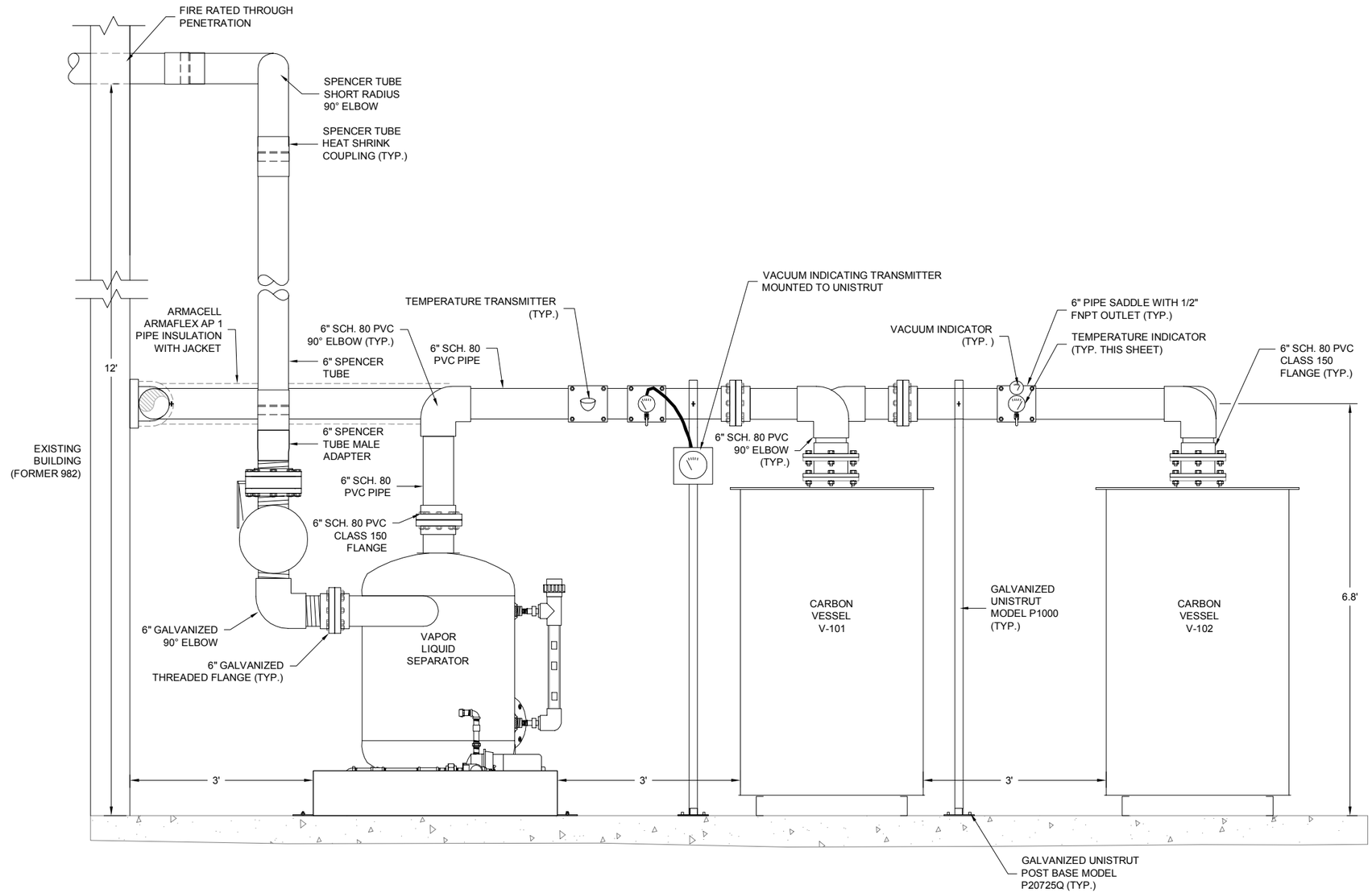
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

EQUIPMENT LAYOUT

PROJECT NUMBER: 3623.00

SHEET NUMBER: M-5

©2013 SANBORN, HEAD ENGINEERING, P.C.



A SECTION A

SANBORN HEAD ENGINEERING

NOT TO SCALE

STATE OF NEW YORK · DAVID SHEA · 70026 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

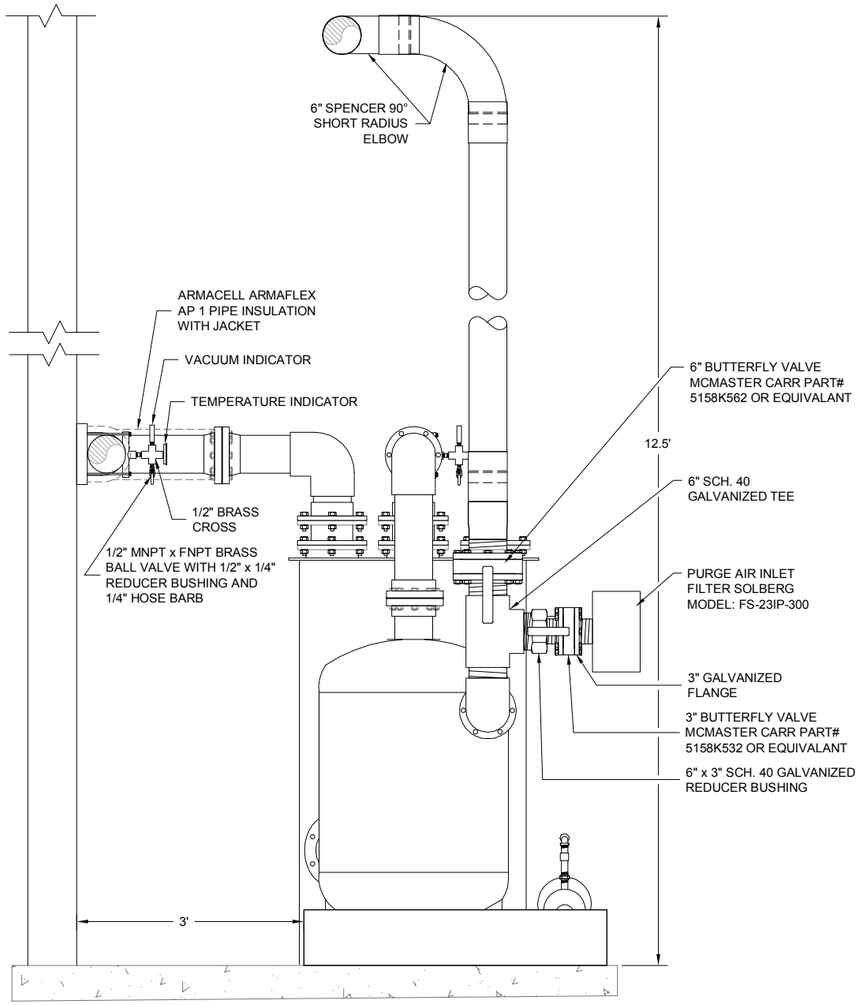
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

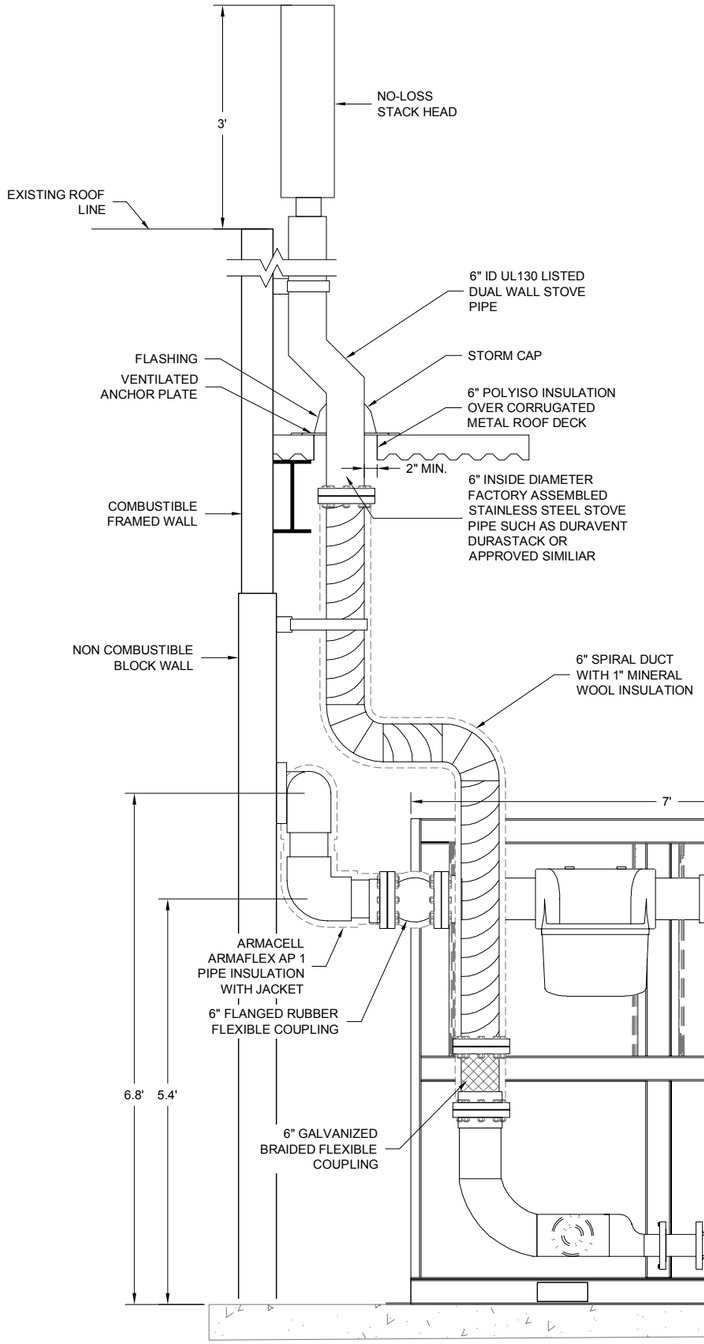
MECHANICAL ELEVATIONS I

SHEET NUMBER: M-6

©2013 SANBORN, HEAD ENGINEERING, P.C.



B SECTION B



C SECTION C

SANBORN HEAD ENGINEERING

NOT TO SCALE

STATE OF NEW YORK · DAVID SHEA · 70028 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

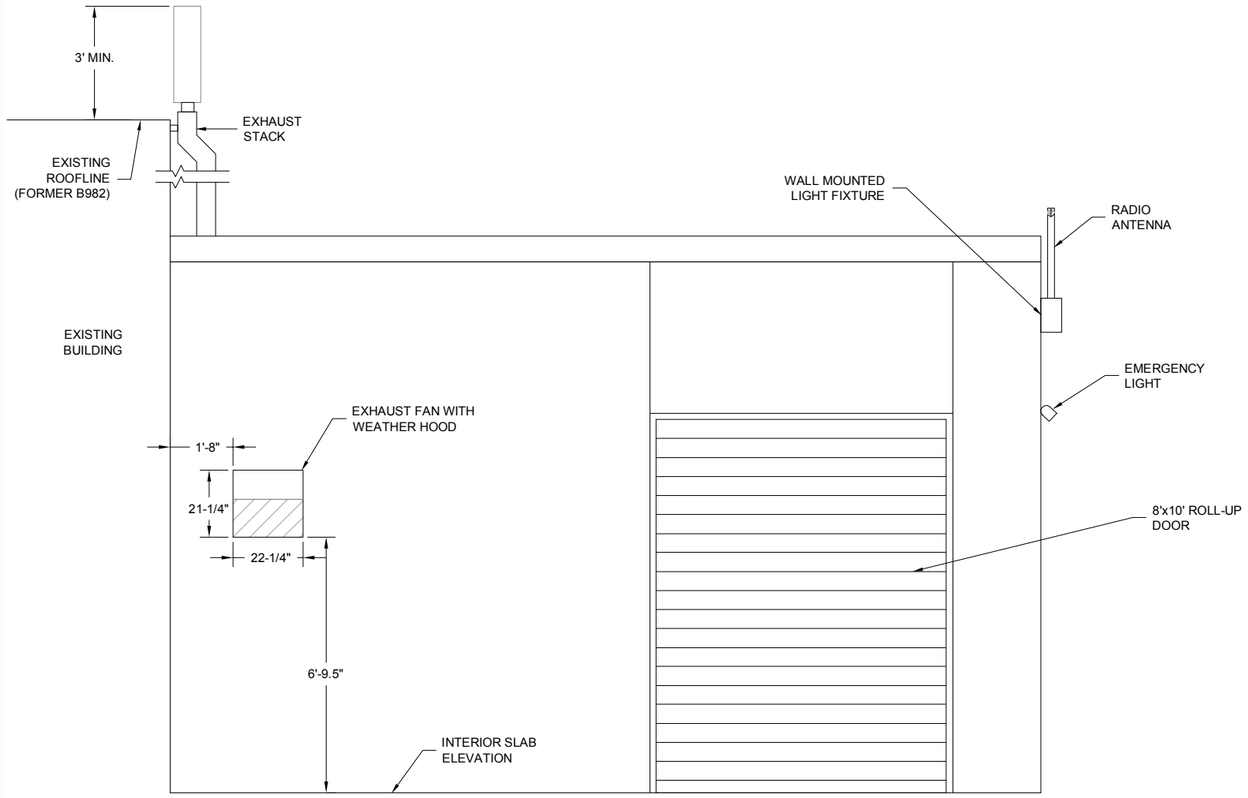
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

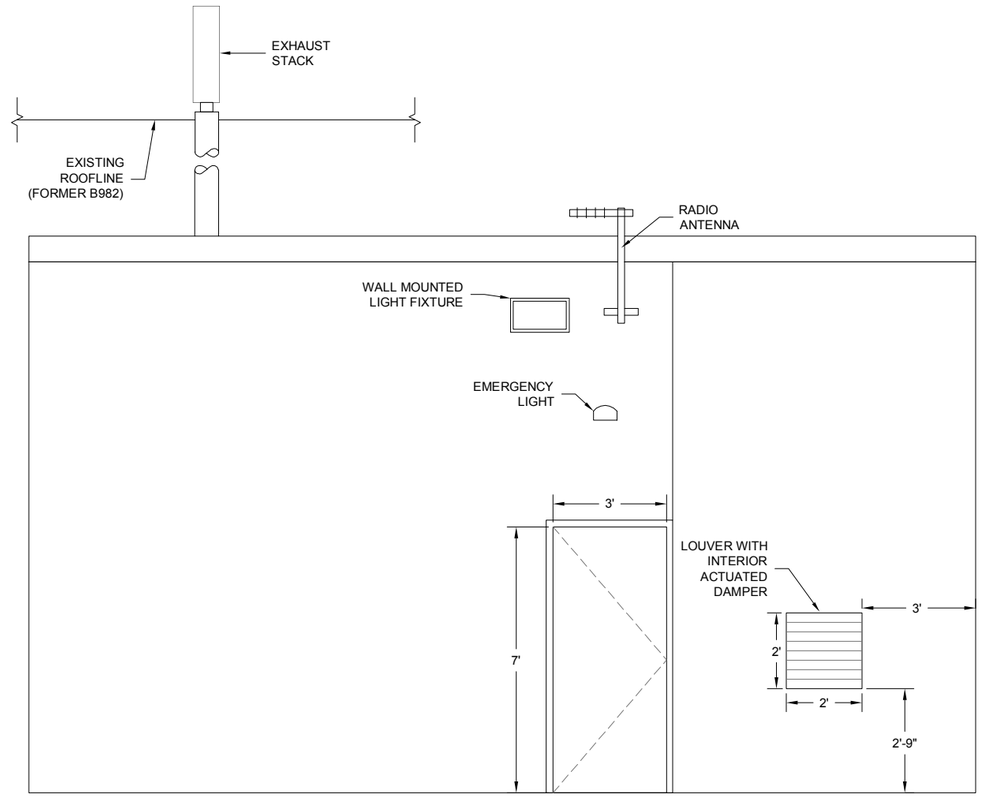
MECHANICAL ELEVATIONS II

SHEET NUMBER: M-7

©2013 SANBORN, HEAD ENGINEERING, P.C.



A EAST ELEVATION



B NORTH ELEVATION

SANBORN HEAD ENGINEERING

GRAPHICAL SCALE
2' 1' 0' 2' 4'

STATE OF NEW YORK · DAVID SHEA · 70025 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

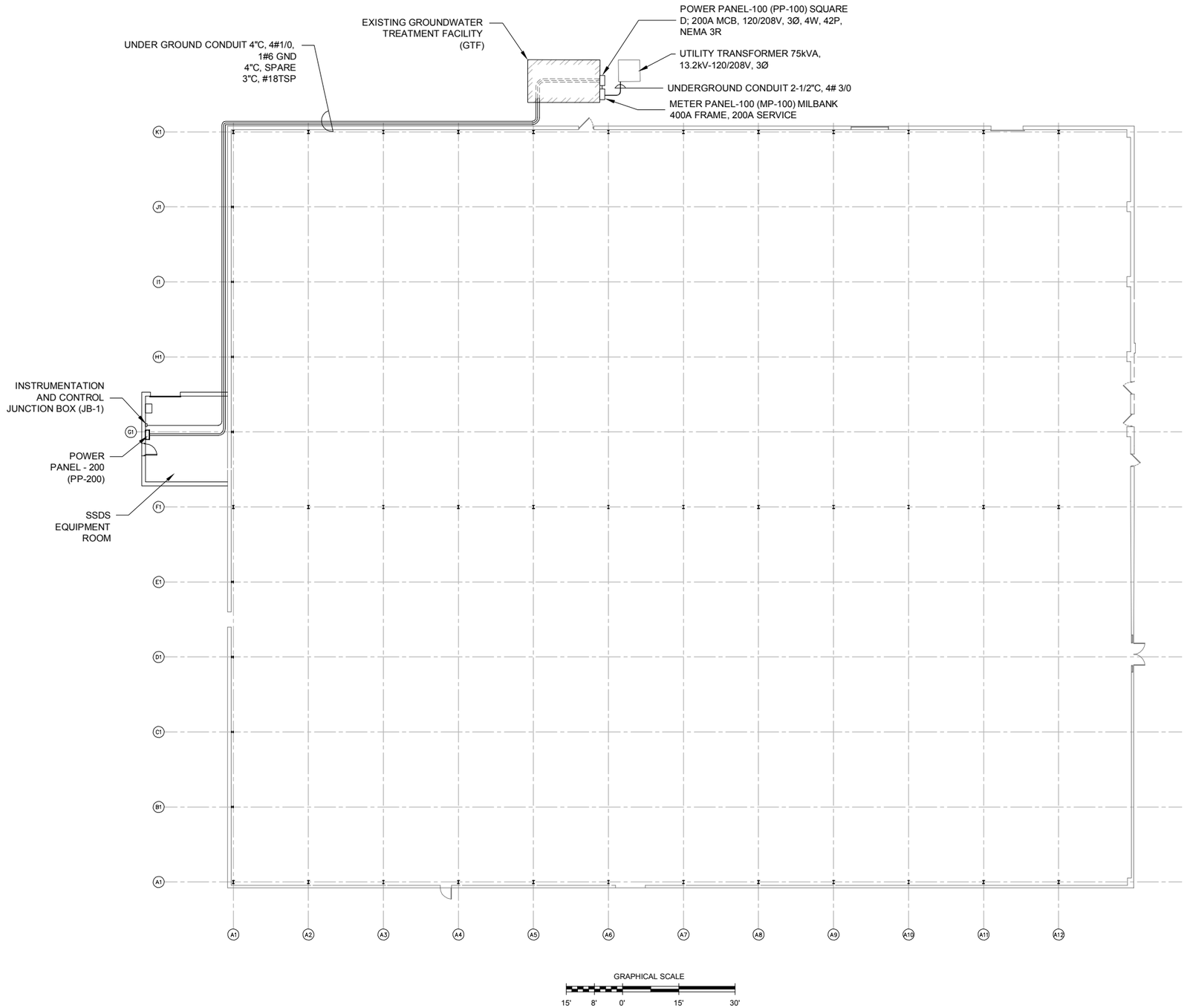
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

SSDS BUILDING ELEVATIONS

SHEET NUMBER: M-8

©2013 SANBORN, HEAD ENGINEERING, P.C.



ABBREVIATIONS

ø	PHASE
3P	3 POLE
A	AMPERE
C	CONDUIT
GND	GROUND
MCB	MAIN CIRCUIT BREAKER
MP	METER PANEL
P	POLE
PP	POWER PANEL
TSP	TWISTED SHIELDED PAIR
V	VOLTS
W	WIRE

SANBORN HEAD ENGINEERING

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

STATE OF NEW YORK * KEVIN M. SULLIVAN * 090596 * LICENSED PROFESSIONAL ENGINEER
1-16-14

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: K.SULLIVAN
REVIEWED BY: K.SULLIVAN
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

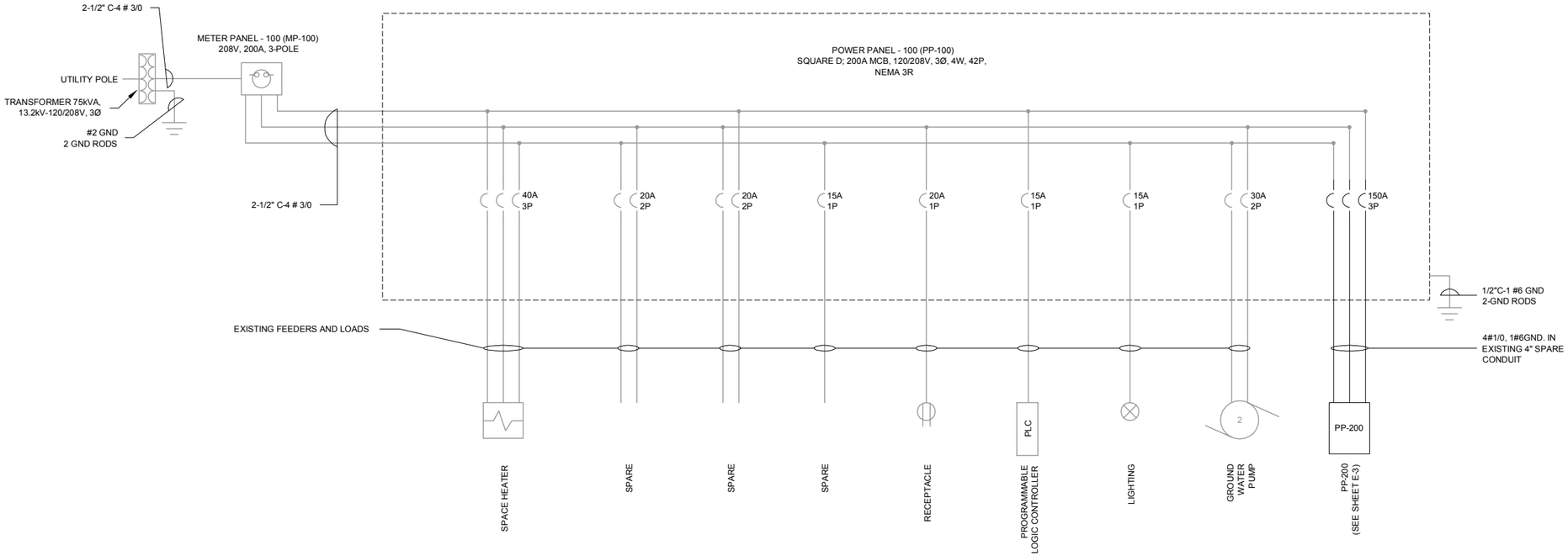
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

ELECTRICAL LAYOUT

SHEET NUMBER: E-1

©2013 SANBORN, HEAD ENGINEERING, P.C.



POWER PANEL 100 - SINGLE LINE DIAGRAM

LEGEND

- RECEPTACLE
- LIGHT FIXTURE
- 3/4 — MOTOR (NUMERALS DENOTE HORSEPOWER)
- SPACE HEATER

SANBORN HEAD ENGINEERING

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

STATE OF NEW YORK · KEVIN M. SULLIVAN · 090596 · LICENSED PROFESSIONAL ENGINEER · 1-16-14

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: K.SULLIVAN
REVIEWED BY: K.SULLIVAN
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

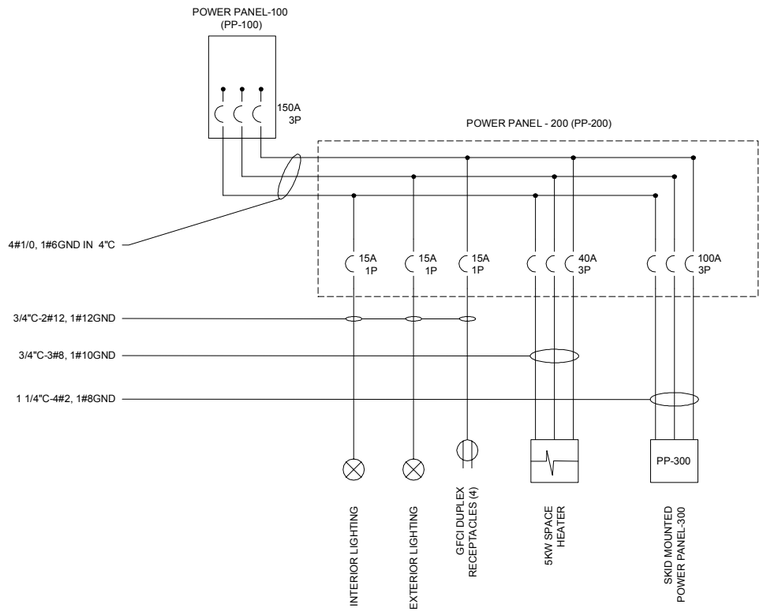
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

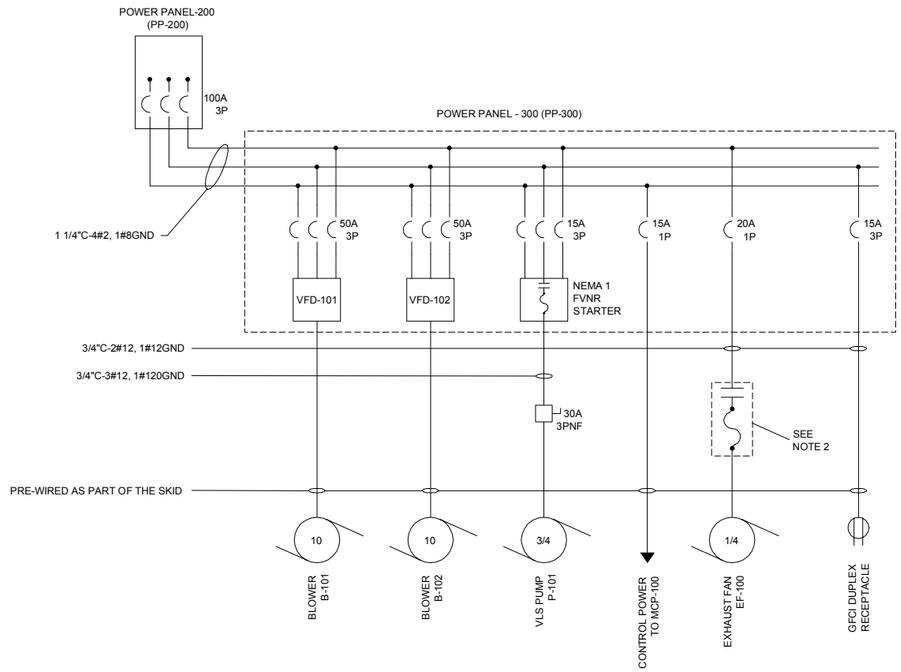
POWER PANEL 100
ELECTRICAL LINE DIAGRAM

SHEET NUMBER: E-2

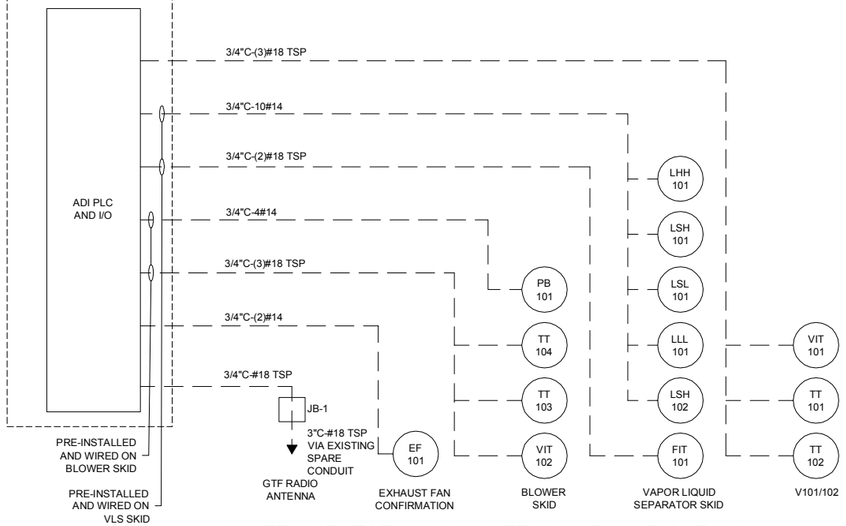
©2013 SANBORN, HEAD ENGINEERING, P.C.



POWER PANEL-200 SINGLE LINE DIAGRAM

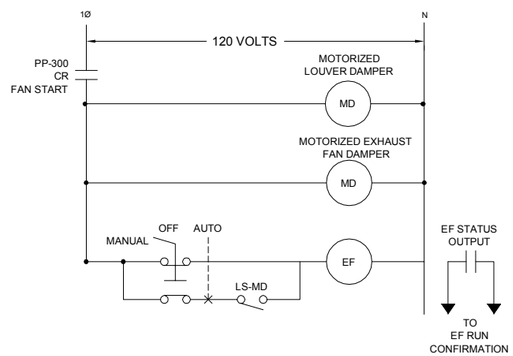


POWER PANEL-300 SINGLE LINE DIAGRAM



INSTRUMENTATION & CONTROL WIRING DIAGRAM

(SEE DRAWING IC-2 FOR DEVICE LOCATIONS)



EXHAUST FAN WIRING DIAGRAM

LEGEND

MCP	MAIN CONTROL PANEL
PP	POWER PANEL
VFD	VARIABLE FREQUENCY DRIVE
□ 30A NF	DISCONNECT - SUBSCRIPT DENOTES AMPERAGE - 'NF' NON-FUSED SWITCH RATING
⊠	MOTOR START SIZED AS INDICATED
(FIT)	FLOW INDICATOR/TRANSMITTER
(PB)	PUSH BUTTON
(PS)	PRESSURE SWITCH
(VIT)	VACUUM INDICATING TRANSMITTER
(TT)	TEMPERATURE TRANSMITTER
(LSL)	LEVEL SWITCH LOW
(LSH)	LEVEL SWITCH HIGH
(LHH)	LEVEL HIGH HIGH
(LLL)	LEVEL LOW LOW
VFD	VARIABLE FREQUENCY DRIVE
	DUPLEX CONVENIENCE RECEPTACLE, GFCI
3/4	MOTOR (NUMERALS DENOTE HORSEPOWER)
	SIGNAL/CONTROL WIRING
	AC LINE VOLTAGE
	WIRING HOME RUN

ABBREVIATIONS

A	AMPERE
C	CONDUIT
GND	GROUND
3P	3 POLE
TSP	TWISTED SHIELDED PAIR

SANBORN HEAD ENGINEERING

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

STATE OF NEW YORK · KEVIN M. SULLIVAN · 090596 · LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: K.SULLIVAN
REVIEWED BY: K.SULLIVAN
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

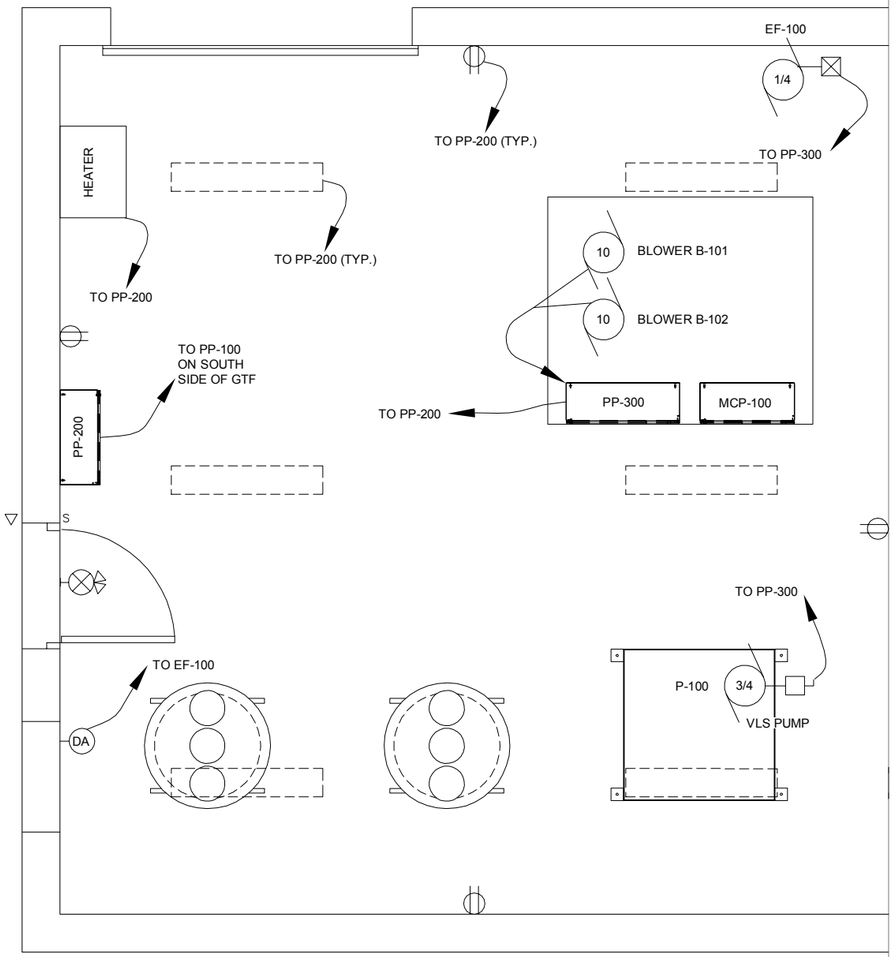
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

ELECTRICAL LINE DIAGRAMS AND WIRING SCHEMATIC

SHEET NUMBER: E-3

©2013 SANBORN, HEAD ENGINEERING, P.C.



LEGEND

S	SINGLE-POLE TOGGLE SWITCH, 20A, 125V. MOUNTED 48" AFF.
30A NF	DISCONNECT - SUBSCRIPT DENOTES AMPERAGE - 'NF' NON-FUSED SWITCH RATING
	PENDANT MOUNTED FLUORESCENT LIGHT FIXTURE AND OUTLET BOX. DAYBRITE #V2PB232-120-1/2-EB MOUNTED 12'-0" AFF.
	WALL MOUNTED EXIT SIGN EMERGENCY BATTERY UNIT COMBINATION. PHILLIPS #CCTXLR-1RW-H.
	WALL MOUNTED WEATHERPROOF REMOTE EMERGENCY HEAD. PHILLIPS #CCRHP.
	WIRING HOME RUN
	DUPLEX CONVENIENCE RECEPTACLE, GFCI
DA	DAMPER ACTUATOR

GRAPHICAL SCALE

2' 1' 0' 2' 4'

SANBORN HEAD ENGINEERING

FUSS & O'NEILL
317 IRON HORSE WAY, SUITE 204
PROVIDENCE, RI 02908
401.861.3070
www.fando.com

STATE OF NEW YORK · KEVIN M. SULLIVAN · 090596 · LICENSED PROFESSIONAL ENGINEER · 1-16-14

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: K.SULLIVAN
REVIEWED BY: K.SULLIVAN
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

SSDS EQUIPMENT ROOM ELECTRICAL LAYOUT

SHEET NUMBER: E-4

©2013 SANBORN, HEAD ENGINEERING, P.C.

LEGEND:

- RIGID CONVEYANCE PIPE
- EFFLUENT STACK (ES-101)
- RIGID CONVEYANCE PIPE WITH INSULATION AND JACKET
- FLOW DIRECTION
- BALL VALVE
- GATE VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- VACUUM RELIEF VALVE
- FLANGE
- UNION
- Y-STRAINER
- SP — SAMPLE PORT
- ELECTRIC ACTUATOR
- CAM LOCK

- VT — VACUUM INDICATING TRANSMITTER
- VI — VACUUM INDICATOR
- TT — TEMPERATURE TRANSMITTER
- TI — TEMPERATURE INDICATOR
- FI — FLOW INDICATOR
- FIT — FLOW INDICATING TOTALIZER
- LHH — HIGH HIGH LEVEL SWITCH
- LSH — HIGH LEVEL SWITCH
- LSL — LOW LEVEL SWITCH
- LLL — LOW LOW LEVEL SWITCH

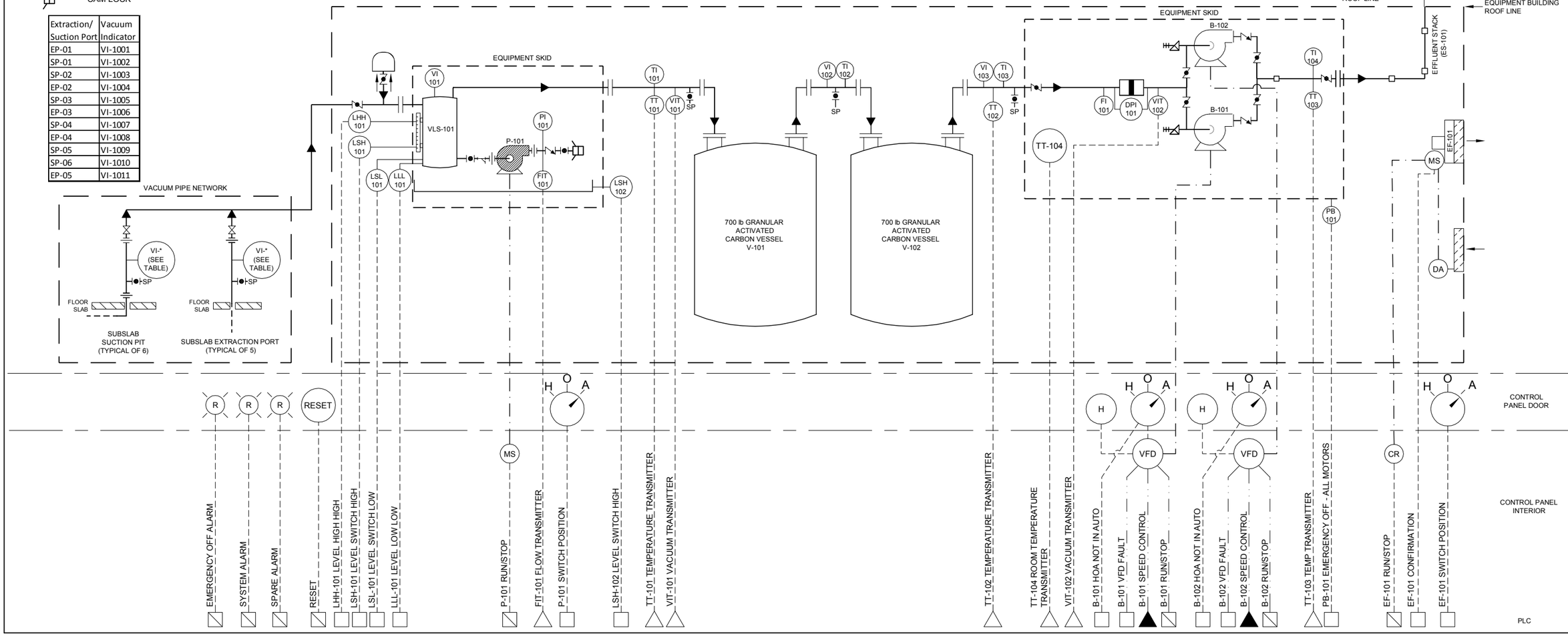
- DPI — DIFFERENTIAL PRESSURE INDICATOR
- PI — PRESSURE INDICATOR
- PB — PUSH BUTTON
- BINARY SIGNAL INPUT TO PLC
- BINARY SIGNAL OUTPUT FROM PLC
- ANALOG OR PULSE SIGNAL INPUT TO PLC
- ANALOG SIGNAL OUTPUT FROM PLC
- ETHERNET COMMUNICATION
- INTERNAL SYSTEM LINK
- ELECTRICAL POWER

- H O A — HAND - OFF - AUTO SELECTOR SWITCH
- R — STATUS LIGHT/ALARM (RED)
- VFD — VARIABLE FREQUENCY DRIVE
- H — HOUR METER
- MS — MOTOR STARTER
- CR — CONTROL RELAY
- DA — DAMPER ACTUATOR

- REGENERATIVE BLOWER (B-101)
- CENTRIFUGAL PUMP (P-101)
- EXHAUST FAN (EF-101)
- SECONDARY CONTAINMENT TRAY
- AIR INLET FILTER
- LOUVER WITH ACTUATED DAMPER

- CARBON VESSEL (V-101)
- VAPOR LIQUID SEPARATOR (VLS-101) WITH SIGHT GLASS
- TANK (T-101) WITH SIGHT GLASS
- IN-LINE PARTICULATE FILTER

Extraction/ Suction Port	Vacuum Indicator
EP-01	VI-1001
SP-01	VI-1002
SP-02	VI-1003
EP-02	VI-1004
SP-03	VI-1005
EP-03	VI-1006
SP-04	VI-1007
EP-04	VI-1008
SP-05	VI-1009
SP-06	VI-1010
EP-05	VI-1011



SANBORN HEAD ENGINEERING

NOT TO SCALE

STATE OF NEW YORK — DAVID SHEA — 70026 — LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

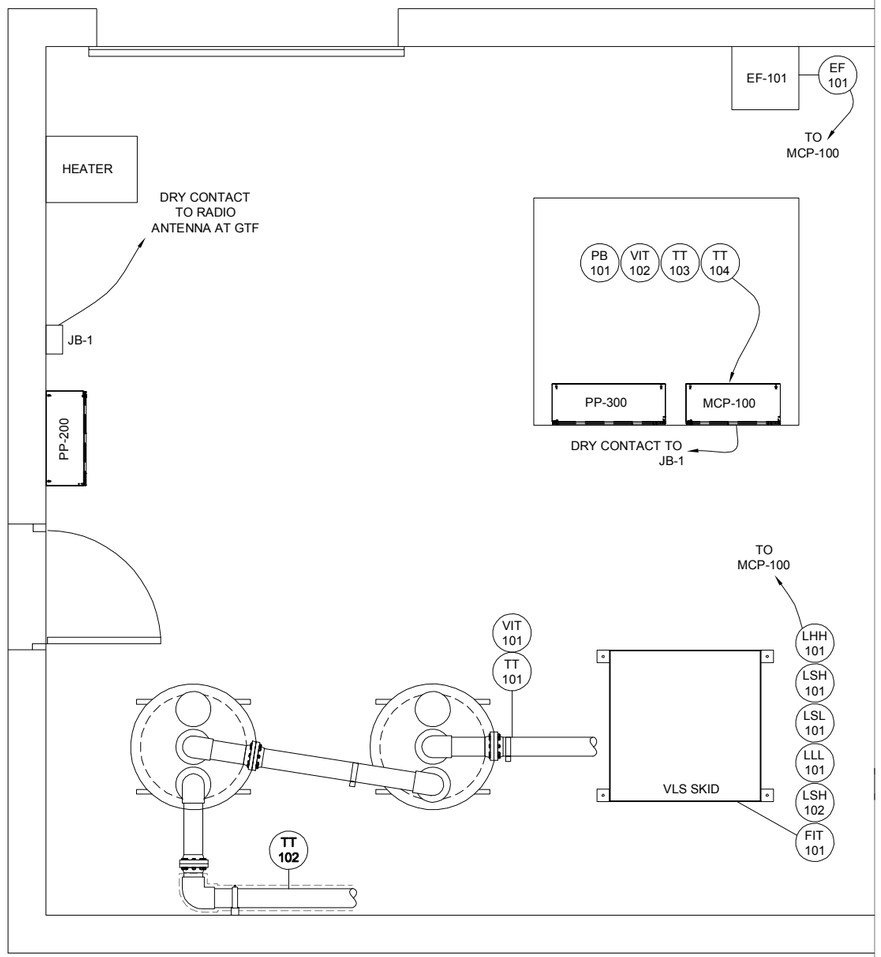
SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

PIPING AND INSTRUMENTATION DIAGRAM

SHEET NUMBER: IC-1

©2013 SANBORN, HEAD ENGINEERING, P.C.



GRAPHICAL SCALE
2' 1' 0' 2' 4'

SANBORN HEAD ENGINEERING

GRAPHICAL SCALE
2' 1' 0' 2' 4'

STATE OF NEW YORK * DAVID SHEA * 70026 * LICENSED PROFESSIONAL ENGINEER

NO.	DATE	DESCRIPTION	BY
1	1/2014	RECORD (AS-BUILT) DRAWING SET	SHPC

DRAWN BY: R.HIRTLE
DESIGNED BY: S.SOOS
REVIEWED BY: D.SHEA
PROJECT MGR: S.SOOS
PIC: D.SHEA
DATE: JANUARY 2014

SUBSLAB DEPRESSURIZATION SYSTEM
FORMER BUILDING 982
POUGHKEEPSIE, NEW YORK

PROJECT NUMBER: 3623.00

INSTRUMENTATION LAYOUT

SHEET NUMBER: IC-2