

**FORMER CLEANERS SALES
and
EQUIPMENT CORPORATION**

**SUB-SLAB DEPRESSURIZATION SYSTEM
CONSTRUCTION COMPLETION REPORT
(SSDS CCR)**

Site No. C241177

Prepared for
135 Kent Avenue Management Corp.
135 Kent Avenue
Brooklyn, New York 11249-3154

Prepared by
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March 2016

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Professional Engineer Certification

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CERTIFICATION

DER-10 Section 1.5 (b)3

I, John V. Soderberg, PE, certify that I am currently a NYS registered professional engineer, I had primary direct responsibility for the implementation of the subject construction program, and I certify that the Interim Remedial Measure was implemented and that all construction activities were completed in substantial conformance with the Department's approved Interim Remedial Measure.

John V. Soderberg P.E

Seal:

Signature: _____



License number: 049975

Date: March 18, 2016



1.0 INTRODUCTION

This Sub-Slab Depressurization System Work Plan Construction Completion Report (SSDS CCR) has been prepared for the Former Cleaners Sales and Equipment Corp. Brownfield Cleanup Program site, located at 135 Kent Avenue, Brooklyn, New York (Site) (Block 2333, Lot 5) (Figure1). The CCR has been prepared at the request of the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH) to document the installation of the SSDS at the subject site. The SSDS was installed during May of 2014 and a pilot test was conducted on June 17, 2014 and October 8th, 2014 (with permanent vapor points PV-1-8) to establish the systems radius of influence (ROI). The system was designed to comply with the Guidance for Evaluating Soil Vapor Intrusion in the State of New York (Final 2006). A site plan for the first floor and basement is provided as Figure 2.

1.1 SITE BACKGROUND INFORMATION

The site is approximately 12,500 square feet in area and is currently developed with a two story commercial/residential building (measuring approximately 125' X 100'). The first floor of the building is divided into individual commercial tenant spaces operated by a coffee shop, a real estate broker, a deli, a furniture store, a clothing store, and storage areas. An elevator is located in the east/southeast portion of the building. A small, sub-grade utility room measuring approximately 20' X 10' exists beneath the northwest corner of the building. One sump and two clean-out accesses, all with dirt bottoms existed in the floor of the utility room. These dirt bottom sumps/access openings have since been sealed with cement as part of the SSDS Design Document. A boiler historically operated in the utility room. The second floor consists of eleven residential units.

Former Cleaners Sales & Equipment Corp. (Cleaners Sales), a wholesale distributor of dry cleaner fluids and laundry supplies, previously operated at the site. A Certificate of Occupancy from November 28, 1927 listed the Site as a new warehouse building. Circa 1958, Cleaners Sales, a dry cleaner fluid {i.e. tetrachloroeth(yl)ene or "perc" (PCE)} distribution facility, as well as the afore-mentioned laundry supply distributor, began operating onsite. For approximately the first eighteen years, drums of PCE were delivered to the Site and stored prior to local distribution. Drums came sealed and were never opened prior to transport. Subsequently, for approximately the following nineteen years, empty drums were filled with PCE via a tanker truck utilizing a dispenser nozzle with an automatic shut off. After which, for the final seven years of operation (circa 1995). A tanker truck containing PCE filled a 5,000 gallon above ground storage tank (AST) located next to the former loading bay area in the northwest portion of the first floor. The AST was fully contained in a 10' X 20' welded steel containment with a 7' extension for containment of the fill pumps, valves and controls. Two 4" steel pipes connected the AST to the fill connections located on the outside wall of the loading bay.

One pipe transferred solvent into the tank and one pipe returned the vapors to the tanker truck. PCE was then transferred to fifteen-gallon containers via a sophisticated fill station purchased from Dow Chemical. This fill station was located in a contained area next to the AST to be distributed to local dry cleaners.

The PCE distribution business ended in October 2002 and the AST was removed. Prior to removal of the tank, ultrasonic testing was performed on the AST walls and the AST passed.

A 3,000 gallon heating oil underground storage tank (UST) exists at the Site. The UST was decommissioned and closed in-place in 2003. Prior to decommissioning, a tank tightness test was performed by Dry-As-A-Bone, Inc. on March 31, 2003. Subsequent to passing the tightness test, the UST was pumped of all remaining oil, cleaned and filled with foam by Windmill Oil Tank Services in April 2003. The Petroleum Bulk Storage number (PBS N.o 2-608579) and abandonment application is attached as Appendix-D.

Cleaners Sales has a USEPA ID No. NYR000113480 for hazardous waste generation of PCE. The Site is listed in the NYSDEC database as an “unregulated” Chemical Bulk Storage Facility (CBS No. 2-000353 for the former 5,000 gallon above ground PCE storage tank).

A Soil Vapor and Indoor Air Investigation was performed during November 2013 at the site. That investigation has determined that soil vapor intrusion is occurring at the 135 Kent Avenue site. Based on the findings of that investigation an SSDS was installed to prevent infiltration of contaminated soil vapor into the building at the site.

2.0 INITIAL MITIGATION MEASURES

Prior to the installation of the SSDS and as a temporary solution to address these indoor vapors carbon filtration fans were installed on the first and second floors to assist in treating contaminated vapors in indoor air. These carbon fans were installed in the real estate broker’s area, the coffee shop, the furniture store, the clothing store, by the elevator shaft on the first floor and two on the second floor at both ends of the common hallway. Two carbon fan units have also been installed in each upstairs apartment unit.

This section discusses the pre-emptive measures (sealing infiltration points, sump pits, floor cracks, carbon vent fans, etc.) taken prior to the installation of carbon units and the SSDS.

Soil vapor can enter a building through cracks or perforations in slabs or basement floors and walls, and through openings around sump pumps or where pipes and electric wiring go through the foundation primarily because of a difference between interior and exterior pressures. This intrusion is similar to how vapors enter buildings from the subsurface. Given this similarity, well-established techniques for mitigating exposures to vapors may also be used to mitigate exposures related to soil vapor intrusion.

During December 2013, personnel traveled to the site to check for any cracks, openings in walls, under the elevator, sump pits, piping and electric perforations in the slab and found a few areas that required filling in and sealing. Personnel returned the following day to perform sealing of cracks in the floor to reduce possible vapor intrusion into the first floor tenant spaces. Three (3) open sump pits were also sealed in the basement area as well as multiple cracks and perforations in the floor and on the concrete walls. On January 06, 2014 seven carbon filtration units were installed in the real estate broker's area, the coffee shop, the furniture store, the clothing store, by the elevator shaft on the first floor and two carbon units on the second floor at both ends of the common hallway.

In addition, further investigation was performed to determine the type of HVAC system within the building but it was discovered that no HVAC existed. Each individual first floor tenant space has its own gas service with a stand alone gas burner, which has a two pipe system that draws fresh air from the outside through the outside diameter pipe and exhausts through the inner pipe. The second floor tenants also have a similar system with a stand alone gas burner and the same dual intake and exhaust pipe. The building's roof was also checked and no pipes were found to exit the roof except for an old exhaust pipe from the separate basement area from the old heating system.

Testing of indoor air via PERC badges was performed by the NYCDOHMH after the installation of the first seven carbon filters and a request for additional carbon filters for the eleven apartments on the second floor was received from both the NYSDEC and the NYCDOHMH. After receipt of badge test results eleven additional carbon filters were ordered and on March 07, 2014 these carbon filters were delivered to the 135 Kent apartments for installation. Not all apartments were available to accept the filters and the landlord assisted in the delivery to each apartment. An additional request from the NYSDEC project manager for a twelfth carbon filter unit was received and placed in the Furniture Store due to higher test results.

After installation of the carbon filters in the apartments, the NYCDOH returned and performed additional testing using perc badges. These results indicated vapors were still present above the NYSDOH Guidance (30 ug/m³) and an additional request from the NYSDEC was received to order and install a second carbon filter for each of the eleven apartments and two additional for the Coffee Shop and Clothing Store. On April 14, 2014, the additional 13 carbon filters were received and delivered to the first floor tenants and apartments that were available. The landlord assisted in delivery to the apartments when tenants were home during the evening hours.

2.1 SSDS INSTALLATION

The installation of this system was completed on June 20, 2014 and started to confirm system operation. During that start up vacuum measurements were obtained from all vapor wells to confirm a radius of influence was seen under the entire sub-slab. Additionally, an exhaust stack emission sample was obtained for testing to confirm discharge standards were being met. Once preliminary test results were obtained they were forwarded to NYSDEC and NYSDOH for review. On July 10th, 2014, the Remedial Engineer (John V. Soderberg) received a written

confirmation via email from the NYSDEC authorizing the official start-up of the SSDS. On July 11th, 2014 BEI mobilized to the 135 Kent Avenue site and started the SSDS system which remains operational to date.

Berninger Environmental personnel, under the direction of the Remedial Engineer, conducted two (2) pilot tests to confirm the SSDS system operated properly and was able to achieve the necessary zone of influence. The first pilot test was conducted on March 04, 2014 with a temporary radon vacuum blower unit (installed at current V-3 location in hallway adjacent to clothing store) which did not achieve enough suction at all vacuum monitoring points to create a radius of influence to affect the entire sub surface of the 135 Kent building. The temporary radon fan was installed for a duration of approximately two (2) hours. The second pilot test was conducted during June of 2014. Vacuum readings were achieved with the 3 horsepower Rotron vacuum motor between each vapor well confirmed that the entire sub surface of the building was achieved. Two site visits were performed during July 2014 to provided access for Verizon to install a phone line and jack confirmed the vacuum motor has continued to operate. No work was performed during those visits just providing access. A third visit performed July 14, 2014 after we were informed a Fire occurred on the roof found that the NYCFD had shut the Vacuum motor off which was restarted during that check out. Pictures documented areas of the roof fire away from the SSDS and exhaust vents.

During the months of May and June of 2014 the installation of the system proceeded as per the approved Sub-slab Depressurization Design Document (March 2014). The SSDS design consists of six (6) 2" PVC vertical vacuum wells installed to a depth of five feet below the existing concrete floor. The six (6) wells are located at the following locations: the ladies clothing store, a second in the hallway between the clothing and furniture stores, a third in the furniture store storage room, a fourth in the hallway behind the furniture store/deli area, a fifth in the hallway behind the real estate area and the sixth by the elevator area. Figure 4 of the first floor locates these wells throughout the building's footprint. Each well has been constructed using a 5' length of 2" diameter, schedule 40, PVC slotted screened pipe. The screened portion of each well was placed just below the existing floor. See Figure-7 for diagram of a typical extraction point.

The wells were installed as close as possible to existing walls in each area to allow for each PVC piping leg to be routed from below the floor, up the walls and along the ceiling where they continue to the treatment system.

Before entering the treatment system four (4) (V-3-6) of the six (6) vacuum wells were manifolded together. V-1 and V-2 are connected in the rear hallway near the elevator shaft and continue to the recovery room where the pipe is connected to form one single inlet pipe. The single pipe is then connected to the vacuum blower motor at the intake valve. The motor selected for the SSDS is a Rotron Regenerative Explosion Proof Blower (3 horsepower) with a maximum flow rate of 200 CFM. The blower specs are attached as Appendix-A.

Schedule 80 PVC riser pipe was connected to the blower exhaust point and routed to carbon filter units (carbon-1 and carbon-2) prior to discharge to the atmosphere, above the roof line. Discharge piping from carbon filters has been routed from the treatment room into the elevator shaft on the west wall and piped to the roof. Please refer to Appendix-B which shows the

elevator enclosure approximately 7' above the main roof line. The exhaust stack has been secured to the elevator shaft enclosure and raised to approximately 10' above the top of the elevator enclosure and secured in place with guide wires and a rain cap.

Additionally, a second 2" discharge riser pipe connected to a small 110 volt radon fan, has been installed alongside the SSDS exhaust line from the treatment room to the elevator shaft and piped to the roof to handle any heat buildup within the treatment room. Please see Appendix-D for the radon fan specs.

Following the NYSDOH Guideline Section 4.2.2 c.(6)i-iv, the exhaust discharge pipe has been installed above the roof, above the highest eave of the building and 10' above and away from any opening on the building or any adjacent buildings.

A pre-intake vacuum gauge has been installed prior to the blowers intake port in order to gauge the effectiveness of the systems suction power. Pressure gauges have also been installed on the effluent piping, prior to the first carbon drum, between the drums and after both drums. Sample ports for PID / Summa canister testing have been installed in the same locations as the pressure gauges: pre-carbon, between carbon drums and post carbon drums. Please see Appendix- E for start-up lab data.

An as-built drawing has been developed which locates the piping scheme, SSDS wells, blower motor, carbon filters and discharge piping to the roof. See Figure-4, Figure-5 and Figure-5b.

2.2 POST-INSTALLATION TESTING

Post installation testing was performed on August 19, 2014. A total of nine (9) indoor air and one (1) ambient air samples were collected during this event. No sub-slab samples were collected during this testing due to the presence of the active SSDS. The sampling locations are as follows: the ladies clothing store, the furniture store, the storage room, the deli, the real estate offices, hallway near elevator, the basement, two (2) upstairs and one (1) ambient. This testing was performed to confirm the effectiveness of the active SSDS. Samples were analyzed by EPA method TO-15 with category-B deliverables for third party data validation purposes. Please see the attached Table-1 which depicts the pre/post indoor/ambient air test results. See Appendix-G for post installation validated lab data. Figure-3 also depicts the post installation sampling locations.

On October 8th, 2014 a Pressure Field Extension test (Figure-3) was performed on the SSDS to confirm vacuum influence across the entire slab of the building and to establish the Radius of Influence (ROI). The test indicated positive results as vacuum was observed at each permanent vapor point installed (PV-1-8). See section 3.0 for vacuum results. Each vapor point was installed approximately two (2") below the bottom of the slab using a 6" stainless steel vapor probe. Morie fil-pro gravel pack was inserted around the vapor screen and a bentonite seal was applied to each PV point at the bottom of the slab. Each PV point was secured with a 3/4" manhole and sealed in place using a quick set cement. Please see Figure-6 for the PV point well construction log. Additional PV points have been proposed in order to confirm influence over the entire slab. Please see Figure-3 for these proposed locations.

2.3 TERMINATION OF MITIGATION SYSTEM OPERATIONS

The active SSDS is considered a permanent engineering control. The active SSDS will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the SSDS is no longer required, a proposal to discontinue the SSDS will be submitted by the property owner to the NYSDEC and NYSDOH.

2.4 ANNUAL CERTIFICATION

An annual certification report will be prepared, submitted and sealed by a New York State licensed professional engineer (P.E) and affirm that the engineering controls are in place, are performing properly and remain effective. This requirement of certification remains in effect until the State provides notification, in writing, that this certification is no longer needed. The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. This report will include: identification, assessment and certification of the SSDS; results of the annual site inspection and severe condition inspections, if applicable; all applicable inspection forms and other records generated for the site during the reporting period in electronic format; summary of effluent monitoring data and/or information generated during the reporting period with comments and conclusions. An evaluation which includes the following: the operation and the effectiveness of the SSDS, including identification of any needed repairs or modifications; any new conclusions or observations regarding site contamination based on inspections; a performance summary for all treatment systems at the site during the calendar year. Information such as: the number of days the system was run for the reporting period; the contaminant mass removed; a description of breakdowns and/or repairs along with an explanation for any significant downtime; a description of the resolution of performance problems; a summary of the performance effluent and/or effectiveness monitoring and comments, conclusions, and recommendations based on data evaluation.

3.0 PILOT TESTING

On October 8th, 2014 a Radius of Influence (ROI) test (Figure-3) was performed on the SSDS to confirm vacuum influence across the entire slab of the building. The test indicated positive results as vacuum was observed at each permanent vapor point installed (PV-1-8). The test was conducted using a Dwyer magnehelic gauge, connected to a select PV point using clean 3/8" poly-tubing. During November of 2015 two (2) additional permanent vapor points were installed in order to confirm influence over the entire slab. The results for the pilot testing conducted at these locations has been included in the table below and also on the ROI test Figure-3. During the pilot test all vapor wells were fully operational. Please see tabulated results below:

Permanent Vapor Well (PV)	Magnehelic in/H2O
PV-1	0.04
PV-2	0.04
PV-3	0.12
PV-4	0.14
PV-5	0.04
PV-6	0.01
PV-7	0.10
PV-8	0.03
PV-9	0.05
PV-10	0.03

3.1 DETERMINING THE RADIUS OF INFLUENCE

The pilot testing results determined a more than sufficient radius of influence based upon the field test conducted post SSDS installation and post installation of the PV points. Figure-3 depicts the results of the ROI test with both vacuum readings and the actual ROI. The testing was performed and witnessed by the NYSDEC project manager on October 08, 2014 using the newly installed PV wells confirming vacuum throughout entire sub-slab of the building. The results, as shown on Figure-3, represent the absolute minimum ROI at each well location. Based upon the results gathered during the pilot test and the post installation IAQ results attached as Table-1, it is anticipated that the ROI's at each vapor well point extend beyond that of what is depicted on Figure-3. Additional vapor points (PV-9-10) have been installed to confirm influence beneath the entire slab. Please see revised Figure-3 for the PV-9 and PV-10 locations.

4.0 SYSTEM COMMUNICATION/POWER MONITORING/SECURITY

The SENSAPHONE 400 is a fully programmable, auto dialer alarm notification system that offers extensive on-site and remote monitoring capability for small businesses, residences, computer rooms or any clean, indoor facility. Designed to mount on either a wall or desktop, the 400 is simple to install, program and operate, requires no changes to standard electrical or telephone lines and has no monthly fees.

4.1 SENSAPHONE 400

The SSDS has been equipped with a SENSAPHONE model 400 desktop monitoring device which enables monitoring of the system's status, temperature and power supply from remote locations. In the event of a power outage, the SENSAPHONE will relay a message via telephone to designated personnel (BEI) immediately after the outage. Upon receiving the alarm status from the SENSAPHONE arrangements will be made immediately to diagnose the issue and resolve it in order to re-start the system. The remote device monitors temperature in order to regulate heat build-up in the recovery room generated from the operation of the blower motor. The device is also equipped with an internal microphone that provides a live audio output to ensure the engineering control (blower motor) is functioning. Please see Appendix-H for Sensaphone 400 cut sheets.

4.2 SECURITY

During early September of 2014 JVS was informed that the SSDS had been deliberately sabotaged and was temporarily non-operational. Shortly after receiving this information the SSDS was turned back on and operational. A site visit was conducted shortly after receiving this information in order to assess the condition of the system. While on-site it was observed that the sensaphone tele-communication device had been disabled with an unknown, injectable substance. A new sensaphone was installed and placed within a locked security box.

As a result of this incident a security enclosure was installed surrounding the entire system including all major system components. The enclosure consists of a transparent steel cage with a sliding door equipped with a lock. Please see Appendix-I for pictures of the new security enclosure.

5.0 COMMUNITY AIR MONITORING PLAN (CAMP)

A site specific Health and Safety Plan and Community Air Monitoring Plan was implemented to address the health and safety needs of the site workers, site personnel and the surrounding community. The indoor CAMP employed during the SSDS installation included monitoring of VOC and particulate/dust matter in the air. Fugitive respirable dust was monitored using a Thermo MIE PDR 1000AN aerosol monitor and air was monitored for VOCs with a portable Mini Rae 2000 photoionization detector (PID). Please see Appendix-F indoor CAMP for more detail on threshold monitoring requirements.

5.1 CAMP

A site specific CAMP was employed during the construction of the SSDS. This CAMP was issued as part of the Final SSDS Design Document. Please see Appendix-C for the CAMP data associated with the installation of the system. Minor exceedances were observed during construction of the system. The exceedances were associated with the PVC glue used to secure the PVC piping together. No exceedances were observed as a result of ground intrusive work.

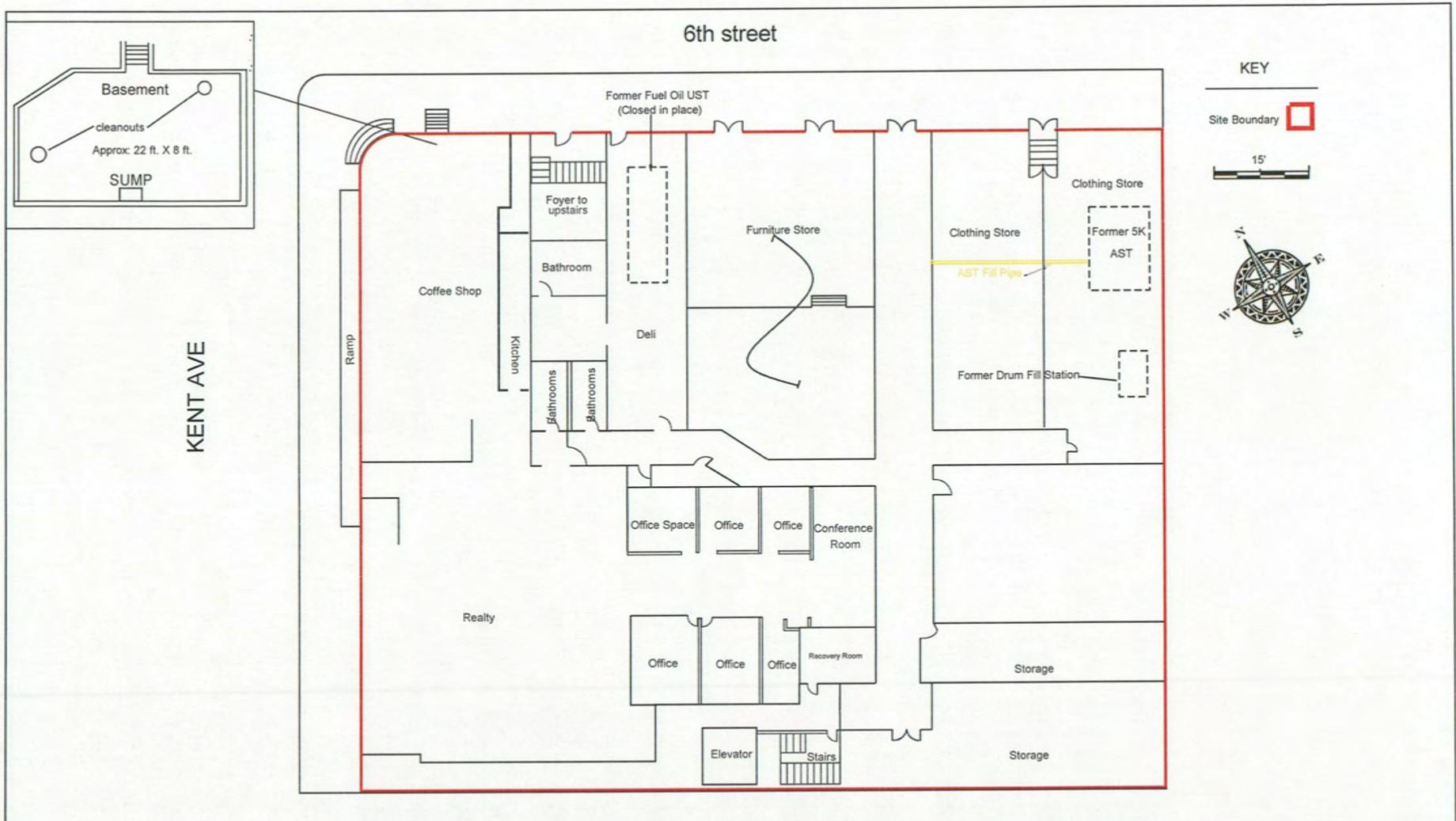
FIGURES



N:\GIS\Projects\E051_135Kent\Production_MXD\Figure1_site_location.mxd 6/11/2013 4:52:43 PM

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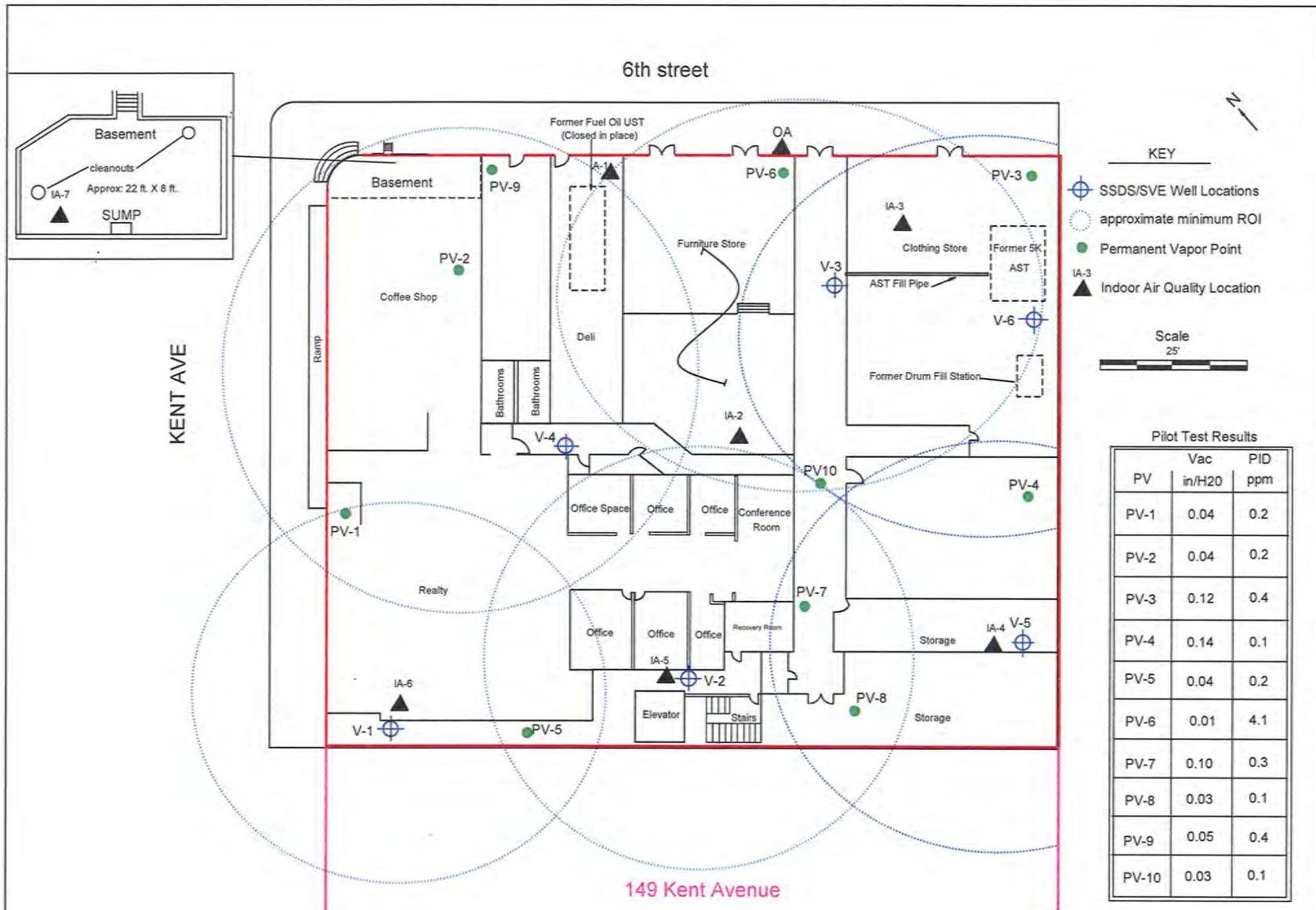
Figure 1.
Site Location Map
135 Kent Avenue
Brooklyn, New York



John V. Soderberg P.E
 PO Box 263
 Stony Brook , NY

Kent Avenue
 135 Kent Avenue
 Brooklyn, NY

Site Plan
 Figure-2



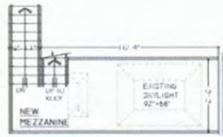
John V. Soderberg P.E
PO Box 263
Stony Brook, NY

Kent Avenue
135 Kent Avenue
Brooklyn, NY

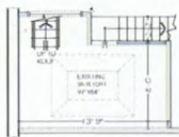
SSDS/SVE Wells
Radius of Influence
Figure-3

LEGEND

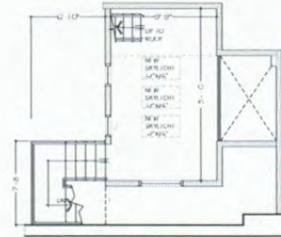
- EXISTING WALL PARTITIONS TO REMAIN
- NEW PARTITIONS OF 2" x 4" MD STUDS W/ 1/2" GYP. BD (ONE LAYER) ON EACH SIDE
- 2 HR. F.R. PARTITION WITH METAL STUDS W/ TWO LAYERS 5/8" GYP. BD. ON EACH SIDE (2 HR. FIRE RATED)
- ⊙ SMOKE AND CARBON MONOXIDE ALARM
- ⊕ EXIT SIGN AND LIGHT
- ⊠ EMERGENCY LIGHTS



MEZZANINE - APT 9
Scale: 1/8" = 1'-0"

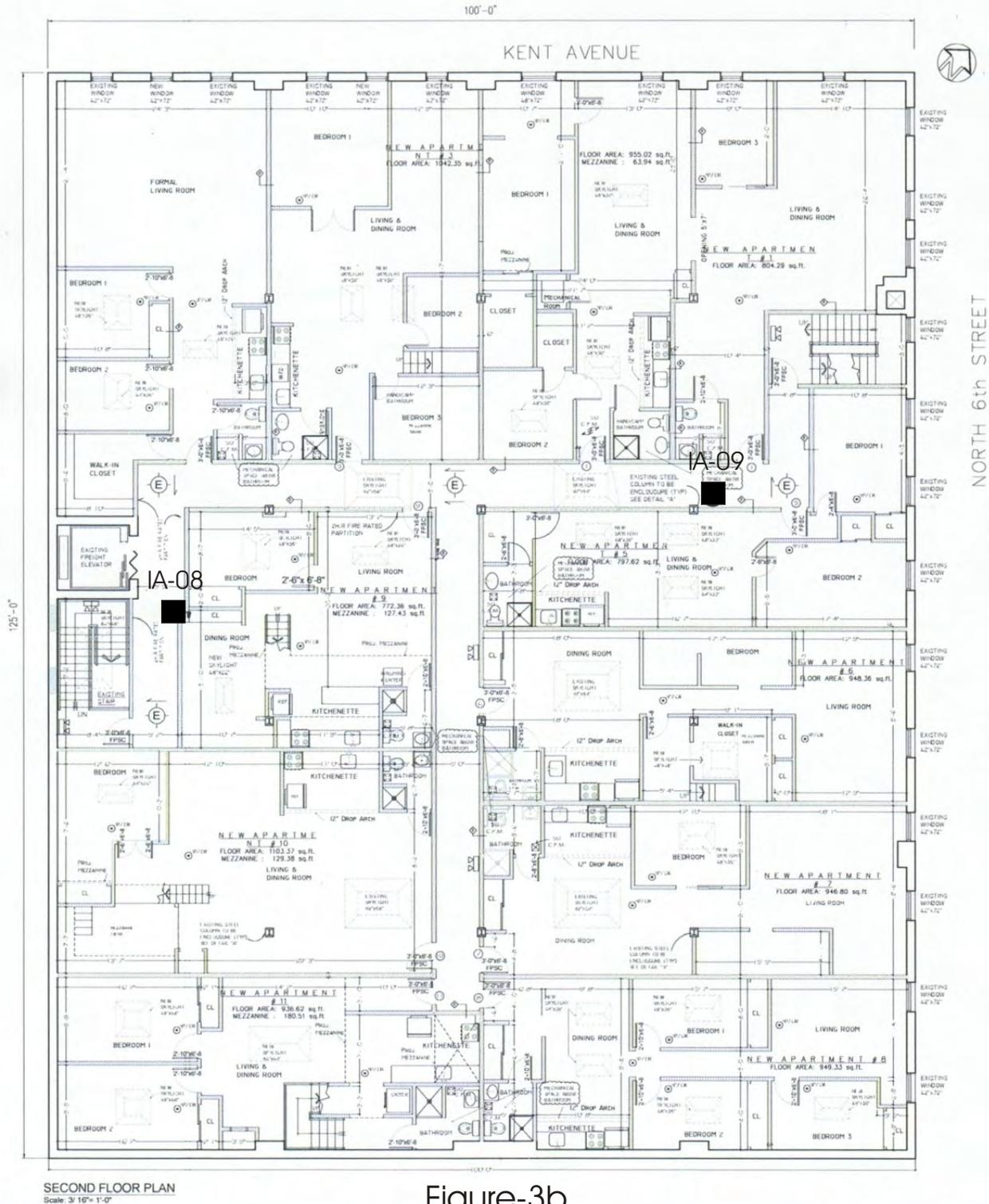


MEZZANINE - APT 10
Scale: 1/8" = 1'-0"



MEZZANINE - APT 11
Scale: 1/8" = 1'-0"

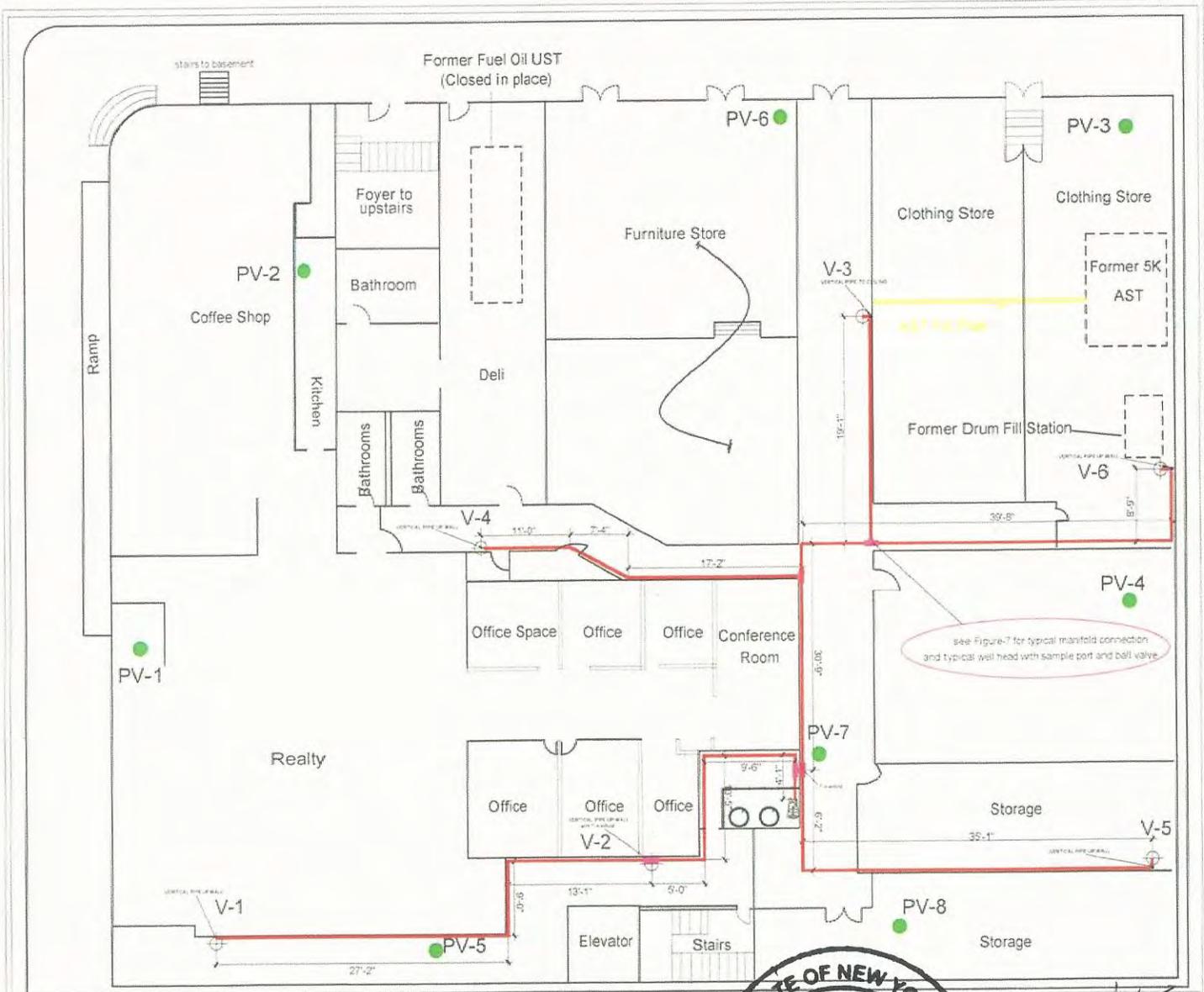
Indoor Air Quality Location



SECOND FLOOR PLAN
Scale: 3/16" = 1'-0"

Figure-3b

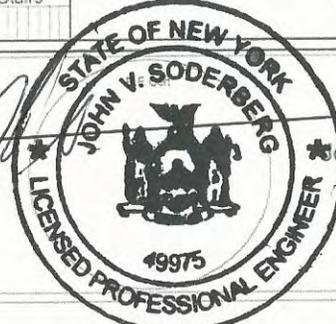
CLIENT: 135 KENT AVENUE - BROOKLYN, NY.	REGISTERED ARCHITECT: FRANKLYN ESTRELLA R.A. 239 SOUTH 4TH STREET BROOKLYN, NEW YORK 11211 TELEPHONE: (718) 782-4292	No.	Date	Revisions	Design	Checked
SHEET TITLE: SECOND FLOOR PLAN AND MEZZANINES		PROJECT NO.:				



- KEY:**
- Piping
 - T-manifold
 - PV Well
 - Vapor Well

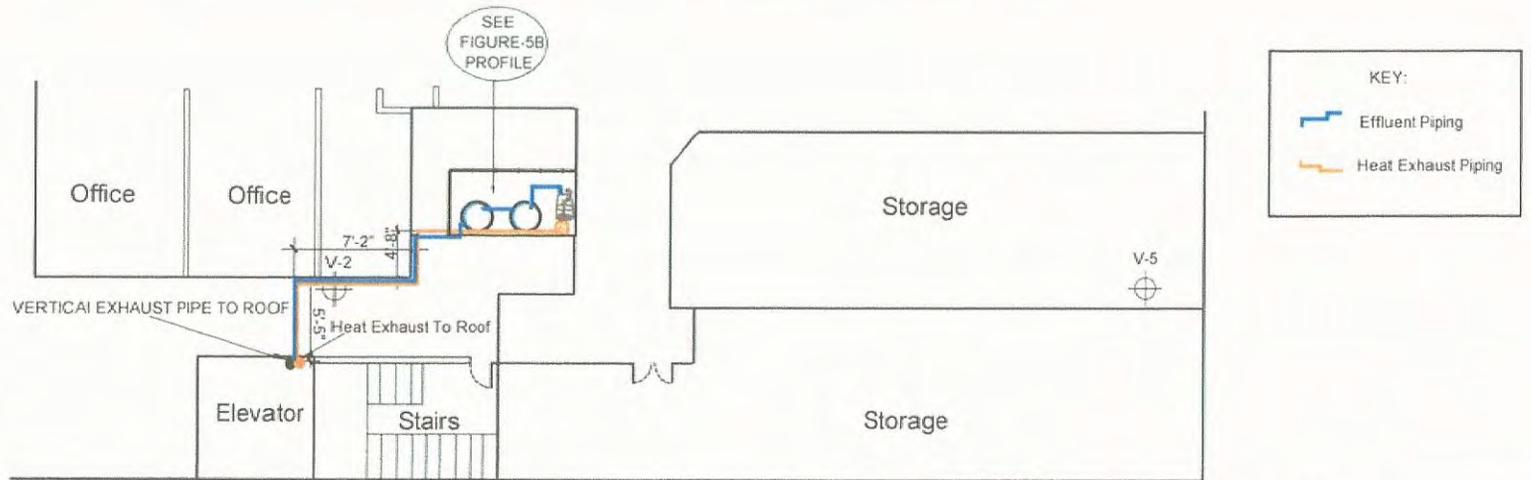
135 Kent Avenue
Brooklyn, NY

SSDS As-Built
Schematic
Figure-4



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135 Kent Avenue
Brooklyn, NY

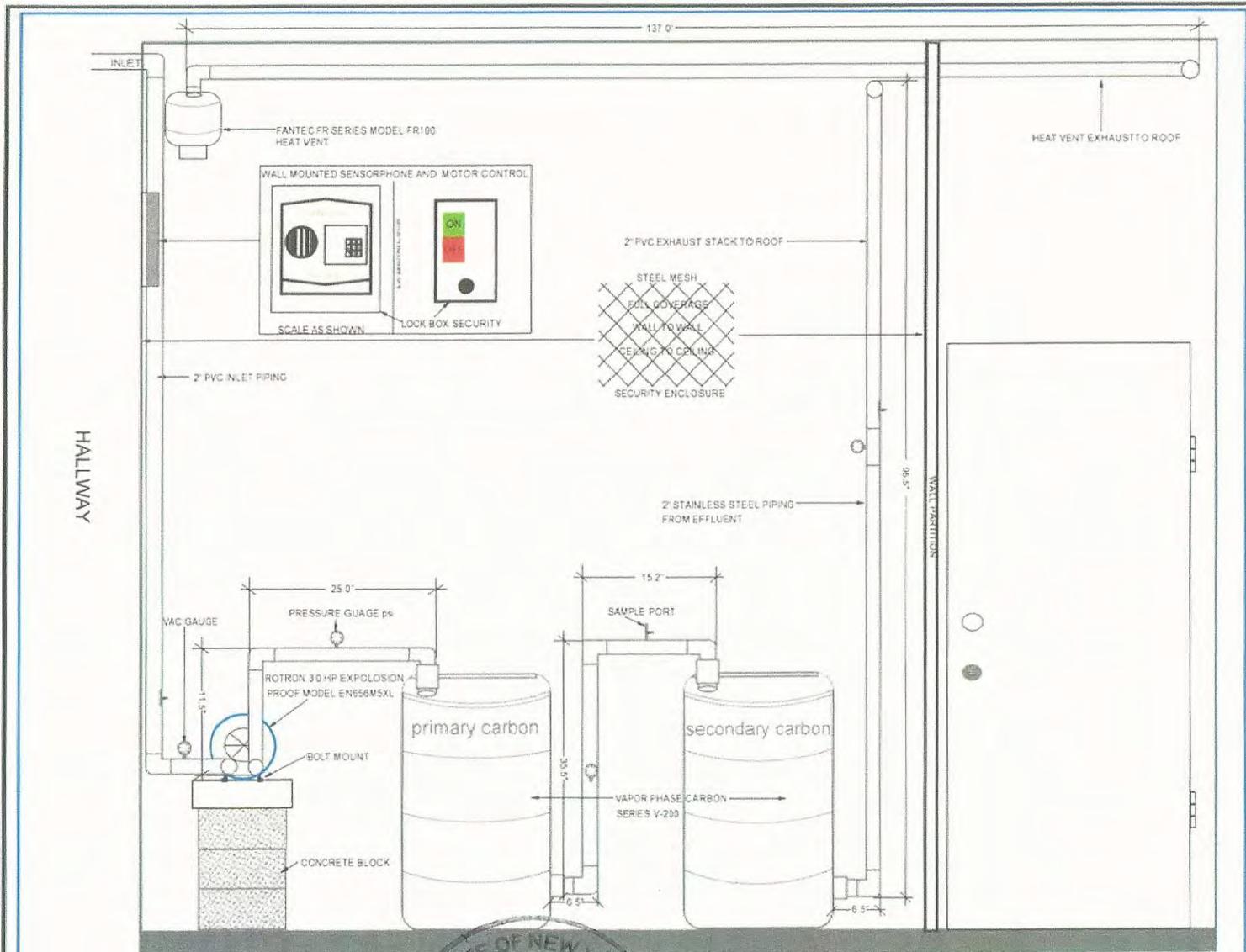


Scale = 1/8" = 1'

SSDS As-Built
Effluent Piping
Schematic
Figure-5



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Stony Brook, NY



KEY:

	PRESSURE/VAC GAUGE
	1/4 TURN SAMPLE PORT
	SECURITY FENCE

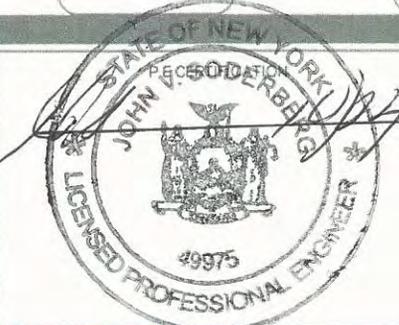


FIGURE	FIGURE 5B	DESCRIPTION	TREATMENT ROOM AS-BUILT
135 KENT AVENUE BROOKLYN, NEW YORK			
SITE #	BCA :C241177	COMPANY	JOHN V. SODERBERG P.E. PO BOX 265 STONY BROOK, NY
ADDRESS	135 KENT AVENUE		
DRAWN BY	JGH		
REVIEWED BY	JVS P.E.	DATE	03-16-15
		SHEET	1 OF 1
		SCALE	1"=16"

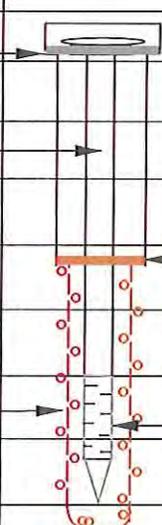
John V. Soderberg P.E
 PO Box 263
 Stony Brook, NY

Drawn By: JGH

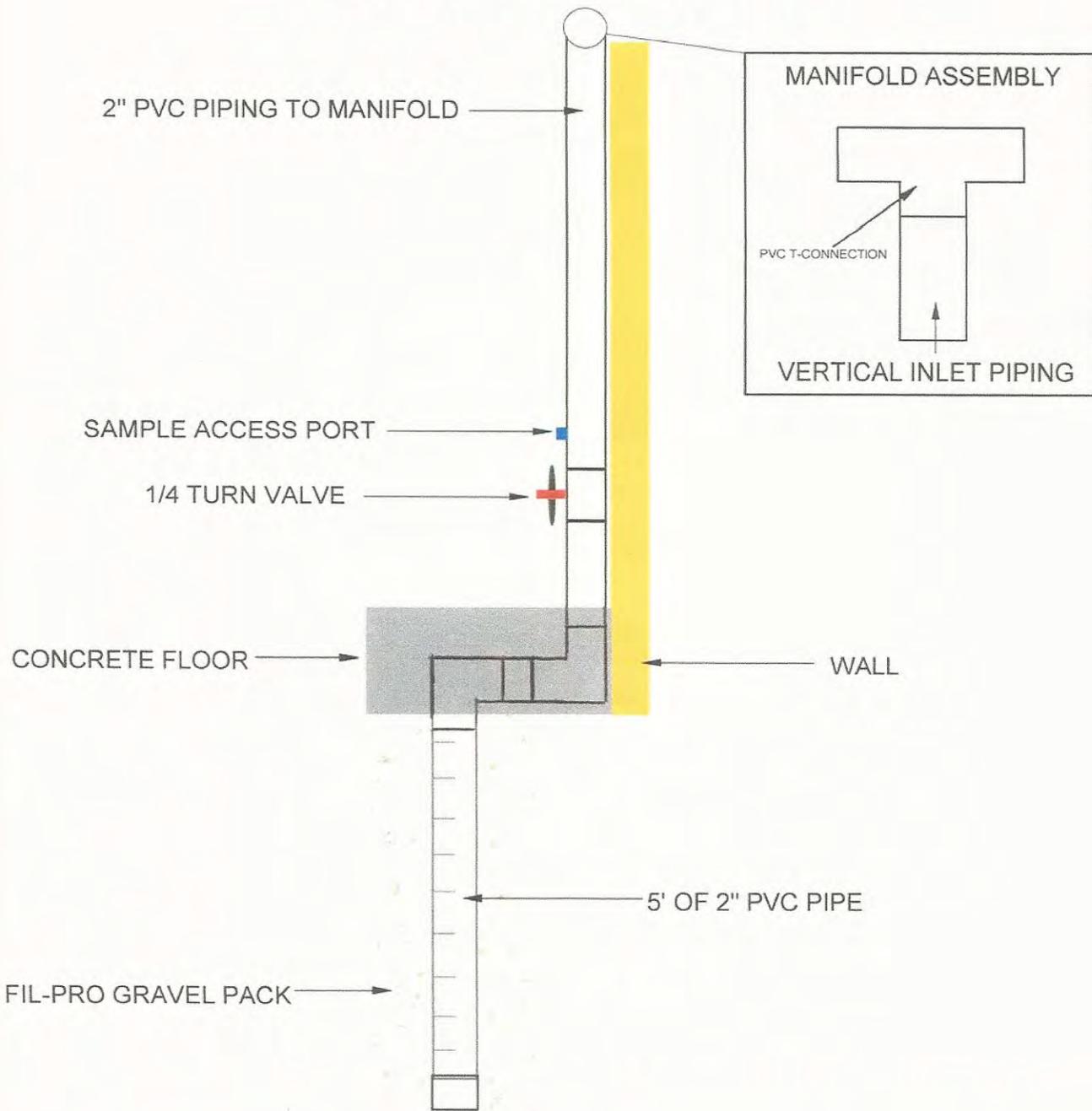
Figure-6

Well Log

Project: <u>135 Kent Ave.</u>	Date: <u>09/2014</u>
Client: <u>Former Cleaners Sales and Equip Corp.</u>	BCA No: <u>C241177</u>
Location: <u>135 Kent Ave. Brooklyn, NY</u>	Technician: <u>Butch/Eusi</u>
Well No: <u>PV-1-8</u> Use: <u>Monitoring/ Pilot Testing</u>	Bore Hole Dia: <u>2.0"</u>
Drilling Method: <u>Hand Tooling</u>	Sample Method: <u>N/A</u>
Casing Type: <u>N/A</u> Casing Dia: <u>N/A</u> Casing Length: <u>N/A</u>	Depth to Water: <u>N/A</u>
Screen Type: <u>N/A</u> Screen Dia: <u>N/A</u> Screen Length: <u>6"</u>	Total Depth: <u>1.5'</u>
Screen Slot: <u>N/A</u> Gravel Pack: <u>#2 Fil-pro</u>	Security: <u>3/4" Manhole</u>
Casing Seal: <u>Cement/Bentonite</u> Finish: <u>Cement</u>	

Depth Below Grade	Sample Information	Well Design	Identification/Remarks
			
	Hydraulic Cement Seal		← 3/4" Manhole cemented
	1/4" Poly-tube		
			← Bentonite Seal
	Fil-Pro Gravel Pack Material		← Vapor Screen Point

PROFILE VIEW



P.E CERTIFICATION



FIGURE	FIGURE 7	DESCRIPTION	TYPICAL VAPOR WELL & MANIFOLD		
SITE:	135 KENT AVENUE BROOKLYN, NEW YORK				
SITE #	BCA :C241177	COMPANY	JOHN V. SODERBERG P.E PO BOX 265 STONY BROOK, NY		
ADDRESS:	135 KENT AVENUE				
DRAWN BY:	JGH				
REVIEWED BY:	JVS P.E	DATE	SHEET	SCALE	
		03-16-15	1 OF 1	AS	

Table-1

IAQ Results

**135 Kent Avenue Brooklyn, NY
IAQ Results Post Mitigation Comparison
Tetrachloroethene (PCE)**

Table – 1

Sample ID	Pre-Mitigation Results ug/m3 (11/12/13)	Post Carb Vent Fan Results ug/m3 (01/24/14)	Post SSDS Install PreLim Results ug/m3 (08/19/14)	Winter 2015 Results ug/m3 02/26/15
IA-01	359	SummaFailure	15.9	7.26
IA-02	1,810	2,360	240	21.8
IA-03	1,650	921	9.29	18.4
IA-04	838	No data	22.9	6.37
IA-05	1,110	138	17.2	230
IA-06	210	33.3	33.4	9.56
IA-07	3.87	No data	22.1	10.9
IA-08	573	114	15.2	n/a
IA-09	385	159	17.9	n/a
OA	3.12	0.75	2.51	1.99
SS-1	27,400	n/a	n/a	n/a
SS-2	102	n/a	n/a	n/a
SS-3	108,000	n/a	n/a	n/a
SS-4	7,500	n/a	n/a	n/a
SS-5	1,010	n/a	n/a	n/a
SS-6	1,980	n/a	n/a	n/a
SS-7	175	n/a	n/a	n/a
IA-03 DUPE	868	n/a	n/a	n/a

KEY:

Black number = PCE detection below NYSDOH guidance of 30 ug/m3

Red number = PCE detection above NYSDOH guidance of 30 ug/m3

**135 Kent Avenue Brooklyn, New York
IAQ Results Post Mitigation Results
Tetrachloroethene (PCE)**

Table – 1 cont.

Sample ID	Winter 2015 Results ug/m3 03/11/15
IA-C2	14.6
IA-C3	9.97
IA-C4	12.3
IA-C5	23.5
IA-C6	20.5
IA-C8	9.56
IA-C9	20.5
IA-upstairs(near elev shaft)	239

KEY:

Black number = PCE detection below NYSDOH guidance of 30 ug/m3

Red number = PCE detection above NYSDOH guidance of 30 ug/m3

APPENDICES

Appendix-A

Blower Specifications

3.0 HP Sealed Regenerative w/Explosion-Proof Motor

FEATURES

- Manufactured in the USA - ISO 9001 and NAFTA compliant
- Maximum flow: 212 SCFM
- Maximum pressure: 75 IWG
- Maximum vacuum: 73 IWG
- Standard motor: 3.0 HP, explosion-proof
- Cast aluminum blower housing, impeller, cover & manifold; cast iron flanges (threaded); teflon® lip seal
- UL & CSA approved motor with permanently sealed ball bearings for explosive gas atmospheres Class I Group D minimum
- Sealed blower assembly
- Quiet operation within OSHA standards

MOTOR OPTIONS

- International voltage & frequency (Hz)
- Chemical duty, high efficiency, inverter duty or industry-specific designs
- Various horsepowers for application-specific needs

BLOWER OPTIONS

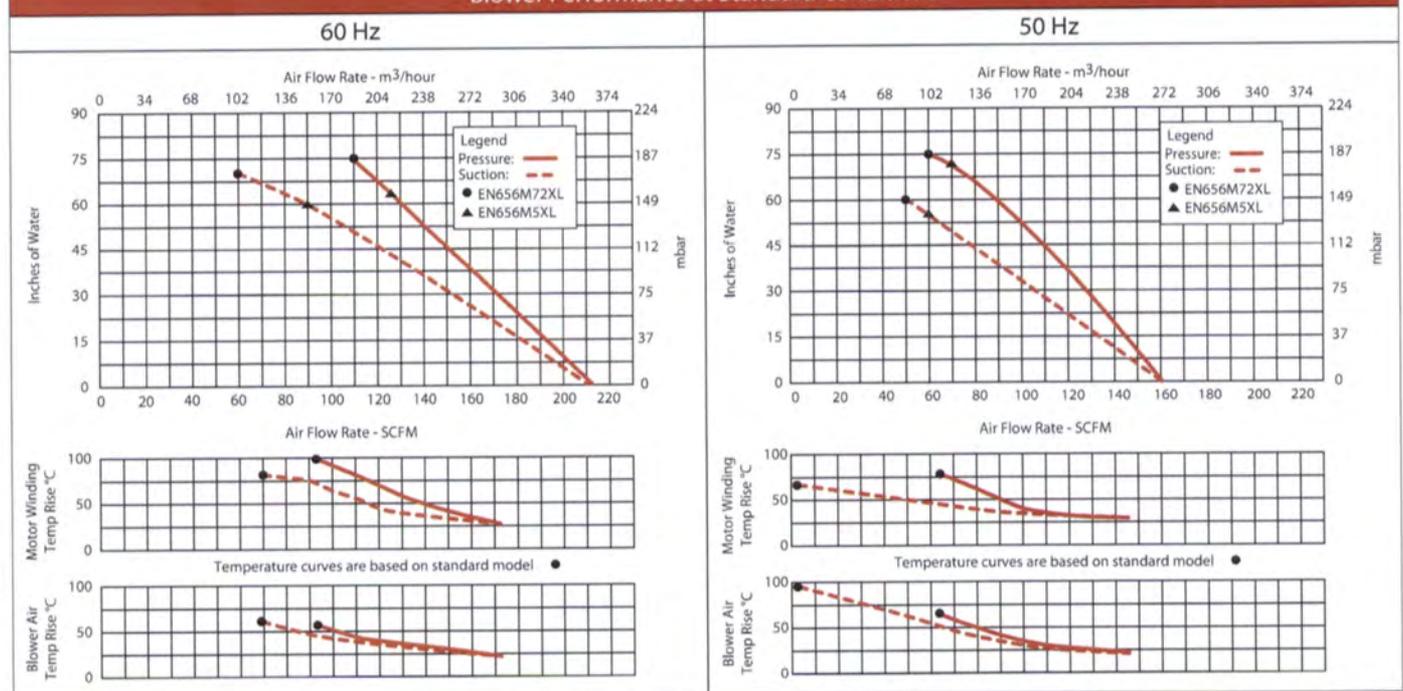
- Corrosion resistant surface treatments & sealing options
- Remote drive (motorless) models
- Slip-on or face flanges for application-specific needs

ACCESSORIES

- Flowmeters reading in SCFM
- Filters & moisture separators
- Pressure gauges, vacuum gauges, & relief valves
- Switches - air flow, pressure, vacuum, or temperature
- External mufflers for additional silencing
- Air knives (used on blow-off applications)
- Variable frequency drive package



Blower Performance at Standard Conditions



This document is for informational purposes only and should not be considered as a binding description of the products or their performance in all applications. The performance data on this page depicts typical performance under controlled laboratory conditions. AMETEK is not responsible for blowers driven beyond factory specified speed, temperature, pressure, flow or without proper alignment. Actual performance will vary depending on the operating environment and application. AMETEK products are not designed for and should not be used in medical life support applications. AMETEK reserves the right to revise its products without notification. The above characteristics represent standard products. For product designed to meet specific applications, contact AMETEK Technical & Industrial Products Sales department.

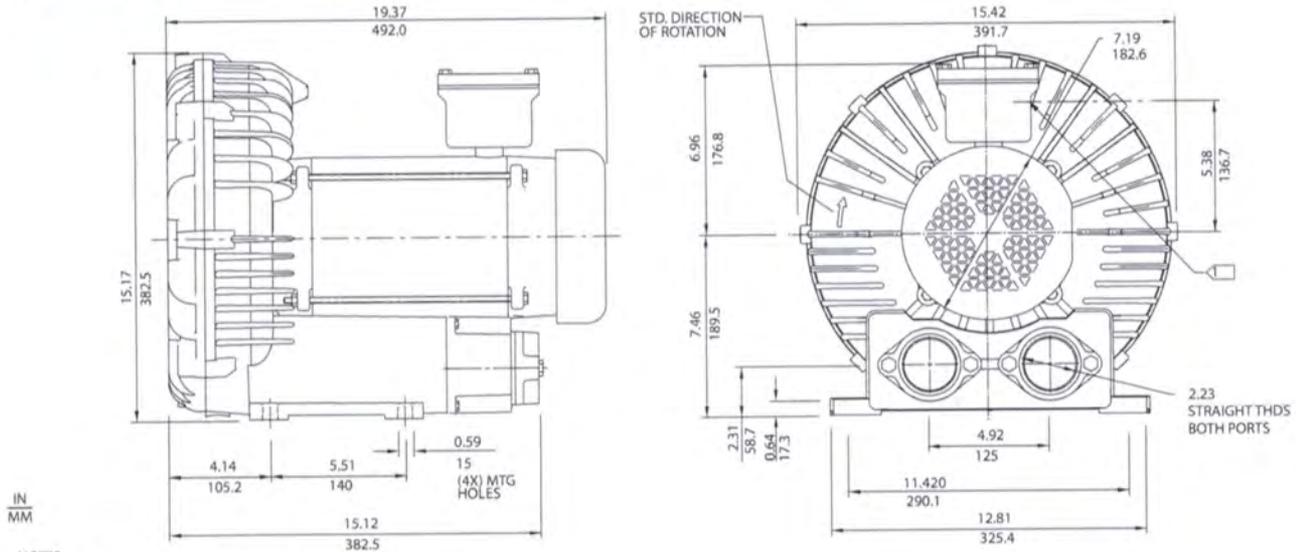
AMETEK TECHNICAL & INDUSTRIAL PRODUCTS
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www.ametektip.com

Environmental / Chemical Processing Blowers

EN 656 & CP 656

3.0 HP Sealed Regenerative w/Explosion-Proof Motor

ROTRON®



- NOTES
- 1) TERMINAL BOX CONNECTOR HOLE 3/4" NPT.
 - 2) DRAWING NOT TO SCALE, CONTACT FACTORY FOR SCALE CAD DRAWING.
 - 3) CONTACT FACTORY FOR BLOWER MODEL LENGTHS NOT SHOWN.

Specification	Units	Part/Model Number			
		EN656M5XL 080060	EN656M72XL 080059	EN656M86XL 080058	CP656FU72XLR 080142
Motor Enclosure - Shaft Mtl.	-	Explosion-proof-CS	Explosion-proof-CS	Explosion-proof-CS	Chem XP-SS
Horsepower	-	3	3	3	3
Phase - Frequency	-	Single-60 hz	Three-60 hz	Three-60 hz	Three-60 hz
Voltage	AC	208-230	208-230/460	575	208-230/460
Motor Nameplate Amps	Amps (A)	15.5-14.5	7.4/3.7	3.0	7.4/3.7
Max. Blower Amps	Amps (A)	17	10/5	4.1	10/5
Inrush Amps	Amps (A)	95-86	54/27	21.6	54/27
Service Factor	-	1.0	1.0	1.0	1.0
Starter Size	-	1	0/0	0	0/0
Thermal Protection	-	Class B - Pilot Duty			
XP Motor Class - Group	-	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G	I-D, II-F&G
Shipping Weight	Lbs	142	117	117	117
	Kg	64.4	53.1	53.1	53.1

Voltage - ROTRON motors are designed to handle a broad range of world voltages and power supply variations. Our dual voltage 3 phase motors are factory tested and certified to operate on both: **208-230/415-460 VAC-3 ph-60 Hz** and **190-208/380-415 VAC-3 ph-50 Hz**. Our dual voltage 1 phase motors are factory tested and certified to operate on both: **104-115/208-230 VAC-1 ph-60 Hz** and **100-110/200-220 VAC-1 ph-50 Hz**. All voltages above can handle a $\pm 10\%$ voltage fluctuation. Special wound motors can be ordered for voltages outside our certified range.

Operating Temperatures - Maximum operating temperature: Motor winding temperature (winding rise plus ambient) should not exceed 140°C for Class F rated motors or 120°C for Class B rated motors. Blower outlet air temperature should not exceed 140°C (air temperature rise plus inlet temperature). Performance curve maximum pressure and suction points are based on a 40°C inlet and ambient temperature. Consult factory for inlet or ambient temperatures above 40°C.

Maximum Blower Amps - Corresponds to the performance point at which the motor or blower temperature rise with a 40°C inlet and/or ambient temperature reaches the maximum operating temperature.

XP Motor Class - Group - See Explosive Atmosphere Classification Chart in Section I

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www.ametekip.com

Appendix-B

Elevator Shaft with Stack



NO
SMOKING

NO
SMOKING

DANGER
ELEVATOR
MACHINE
ROOM

NO
SMOKING

FUJITSU

NO
SMOKING

BAUER BC 18 H

Appendix-C

CAMP Data

Measurement Type:	Min (ppm)	Avg (ppm)	Max (ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0

Line #	Date	Time	Min (ppm)	Avg (ppm)	Max (ppm)
1	05/07/14	07:54	-----	0.0	0.1
2	05/07/14	07:55	-----	0.0	0.1
3	05/07/14	07:56	-----	0.0	0.0
4	05/07/14	07:57	-----	0.0	0.1
5	05/07/14	07:58	-----	0.0	0.0
6	05/07/14	07:59	-----	0.0	0.1
7	05/07/14	08:00	-----	0.0	0.1
8	05/07/14	08:01	-----	0.0	0.0
9	05/07/14	08:02	-----	0.0	0.1
10	05/07/14	08:03	-----	0.0	0.1
11	05/07/14	08:04	-----	0.0	0.1
12	05/07/14	08:05	-----	0.0	0.0
13	05/07/14	08:06	-----	0.0	0.1
14	05/07/14	08:07	-----	0.0	0.1
15	05/07/14	08:08	-----	0.0	0.1
16	05/07/14	08:09	-----	0.0	0.1
17	05/07/14	08:10	-----	0.0	0.1
18	05/07/14	08:11	-----	0.0	0.1
19	05/07/14	08:12	-----	0.0	0.0
20	05/07/14	08:13	-----	0.0	0.1
21	05/07/14	08:14	-----	0.0	0.1
22	05/07/14	08:15	-----	0.0	0.1
23	05/07/14	08:16	-----	0.0	0.1
24	05/07/14	08:17	-----	0.0	0.1
25	05/07/14	08:18	-----	0.0	0.1
26	05/07/14	08:19	-----	0.0	0.1
27	05/07/14	08:20	-----	0.0	0.1
28	05/07/14	08:21	-----	0.0	0.1
29	05/07/14	08:22	-----	0.0	0.1
30	05/07/14	08:23	-----	0.0	0.1
31	05/07/14	08:24	-----	0.0	0.1
32	05/07/14	08:25	-----	0.0	0.1
33	05/07/14	08:26	-----	0.0	0.1
34	05/07/14	08:27	-----	0.0	0.1
35	05/07/14	08:28	-----	0.0	0.1
36	05/07/14	08:29	-----	0.0	0.1
37	05/07/14	08:30	-----	0.0	0.1
38	05/07/14	08:31	-----	0.0	0.1
39	05/07/14	08:32	-----	0.0	0.1
40	05/07/14	08:33	-----	0.0	0.1
41	05/07/14	08:34	-----	0.0	0.1
42	05/07/14	08:35	-----	0.0	0.1
43	05/07/14	08:36	-----	0.0	0.1
44	05/07/14	08:37	-----	0.0	0.1
45	05/07/14	08:38	-----	0.0	0.1
46	05/07/14	08:39	-----	0.0	0.1
47	05/07/14	08:40	-----	0.0	0.1
48	05/07/14	08:41	-----	0.0	0.1
49	05/07/14	08:42	-----	0.0	0.1
50	05/07/14	08:43	-----	0.0	0.1
51	05/07/14	08:44	-----	0.0	0.1
52	05/07/14	08:45	-----	0.0	0.1
53	05/07/14	08:46	-----	0.0	0.1
54	05/07/14	08:47	-----	0.0	0.1
55	05/07/14	08:48	-----	0.0	0.1
56	05/07/14	08:49	-----	0.0	0.1
57	05/07/14	08:50	-----	0.0	0.1
58	05/07/14	08:51	-----	0.0	0.1

59	05/07/14	08:52	-----	0.0	0.1
60	05/07/14	08:53	-----	0.0	0.1
61	05/07/14	08:54	-----	0.0	0.1
62	05/07/14	08:55	-----	0.0	0.1
63	05/07/14	08:56	-----	0.0	0.1
64	05/07/14	08:57	-----	0.0	0.1
65	05/07/14	08:58	-----	0.0	0.1
66	05/07/14	08:59	-----	0.1	2.0
67	05/07/14	09:00	-----	0.2	3.0
68	05/07/14	09:01	-----	0.1	0.3
69	05/07/14	09:02	-----	0.1	0.3
70	05/07/14	09:03	-----	0.3	0.9
71	05/07/14	09:04	-----	0.5	1.4
72	05/07/14	09:05	-----	0.1	0.2
73	05/07/14	09:06	-----	0.2	0.5
74	05/07/14	09:07	-----	0.2	0.3
75	05/07/14	09:08	-----	0.3	1.3
76	05/07/14	09:09	-----	0.1	0.7
77	05/07/14	09:10	-----	0.5	2.1
78	05/07/14	09:11	-----	1.3	3.8
79	05/07/14	09:12	-----	0.2	0.4
80	05/07/14	09:13	-----	0.4	1.2
81	05/07/14	09:14	-----	0.1	0.5
82	05/07/14	09:15	-----	1.1	3.1
83	05/07/14	09:16	-----	0.4	0.9
84	05/07/14	09:17	-----	2.2	5.0
85	05/07/14	09:18	-----	1.3	4.7
86	05/07/14	09:19	-----	0.9	2.1
87	05/07/14	09:20	-----	0.5	1.0
88	05/07/14	09:21	-----	0.3	0.6
89	05/07/14	09:22	-----	0.4	0.7
90	05/07/14	09:23	-----	0.2	0.5
91	05/07/14	09:24	-----	0.3	0.9
92	05/07/14	09:25	-----	0.4	0.8
93	05/07/14	09:26	-----	0.1	0.3
94	05/07/14	09:27	-----	0.1	0.2
95	05/07/14	09:28	-----	0.1	0.2
96	05/07/14	09:29	-----	0.0	0.2
97	05/07/14	09:30	-----	0.4	1.1
98	05/07/14	09:31	-----	0.3	0.7
99	05/07/14	09:32	-----	0.1	0.2
100	05/07/14	09:33	-----	0.1	0.2
101	05/07/14	09:34	-----	0.1	0.2
102	05/07/14	09:35	-----	0.1	0.2
103	05/07/14	09:36	-----	0.1	0.2
104	05/07/14	09:37	-----	0.0	0.2
105	05/07/14	09:38	-----	0.1	0.2
106	05/07/14	09:39	-----	0.0	0.2
107	05/07/14	09:40	-----	0.0	0.2
108	05/07/14	09:41	-----	0.1	0.2
109	05/07/14	09:42	-----	0.1	0.3
110	05/07/14	09:43	-----	0.0	0.3
111	05/07/14	09:44	-----	0.3	0.4
112	05/07/14	09:45	-----	0.2	0.4
113	05/07/14	09:46	-----	0.2	0.3
114	05/07/14	09:47	-----	0.1	0.3
115	05/07/14	09:48	-----	0.2	0.4
116	05/07/14	09:49	-----	0.3	0.4
117	05/07/14	09:50	-----	0.3	0.4
118	05/07/14	09:51	-----	0.3	0.4
119	05/07/14	09:52	-----	0.2	0.3
120	05/07/14	09:53	-----	0.2	0.3
121	05/07/14	09:54	-----	0.3	0.4
122	05/07/14	09:55	-----	0.3	0.4
123	05/07/14	09:56	-----	0.2	0.4
124	05/07/14	09:57	-----	0.2	0.3
125	05/07/14	09:58	-----	0.2	0.4
126	05/07/14	09:59	-----	0.3	0.4
127	05/07/14	10:00	-----	0.3	0.4

128	05/07/14	10:01	-----	0.2	0.3
129	05/07/14	10:02	-----	0.2	0.3
130	05/07/14	10:03	-----	0.3	0.5
131	05/07/14	10:04	-----	0.4	0.6
132	05/07/14	10:05	-----	0.5	0.7
133	05/07/14	10:06	-----	0.5	0.8
134	05/07/14	10:07	-----	0.7	1.0
135	05/07/14	10:08	-----	0.6	0.8
136	05/07/14	10:09	-----	0.5	0.8
137	05/07/14	10:10	-----	0.4	0.9
138	05/07/14	10:11	-----	0.6	1.2
139	05/07/14	10:12	-----	0.7	1.3
140	05/07/14	10:13	-----	0.5	0.7
141	05/07/14	10:14	-----	0.4	0.6
142	05/07/14	10:15	-----	0.4	0.6
143	05/07/14	10:16	-----	0.2	0.4
144	05/07/14	10:17	-----	0.4	0.5
145	05/07/14	10:18	-----	0.3	0.7
146	05/07/14	10:19	-----	0.6	0.9
147	05/07/14	10:20	-----	0.6	0.8
148	05/07/14	10:21	-----	0.5	0.7
149	05/07/14	10:22	-----	0.2	0.5
150	05/07/14	10:23	-----	0.3	0.5
151	05/07/14	10:24	-----	0.5	0.6
152	05/07/14	10:25	-----	0.4	0.6
153	05/07/14	10:26	-----	0.6	0.8
154	05/07/14	10:27	-----	0.6	0.8
155	05/07/14	10:28	-----	0.1	0.3
156	05/07/14	10:29	-----	0.1	0.2
157	05/07/14	10:30	-----	0.3	0.6
158	05/07/14	10:31	-----	0.5	0.8
159	05/07/14	10:32	-----	0.4	0.6
160	05/07/14	10:33	-----	0.4	0.6
161	05/07/14	10:34	-----	0.3	0.6
162	05/07/14	10:35	-----	0.4	0.6
163	05/07/14	10:36	-----	0.5	0.7
164	05/07/14	10:37	-----	0.5	0.7
165	05/07/14	10:38	-----	0.4	0.6
166	05/07/14	10:39	-----	0.3	0.4
167	05/07/14	10:40	-----	0.3	0.5
168	05/07/14	10:41	-----	0.5	0.7
169	05/07/14	10:42	-----	0.4	0.7
170	05/07/14	10:43	-----	0.4	0.7
171	05/07/14	10:44	-----	0.5	0.8
172	05/07/14	10:45	-----	0.3	0.5
173	05/07/14	10:46	-----	0.3	0.5
174	05/07/14	10:47	-----	0.4	0.6
175	05/07/14	10:48	-----	0.4	0.6
176	05/07/14	10:49	-----	0.5	0.7
177	05/07/14	10:50	-----	0.4	0.6
178	05/07/14	10:51	-----	0.3	0.5
179	05/07/14	10:52	-----	0.3	0.5
180	05/07/14	10:53	-----	0.4	0.6
181	05/07/14	10:54	-----	0.4	0.6
182	05/07/14	10:55	-----	0.3	0.5
183	05/07/14	10:56	-----	0.3	0.5
184	05/07/14	10:57	-----	0.3	0.5
185	05/07/14	10:58	-----	0.2	0.4
186	05/07/14	10:59	-----	0.2	0.4
187	05/07/14	11:00	-----	1.0	1.6
188	05/07/14	11:01	-----	0.4	0.6
189	05/07/14	11:02	-----	1.1	1.3
190	05/07/14	11:03	-----	0.7	2.9
191	05/07/14	11:04	-----	0.8	1.6
192	05/07/14	11:05	-----	0.6	1.2
193	05/07/14	11:06	-----	0.4	1.2
194	05/07/14	11:07	-----	0.5	1.0
195	05/07/14	11:08	-----	0.5	1.6
196	05/07/14	11:09	-----	0.3	0.7

197	05/07/14	11:10	-----	5.0	1.4
198	05/07/14	11:11	-----	0.3	0.5
199	05/07/14	11:12	-----	0.2	0.5
200	05/07/14	11:13	-----	0.4	0.9
201	05/07/14	11:14	-----	0.9	4.3
202	05/07/14	11:15	-----	4.5	6.0
203	05/07/14	11:16	-----	3.6	4.2
204	05/07/14	11:17	-----	3.9	4.8
205	05/07/14	11:18	-----	4.7	5.3
206	05/07/14	11:19	-----	4.9	5.5
207	05/07/14	11:20	-----	4.5	5.3
208	05/07/14	11:21	-----	3.4	4.7
209	05/07/14	11:22	-----	3.7	4.4
210	05/07/14	11:23	-----	5.1	7.4
211	05/07/14	11:24	-----	7.8	17.3
212	05/07/14	11:25	-----	0.5	1.5
213	05/07/14	11:26	-----	0.2	0.3
214	05/07/14	11:27	-----	0.1	0.3
215	05/07/14	11:28	-----	0.8	2.5
216	05/07/14	11:29	-----	2.6	4.2
217	05/07/14	11:30	-----	3.0	3.8
218	05/07/14	11:31	-----	4.3	7.6
219	05/07/14	11:32	-----	4.1	5.8
220	05/07/14	11:33	-----	5.2	7.6
221	05/07/14	11:34	-----	4.5	8.4
222	05/07/14	11:35	-----	3.3	3.7
223	05/07/14	11:36	-----	4.2	7.0
224	05/07/14	11:37	-----	4.4	6.2
225	05/07/14	11:38	-----	4.5	5.7
226	05/07/14	11:39	-----	6.0	8.8
227	05/07/14	11:40	-----	8.5	13.5
228	05/07/14	11:41	-----	7.6	11.5
229	05/07/14	11:42	-----	6.7	8.3
230	05/07/14	11:43	-----	7.6	9.4
231	05/07/14	11:44	-----	6.3	8.7
232	05/07/14	11:45	-----	2.6	3.4

```

=====
Measurement Type:           Min (ppm)      Avg (ppm)      Max (ppm)
High Alarm Levels:         100.0        100.0         100.0
Low Alarm Levels:          50.0         50.0          50.0
=====

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```

=====
Line #   Date      Time           Min (ppm)      Avg (ppm)      Max (ppm)
=====
  1 05/08/14 08:47         -----         0.1           0.3
  2 05/08/14 08:48         -----         0.1           0.3
  3 05/08/14 08:49         -----         0.2           0.3
  4 05/08/14 08:50         -----         0.1           0.3
  5 05/08/14 08:51         -----         0.1           0.3
  6 05/08/14 08:52         -----         0.2           0.3
  7 05/08/14 08:53         -----         0.2           0.3
  8 05/08/14 08:54         -----         0.2           0.4
  9 05/08/14 08:55         -----         0.2           0.3
 10 05/08/14 08:56         -----         0.2           0.4
 11 05/08/14 08:57         -----         0.2           0.4
 12 05/08/14 08:58         -----         0.2           0.4
 13 05/08/14 08:59         -----         0.2           0.4
 14 05/08/14 09:00         -----         0.2           0.3
 15 05/08/14 09:01         -----         0.2           0.3
 16 05/08/14 09:02         -----         0.2           0.4
 17 05/08/14 09:03         -----         0.2           0.4
 18 05/08/14 09:04         -----         0.2           0.4
 19 05/08/14 09:05         -----         0.2           0.4
 20 05/08/14 09:06         -----         0.2           0.4
 21 05/08/14 09:07         -----         0.2           0.3
 22 05/08/14 09:08         -----         0.2           0.4
 23 05/08/14 09:09         -----         0.2           0.4
 24 05/08/14 09:10         -----         0.3           0.4
 25 05/08/14 09:11         -----         0.3           0.4
 26 05/08/14 09:12         -----         0.3           0.4
 27 05/08/14 09:13         -----         0.3           0.4
 28 05/08/14 09:14         -----         0.3           0.5
 29 05/08/14 09:15         -----         0.3           0.4
 30 05/08/14 09:16         -----         0.3           0.4
 31 05/08/14 09:17         -----         0.3           0.4
 32 05/08/14 09:18         -----         0.3           0.4
 33 05/08/14 09:19         -----         0.3           0.5
 34 05/08/14 09:20         -----         0.3           0.4
 35 05/08/14 09:21         -----         0.3           0.4
 36 05/08/14 09:22         -----         0.3           0.4
 37 05/08/14 09:23         -----         0.3           0.4
 38 05/08/14 09:24         -----         0.3           0.4
 39 05/08/14 09:25         -----         0.3           0.5
 40 05/08/14 09:26         -----         0.3           0.4
 41 05/08/14 09:27         -----         0.3           0.5
 42 05/08/14 09:28         -----         0.3           0.5
 43 05/08/14 09:29         -----         0.3           0.5
 44 05/08/14 09:30         -----         0.3           0.5
 45 05/08/14 09:31         -----         0.3           0.5
 46 05/08/14 09:32         -----         0.4           0.7
 47 05/08/14 09:33         -----         0.3           0.7
 48 05/08/14 09:34         -----         0.2           0.4
 49 05/08/14 09:35         -----         0.2           0.4
 50 05/08/14 09:36         -----         0.1           0.3
 51 05/08/14 09:37         -----         0.2           0.3
 52 05/08/14 09:38         -----         0.2           0.3
 53 05/08/14 09:39         -----         0.2           0.5
 54 05/08/14 09:40         -----         0.6           2.5
 55 05/08/14 09:41         -----         0.6           2.7
 56 05/08/14 09:42         -----         0.3           0.5
 57 05/08/14 09:43         -----         0.3           0.4
 58 05/08/14 09:44         -----         0.3           0.5
=====

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59	05/08/14	09:45	-----	0.3	0.5
60	05/08/14	09:46	-----	0.4	0.5
61	05/08/14	09:47	-----	0.3	0.5
62	05/08/14	09:48	-----	0.4	0.5
63	05/08/14	09:49	-----	0.3	0.5
64	05/08/14	09:50	-----	0.3	0.5
65	05/08/14	09:51	-----	0.3	0.5
66	05/08/14	09:52	-----	0.3	0.4
67	05/08/14	09:53	-----	0.3	0.4
68	05/08/14	09:54	-----	0.3	0.4
69	05/08/14	09:55	-----	0.3	0.4
70	05/08/14	09:56	-----	0.3	0.4
71	05/08/14	09:57	-----	0.3	0.5
72	05/08/14	09:58	-----	0.3	0.5
73	05/08/14	09:59	-----	0.3	0.4
74	05/08/14	10:00	-----	0.3	0.5
75	05/08/14	10:01	-----	0.3	0.5
76	05/08/14	10:02	-----	0.3	0.4
77	05/08/14	10:03	-----	0.3	0.4
78	05/08/14	10:04	-----	0.3	0.4
79	05/08/14	10:05	-----	0.3	0.4
80	05/08/14	10:06	-----	0.3	0.4
81	05/08/14	10:07	-----	0.3	0.4
82	05/08/14	10:08	-----	0.3	0.5
83	05/08/14	10:09	-----	0.3	0.5
84	05/08/14	10:10	-----	0.3	0.5
85	05/08/14	10:11	-----	0.4	0.5
86	05/08/14	10:12	-----	0.3	0.5
87	05/08/14	10:13	-----	0.3	0.5
88	05/08/14	10:14	-----	0.4	0.7
89	05/08/14	10:15	-----	1.1	3.5
90	05/08/14	10:16	-----	0.8	1.2
91	05/08/14	10:17	-----	0.6	0.9
92	05/08/14	10:18	-----	0.5	0.7
93	05/08/14	10:19	-----	0.8	1.3
94	05/08/14	10:20	-----	1.6	6.2
95	05/08/14	10:21	-----	1.2	2.0
96	05/08/14	10:22	-----	1.6	2.7
97	05/08/14	10:23	-----	1.9	2.7
98	05/08/14	10:24	-----	1.6	2.1
99	05/08/14	10:25	-----	1.4	2.2
100	05/08/14	10:26	-----	1.3	3.2
101	05/08/14	10:27	-----	1.2	3.9
102	05/08/14	10:28	-----	1.0	1.2
103	05/08/14	10:29	-----	1.0	1.4
104	05/08/14	10:30	-----	1.4	2.5
105	05/08/14	10:31	-----	1.9	2.6
106	05/08/14	10:32	-----	1.5	1.9
107	05/08/14	10:33	-----	1.3	1.7
108	05/08/14	10:34	-----	1.3	1.8
109	05/08/14	10:35	-----	1.6	2.5
110	05/08/14	10:36	-----	2.0	2.8
111	05/08/14	10:37	-----	1.7	2.4
112	05/08/14	10:38	-----	1.7	2.2
113	05/08/14	10:39	-----	1.7	2.8
114	05/08/14	10:40	-----	1.7	2.1
115	05/08/14	10:41	-----	1.6	2.0
116	05/08/14	10:42	-----	1.7	2.7
117	05/08/14	10:43	-----	2.3	3.4
118	05/08/14	10:44	-----	2.6	4.3
119	05/08/14	10:45	-----	2.5	4.2
120	05/08/14	10:46	-----	2.5	3.3
121	05/08/14	10:47	-----	2.3	2.7
122	05/08/14	10:48	-----	2.0	2.3
123	05/08/14	10:49	-----	2.3	3.2
124	05/08/14	10:50	-----	2.8	3.8
125	05/08/14	10:51	-----	3.2	4.6
126	05/08/14	10:52	-----	3.2	3.9
127	05/08/14	10:53	-----	3.0	3.7

128	05/08/14	10:54	-----	2.9	4.5
129	05/08/14	10:55	-----	2.6	3.2
130	05/08/14	10:56	-----	2.4	2.9
131	05/08/14	10:57	-----	2.4	3.6
132	05/08/14	10:58	-----	2.9	3.6
133	05/08/14	10:59	-----	2.7	3.2
134	05/08/14	11:00	-----	2.4	2.9
135	05/08/14	11:01	-----	1.9	2.4
136	05/08/14	11:02	-----	2.4	3.5
137	05/08/14	11:03	-----	2.0	2.7
138	05/08/14	11:04	-----	1.9	2.3
139	05/08/14	11:05	-----	2.2	3.2
140	05/08/14	11:06	-----	1.9	2.6
141	05/08/14	11:07	-----	2.3	2.8
142	05/08/14	11:08	-----	2.1	2.4
143	05/08/14	11:09	-----	1.9	2.2
144	05/08/14	11:10	-----	1.7	2.2
145	05/08/14	11:11	-----	1.5	1.8
146	05/08/14	11:12	-----	1.5	1.9
147	05/08/14	11:13	-----	1.5	1.8
148	05/08/14	11:14	-----	1.5	1.7
149	05/08/14	11:15	-----	1.7	2.5
150	05/08/14	11:16	-----	2.1	2.5
151	05/08/14	11:17	-----	1.6	2.1
152	05/08/14	11:18	-----	1.4	1.7
153	05/08/14	11:19	-----	1.3	1.7
154	05/08/14	11:20	-----	1.4	1.8
155	05/08/14	11:21	-----	1.7	2.0
156	05/08/14	11:22	-----	1.4	2.0
157	05/08/14	11:23	-----	1.3	2.1
158	05/08/14	11:24	-----	1.4	1.9
159	05/08/14	11:25	-----	1.5	2.3
160	05/08/14	11:26	-----	1.7	2.6
161	05/08/14	11:27	-----	1.4	1.7
162	05/08/14	11:28	-----	1.9	2.8
163	05/08/14	11:29	-----	2.2	3.2
164	05/08/14	11:30	-----	2.8	3.5
165	05/08/14	11:31	-----	3.7	5.3
166	05/08/14	11:32	-----	3.1	5.6
167	05/08/14	11:33	-----	3.8	5.8
168	05/08/14	11:34	-----	2.1	4.8
169	05/08/14	11:35	-----	1.3	1.4

PDR-1000 S/N: 00000

Tag Number: 01

Number of logged points: 177

Start time and date: 08:19:21 07-May

Elapsed time: 02:57:00

Logging period (sec): 60

Calibration Factor (%): 100

Max Display Concentration: 1.941 mg/m³

Time at maximum: 10:32:59 May 07

Max STEL Concentration: 0.147 mg/m³

Time at max STEL: 10:51:51 May 07

Overall Avg Conc: 0.057 mg/m³

Logged Data:

Point	Date	Time	Avg. (mg/m ³)
1	07 May	08:20:21	0.060
2	07 May	08:21:21	0.038
3	07 May	08:22:21	0.037
4	07 May	08:23:21	0.015
5	07 May	08:24:21	0.010
6	07 May	08:25:21	0.045
7	07 May	08:26:21	0.022
8	07 May	08:27:21	0.027
9	07 May	08:28:21	0.028
10	07 May	08:29:21	0.016
11	07 May	08:30:21	0.036
12	07 May	08:31:21	0.009
13	07 May	08:32:21	0.021
14	07 May	08:33:21	0.015
15	07 May	08:34:21	0.018
16	07 May	08:35:21	0.042
17	07 May	08:36:21	0.158
18	07 May	08:37:21	0.022
19	07 May	08:38:21	0.043
20	07 May	08:39:21	0.015
21	07 May	08:40:21	0.040
22	07 May	08:41:21	0.145
23	07 May	08:42:21	0.246
24	07 May	08:43:21	0.049
25	07 May	08:44:21	0.073
26	07 May	08:45:21	0.023
27	07 May	08:46:21	0.007
28	07 May	08:47:21	0.008
29	07 May	08:48:21	0.003
30	07 May	08:49:21	0.296
31	07 May	08:50:21	0.009
32	07 May	08:51:21	0.043
33	07 May	08:52:21	0.055
34	07 May	08:53:21	0.025
35	07 May	08:54:21	0.008
36	07 May	08:55:21	0.005
37	07 May	08:56:21	0.015
38	07 May	08:57:21	0.012
39	07 May	08:58:21	0.005
40	07 May	08:59:21	0.008
41	07 May	09:00:21	0.006
42	07 May	09:01:21	0.005
43	07 May	09:02:21	0.017
44	07 May	09:03:21	0.007
45	07 May	09:04:21	0.017
46	07 May	09:05:21	0.018
47	07 May	09:06:21	0.018
48	07 May	09:07:21	0.006
49	07 May	09:08:21	0.004
50	07 May	09:09:21	0.011
51	07 May	09:10:21	0.005
52	07 May	09:11:21	0.002
53	07 May	09:12:21	0.002
54	07 May	09:13:21	0.004
55	07 May	09:14:21	0.003
56	07 May	09:15:21	0.006
57	07 May	09:16:21	0.002

58,	07 May,	09:17:21,	0.005
59,	07 May,	09:18:21,	0.003
60,	07 May,	09:19:21,	0.016
61,	07 May,	09:20:21,	0.005
62,	07 May,	09:21:21,	0.004
63,	07 May,	09:22:21,	0.003
64,	07 May,	09:23:21,	0.009
65,	07 May,	09:24:21,	0.011
66,	07 May,	09:25:21,	0.058
67,	07 May,	09:26:21,	0.003
68,	07 May,	09:27:21,	0.042
69,	07 May,	09:28:21,	0.005
70,	07 May,	09:29:21,	0.009
71,	07 May,	09:30:21,	0.003
72,	07 May,	09:31:21,	0.004
73,	07 May,	09:32:21,	0.003
74,	07 May,	09:33:21,	0.004
75,	07 May,	09:34:21,	0.023
76,	07 May,	09:35:21,	0.004
77,	07 May,	09:36:21,	0.012
78,	07 May,	09:37:21,	0.006
79,	07 May,	09:38:21,	0.005
80,	07 May,	09:39:21,	0.004
81,	07 May,	09:40:21,	0.007
82,	07 May,	09:41:21,	0.009
83,	07 May,	09:42:21,	0.009
84,	07 May,	09:43:21,	0.008
85,	07 May,	09:44:21,	0.144
86,	07 May,	09:45:21,	0.335
87,	07 May,	09:46:21,	0.150
88,	07 May,	09:47:21,	0.175
89,	07 May,	09:48:21,	0.185
90,	07 May,	09:49:21,	0.150
91,	07 May,	09:50:21,	0.054
92,	07 May,	09:51:21,	0.003
93,	07 May,	09:52:21,	0.003
94,	07 May,	09:53:21,	0.003
95,	07 May,	09:54:21,	0.002
96,	07 May,	09:55:21,	0.014
97,	07 May,	09:56:21,	0.006
98,	07 May,	09:57:21,	0.011
99,	07 May,	09:58:21,	0.043
100,	07 May,	09:59:21,	0.015
101,	07 May,	10:00:21,	0.000
102,	07 May,	10:01:21,	0.011
103,	07 May,	10:02:21,	0.001
104,	07 May,	10:03:21,	0.004
105,	07 May,	10:04:21,	0.000
106,	07 May,	10:05:21,	0.002
107,	07 May,	10:06:21,	0.004
108,	07 May,	10:07:21,	0.005
109,	07 May,	10:08:21,	0.003
110,	07 May,	10:09:21,	0.028
111,	07 May,	10:10:21,	0.032
112,	07 May,	10:11:21,	0.109
113,	07 May,	10:12:21,	0.149
114,	07 May,	10:13:21,	0.065
115,	07 May,	10:14:21,	0.012
116,	07 May,	10:15:21,	0.014
117,	07 May,	10:16:21,	0.229
118,	07 May,	10:17:21,	0.071
119,	07 May,	10:18:21,	0.008
120,	07 May,	10:19:21,	0.022
121,	07 May,	10:20:21,	0.055
122,	07 May,	10:21:21,	0.068
123,	07 May,	10:22:21,	0.066
124,	07 May,	10:23:21,	0.080
125,	07 May,	10:24:21,	0.008
126,	07 May,	10:25:21,	0.088
127,	07 May,	10:26:21,	0.073
128,	07 May,	10:27:21,	0.070

129,	07 May,	10:28:21,	0.083
130,	07 May,	10:29:21,	0.207
131,	07 May,	10:30:21,	0.205
132,	07 May,	10:31:21,	0.063
133,	07 May,	10:32:21,	0.036
134,	07 May,	10:33:21,	0.409
135,	07 May,	10:34:21,	0.067
136,	07 May,	10:35:21,	0.028
137,	07 May,	10:36:21,	0.083
138,	07 May,	10:37:21,	0.112
139,	07 May,	10:38:21,	0.145
140,	07 May,	10:39:21,	0.093
141,	07 May,	10:40:21,	0.091
142,	07 May,	10:41:21,	0.148
143,	07 May,	10:42:21,	0.146
144,	07 May,	10:43:21,	0.203
145,	07 May,	10:44:21,	0.101
146,	07 May,	10:45:21,	0.189
147,	07 May,	10:46:21,	0.102
148,	07 May,	10:47:21,	0.146
149,	07 May,	10:48:21,	0.219
150,	07 May,	10:49:21,	0.161
151,	07 May,	10:50:21,	0.112
152,	07 May,	10:51:21,	0.225
153,	07 May,	10:52:21,	0.050
154,	07 May,	10:53:21,	0.070
155,	07 May,	10:54:21,	0.247
156,	07 May,	10:55:21,	0.074
157,	07 May,	10:56:21,	0.071
158,	07 May,	10:57:21,	0.097
159,	07 May,	10:58:21,	0.058
160,	07 May,	10:59:21,	0.042
161,	07 May,	11:00:21,	0.027
162,	07 May,	11:01:21,	0.024
163,	07 May,	11:02:21,	0.043
164,	07 May,	11:03:21,	0.072
165,	07 May,	11:04:21,	0.042
166,	07 May,	11:05:21,	0.021
167,	07 May,	11:06:21,	0.055
168,	07 May,	11:07:21,	0.124
169,	07 May,	11:08:21,	0.128
170,	07 May,	11:09:21,	0.047
171,	07 May,	11:10:21,	0.098
172,	07 May,	11:11:21,	0.140
173,	07 May,	11:12:21,	0.071
174,	07 May,	11:13:21,	0.097
175,	07 May,	11:14:21,	0.069
176,	07 May,	11:15:21,	0.054
177,	07 May,	11:16:21,	0.097

PDR-1000 S/N: 00000

Tag Number: 02

Number of logged points: 9

Start time and date: 11:29:52 07-May

Elapsed time: 00:09:00

Logging period (sec): 60

Calibration Factor (%): 100

Max Display Concentration: 0.708 mg/m³

Time at maximum: 11:39:51 May 07

Max STEL Concentration: 0.061 mg/m³

Time at max STEL: 11:39:22 May 07

Overall Avg Conc: 0.109 mg/m³

Logged Data:

Point	Date	Time	Avg. (mg/m ³)
1	07 May	11:30:52	0.074
2	07 May	11:31:52	0.110
3	07 May	11:32:52	0.179
4	07 May	11:33:52	0.070
5	07 May	11:34:52	0.090
6	07 May	11:35:52	0.100
7	07 May	11:36:52	0.057
8	07 May	11:37:52	0.060
9	07 May	11:38:52	0.082

PDR-1000 S/N: 00000
Tag Number: 03
Number of logged points: 24
Start time and date: 11:48:02 07-May
Elapsed time: 00:24:00
Logging period (sec): 60
Calibration Factor (%): 100
Max Display Concentration: 1.427 mg/m³
Time at maximum: 12:01:21 May 07
Max STEL Concentration: 0.340 mg/m³
Time at max STEL: 12:12:32 May 07
Overall Avg Conc: 0.273 mg/m³

Logged Data:

Point	Date	Time	Avg. (mg/m ³)
1	07 May	11:49:02	0.256
2	07 May	11:50:02	0.212
3	07 May	11:51:02	0.133
4	07 May	11:52:02	0.177
5	07 May	11:53:02	0.200
6	07 May	11:54:02	0.124
7	07 May	11:55:02	0.084
8	07 May	11:56:02	0.157
9	07 May	11:57:02	0.166
10	07 May	11:58:02	0.131
11	07 May	11:59:02	0.197
12	07 May	12:00:02	0.232
13	07 May	12:01:02	0.342
14	07 May	12:02:02	0.785
15	07 May	12:03:02	0.489
16	07 May	12:04:02	0.404
17	07 May	12:05:02	0.353
18	07 May	12:06:02	0.265
19	07 May	12:07:02	0.281
20	07 May	12:08:02	0.355
21	07 May	12:09:02	0.199
22	07 May	12:10:02	0.277
23	07 May	12:11:02	0.423
24	07 May	12:12:02	0.327

PDR-1000 S/N: 00000

Tag Number: 04

Number of logged points: 170

Start time and date: 09:11:43 08-May

Elapsed time: 02:50:00

Logging period (sec): 60

Calibration Factor (%): 100

Max Display Concentration: 2.147 mg/m³

Time at maximum: 09:46:31 May 08

Max STEL Concentration: 0.175 mg/m³

Time at max STEL: 11:04:13 May 08

Overall Avg Conc: 0.081 mg/m³

Logged Data:

Point	Date	Time	Avg. (mg/m ³)
1	08 May	09:12:43	0.026
2	08 May	09:13:43	0.022
3	08 May	09:14:43	0.027
4	08 May	09:15:43	0.039
5	08 May	09:16:43	0.025
6	08 May	09:17:43	0.028
7	08 May	09:18:43	0.071
8	08 May	09:19:43	0.022
9	08 May	09:20:43	0.028
10	08 May	09:21:43	0.018
11	08 May	09:22:43	0.015
12	08 May	09:23:43	0.033
13	08 May	09:24:43	0.036
14	08 May	09:25:43	0.033
15	08 May	09:26:43	0.016
16	08 May	09:27:43	0.013
17	08 May	09:28:43	0.024
18	08 May	09:29:43	0.022
19	08 May	09:30:43	0.026
20	08 May	09:31:43	0.058
21	08 May	09:32:43	0.029
22	08 May	09:33:43	0.021
23	08 May	09:34:43	0.033
24	08 May	09:35:43	0.034
25	08 May	09:36:43	0.018
26	08 May	09:37:43	0.016
27	08 May	09:38:43	0.029
28	08 May	09:39:43	0.022
29	08 May	09:40:43	0.029
30	08 May	09:41:43	0.035
31	08 May	09:42:43	0.051
32	08 May	09:43:43	0.068
33	08 May	09:44:43	0.038
34	08 May	09:45:43	0.569
35	08 May	09:46:43	0.536
36	08 May	09:47:43	0.126
37	08 May	09:48:43	0.051
38	08 May	09:49:43	0.048
39	08 May	09:50:43	0.039
40	08 May	09:51:43	0.027
41	08 May	09:52:43	0.041
42	08 May	09:53:43	0.041
43	08 May	09:54:43	0.038
44	08 May	09:55:43	0.051
45	08 May	09:56:43	0.076
46	08 May	09:57:43	0.038
47	08 May	09:58:43	0.095
48	08 May	09:59:43	0.068
49	08 May	10:00:43	0.119
50	08 May	10:01:43	0.093
51	08 May	10:02:43	0.112
52	08 May	10:03:43	0.074
53	08 May	10:04:43	0.096
54	08 May	10:05:43	0.064
55	08 May	10:06:43	0.114
56	08 May	10:07:43	0.100
57	08 May	10:08:43	0.061

58,	08	May,	10:09:43,	0.098
59,	08	May,	10:10:43,	0.124
60,	08	May,	10:11:43,	0.134
61,	08	May,	10:12:43,	0.182
62,	08	May,	10:13:43,	0.123
63,	08	May,	10:14:43,	0.125
64,	08	May,	10:15:43,	0.117
65,	08	May,	10:16:43,	0.083
66,	08	May,	10:17:43,	0.088
67,	08	May,	10:18:43,	0.088
68,	08	May,	10:19:43,	0.064
69,	08	May,	10:20:43,	0.063
70,	08	May,	10:21:43,	0.059
71,	08	May,	10:22:43,	0.047
72,	08	May,	10:23:43,	0.075
73,	08	May,	10:24:43,	0.124
74,	08	May,	10:25:43,	0.074
75,	08	May,	10:26:43,	0.053
76,	08	May,	10:27:43,	0.070
77,	08	May,	10:28:43,	0.087
78,	08	May,	10:29:43,	0.069
79,	08	May,	10:30:43,	0.060
80,	08	May,	10:31:43,	0.061
81,	08	May,	10:32:43,	0.103
82,	08	May,	10:33:43,	0.078
83,	08	May,	10:34:43,	0.068
84,	08	May,	10:35:43,	0.114
85,	08	May,	10:36:43,	0.084
86,	08	May,	10:37:43,	0.057
87,	08	May,	10:38:43,	0.097
88,	08	May,	10:39:43,	0.070
89,	08	May,	10:40:43,	0.066
90,	08	May,	10:41:43,	0.073
91,	08	May,	10:42:43,	0.069
92,	08	May,	10:43:43,	0.053
93,	08	May,	10:44:43,	0.041
94,	08	May,	10:45:43,	0.054
95,	08	May,	10:46:43,	0.055
96,	08	May,	10:47:43,	0.057
97,	08	May,	10:48:43,	0.043
98,	08	May,	10:49:43,	0.264
99,	08	May,	10:50:43,	0.213
100,	08	May,	10:51:43,	0.196
101,	08	May,	10:52:43,	0.093
102,	08	May,	10:53:43,	0.334
103,	08	May,	10:54:43,	0.266
104,	08	May,	10:55:43,	0.174
105,	08	May,	10:56:43,	0.182
106,	08	May,	10:57:43,	0.214
107,	08	May,	10:58:43,	0.151
108,	08	May,	10:59:43,	0.103
109,	08	May,	11:00:43,	0.073
110,	08	May,	11:01:43,	0.097
111,	08	May,	11:02:43,	0.151
112,	08	May,	11:03:43,	0.080
113,	08	May,	11:04:43,	0.136
114,	08	May,	11:05:43,	0.075
115,	08	May,	11:06:43,	0.090
116,	08	May,	11:07:43,	0.080
117,	08	May,	11:08:43,	0.043
118,	08	May,	11:09:43,	0.060
119,	08	May,	11:10:43,	0.100
120,	08	May,	11:11:43,	0.110
121,	08	May,	11:12:43,	0.122
122,	08	May,	11:13:43,	0.079
123,	08	May,	11:14:43,	0.039
124,	08	May,	11:15:43,	0.065
125,	08	May,	11:16:43,	0.059
126,	08	May,	11:17:43,	0.059
127,	08	May,	11:18:43,	0.084
128,	08	May,	11:19:43,	0.070

129,	08 May,	11:20:43,	0.085
130,	08 May,	11:21:43,	0.234
131,	08 May,	11:22:43,	0.107
132,	08 May,	11:23:43,	0.065
133,	08 May,	11:24:43,	0.048
134,	08 May,	11:25:43,	0.056
135,	08 May,	11:26:43,	0.035
136,	08 May,	11:27:43,	0.043
137,	08 May,	11:28:43,	0.031
138,	08 May,	11:29:43,	0.348
139,	08 May,	11:30:43,	0.218
140,	08 May,	11:31:43,	0.107
141,	08 May,	11:32:43,	0.127
142,	08 May,	11:33:43,	0.091
143,	08 May,	11:34:43,	0.068
144,	08 May,	11:35:43,	0.063
145,	08 May,	11:36:43,	0.066
146,	08 May,	11:37:43,	0.043
147,	08 May,	11:38:43,	0.044
148,	08 May,	11:39:43,	0.034
149,	08 May,	11:40:43,	0.034
150,	08 May,	11:41:43,	0.032
151,	08 May,	11:42:43,	0.052
152,	08 May,	11:43:43,	0.040
153,	08 May,	11:44:43,	0.032
154,	08 May,	11:45:43,	0.029
155,	08 May,	11:46:43,	0.048
156,	08 May,	11:47:43,	0.042
157,	08 May,	11:48:43,	0.033
158,	08 May,	11:49:43,	0.027
159,	08 May,	11:50:43,	0.027
160,	08 May,	11:51:43,	0.025
161,	08 May,	11:52:43,	0.024
162,	08 May,	11:53:43,	0.030
163,	08 May,	11:54:43,	0.023
164,	08 May,	11:55:43,	0.024
165,	08 May,	11:56:43,	0.033
166,	08 May,	11:57:43,	0.296
167,	08 May,	11:58:43,	0.157
168,	08 May,	11:59:43,	0.041
169,	08 May,	12:00:43,	0.052
170,	08 May,	12:01:43,	0.083

Measurement Type:	Min (ppm)	Avg (ppm)	Max (ppm)
High Alarm Levels:	100.0	100.0	100.0
Low Alarm Levels:	50.0	50.0	50.0

Line #	Date	Time	Min (ppm)	Avg (ppm)	Max (ppm)
1	05/14/14	07:33	-----	0.1	0.4
2	05/14/14	07:34	-----	0.2	0.6
3	05/14/14	07:35	-----	0.2	0.6
4	05/14/14	07:36	-----	0.2	1.1
5	05/14/14	07:37	-----	0.2	0.8
6	05/14/14	07:38	-----	0.3	1.0
7	05/14/14	07:39	-----	0.3	1.0
8	05/14/14	07:40	-----	0.2	1.0
9	05/14/14	07:41	-----	0.4	1.1
10	05/14/14	07:42	-----	0.3	1.2
11	05/14/14	07:43	-----	0.2	1.0
12	05/14/14	07:44	-----	0.3	1.1
13	05/14/14	07:45	-----	0.2	1.0
14	05/14/14	07:46	-----	0.3	1.1
15	05/14/14	07:47	-----	0.1	0.9
16	05/14/14	07:48	-----	0.1	0.9
17	05/14/14	07:49	-----	0.1	0.6
18	05/14/14	07:50	-----	0.0	0.5
19	05/14/14	07:51	-----	0.0	0.4
20	05/14/14	07:52	-----	0.0	0.4
21	05/14/14	07:53	-----	0.0	0.3
22	05/14/14	07:54	-----	0.0	0.4
23	05/14/14	07:55	-----	0.0	0.3
24	05/14/14	07:56	-----	0.0	0.2
25	05/14/14	07:57	-----	0.0	0.2
26	05/14/14	07:58	-----	0.0	0.2
27	05/14/14	07:59	-----	0.0	0.2
28	05/14/14	08:00	-----	0.0	0.2
29	05/14/14	08:01	-----	0.0	0.2
30	05/14/14	08:02	-----	0.0	0.2
31	05/14/14	08:03	-----	0.0	0.2
32	05/14/14	08:04	-----	0.0	0.2
33	05/14/14	08:05	-----	0.0	0.2
34	05/14/14	08:06	-----	0.0	0.2
35	05/14/14	08:07	-----	0.0	0.1
36	05/14/14	08:08	-----	0.0	0.1
37	05/14/14	08:09	-----	0.0	0.2
38	05/14/14	08:10	-----	0.0	0.1
39	05/14/14	08:11	-----	0.0	0.2
40	05/14/14	08:12	-----	0.0	0.2
41	05/14/14	08:13	-----	0.0	0.1
42	05/14/14	08:14	-----	0.0	0.1
43	05/14/14	08:15	-----	0.0	0.1
44	05/14/14	08:16	-----	0.0	0.1
45	05/14/14	08:17	-----	0.0	0.1
46	05/14/14	08:18	-----	0.0	0.1
47	05/14/14	08:19	-----	0.0	0.1
48	05/14/14	08:20	-----	0.0	0.1
49	05/14/14	08:21	-----	0.0	0.1
50	05/14/14	08:22	-----	0.0	0.1
51	05/14/14	08:23	-----	0.0	0.1
52	05/14/14	08:24	-----	0.0	0.1
53	05/14/14	08:25	-----	0.0	0.1
54	05/14/14	08:26	-----	0.0	0.1
55	05/14/14	08:27	-----	0.0	0.1
56	05/14/14	08:28	-----	0.0	0.1
57	05/14/14	08:29	-----	0.0	0.1
58	05/14/14	08:30	-----	0.0	0.1

59	05/14/14	08:31	-----	0.0	0.1
60	05/14/14	08:32	-----	0.0	0.1
61	05/14/14	08:33	-----	0.0	0.1
62	05/14/14	08:34	-----	0.0	0.1
63	05/14/14	08:35	-----	0.0	0.1
64	05/14/14	08:36	-----	0.0	0.1
65	05/14/14	08:37	-----	0.0	0.1
66	05/14/14	08:38	-----	0.0	0.1
67	05/14/14	08:39	-----	0.0	0.1
68	05/14/14	08:40	-----	0.0	0.1
69	05/14/14	08:41	-----	0.0	0.1
70	05/14/14	08:42	-----	0.0	0.1
71	05/14/14	08:43	-----	0.0	0.1
72	05/14/14	08:44	-----	0.0	0.1
73	05/14/14	08:45	-----	0.0	0.1
74	05/14/14	08:46	-----	0.0	0.1
75	05/14/14	08:47	-----	0.0	0.2
76	05/14/14	08:48	-----	0.0	0.1
77	05/14/14	08:49	-----	0.0	0.1
78	05/14/14	08:50	-----	0.0	0.2
79	05/14/14	08:51	-----	0.0	0.1
80	05/14/14	08:52	-----	0.0	0.2
81	05/14/14	08:53	-----	0.0	0.1
82	05/14/14	08:54	-----	0.0	0.2
83	05/14/14	08:55	-----	0.0	0.1
84	05/14/14	08:56	-----	0.0	0.1
85	05/14/14	08:57	-----	0.0	0.1
86	05/14/14	08:58	-----	0.0	0.2
87	05/14/14	08:59	-----	0.0	0.2
88	05/14/14	09:00	-----	0.1	0.3
89	05/14/14	09:01	-----	0.1	0.3
90	05/14/14	09:02	-----	0.3	0.7
91	05/14/14	09:03	-----	0.2	0.4
92	05/14/14	09:04	-----	0.1	0.3
93	05/14/14	09:05	-----	0.1	0.2
94	05/14/14	09:06	-----	0.3	1.8
95	05/14/14	09:07	-----	0.2	0.5
96	05/14/14	09:08	-----	0.1	0.4
97	05/14/14	09:09	-----	0.0	0.2
98	05/14/14	09:10	-----	0.0	0.2
99	05/14/14	09:11	-----	0.0	0.2
100	05/14/14	09:12	-----	0.0	0.3
101	05/14/14	09:13	-----	0.0	0.3
102	05/14/14	09:14	-----	0.1	0.4
103	05/14/14	09:15	-----	0.2	0.6
104	05/14/14	09:16	-----	0.2	0.7
105	05/14/14	09:17	-----	0.3	0.6
106	05/14/14	09:18	-----	0.2	0.6
107	05/14/14	09:19	-----	0.2	0.5
108	05/14/14	09:20	-----	0.1	0.4
109	05/14/14	09:21	-----	0.1	0.4
110	05/14/14	09:22	-----	0.6	2.6
111	05/14/14	09:23	-----	1.5	1.9
112	05/14/14	09:24	-----	1.6	2.0
113	05/14/14	09:25	-----	1.3	1.5
114	05/14/14	09:26	-----	1.3	1.5
115	05/14/14	09:27	-----	1.3	1.4
116	05/14/14	09:28	-----	1.1	1.3
117	05/14/14	09:29	-----	1.1	1.4
118	05/14/14	09:30	-----	1.0	1.2
119	05/14/14	09:31	-----	0.9	1.3
120	05/14/14	09:32	-----	1.0	1.3
121	05/14/14	09:33	-----	1.2	1.5
122	05/14/14	09:34	-----	1.3	1.5
123	05/14/14	09:35	-----	1.1	1.3
124	05/14/14	09:36	-----	1.3	1.4
125	05/14/14	09:37	-----	1.0	1.3
126	05/14/14	09:38	-----	1.0	1.2
127	05/14/14	09:39	-----	1.0	1.4

128	05/14/14	09:40	-----	0.7	0.9
129	05/14/14	09:41	-----	0.8	1.0
130	05/14/14	09:42	-----	0.7	1.0
131	05/14/14	09:43	-----	1.1	1.3
132	05/14/14	09:44	-----	1.3	1.6
133	05/14/14	09:45	-----	1.3	1.5
134	05/14/14	09:46	-----	1.3	2.2
135	05/14/14	09:47	-----	1.6	2.1
136	05/14/14	09:48	-----	1.2	1.6
137	05/14/14	09:49	-----	1.1	1.6
138	05/14/14	09:50	-----	1.3	1.8
139	05/14/14	09:51	-----	1.0	1.6
140	05/14/14	09:52	-----	1.4	2.0
141	05/14/14	09:53	-----	1.1	2.0
142	05/14/14	09:54	-----	1.5	2.0
143	05/14/14	09:55	-----	1.0	1.4
144	05/14/14	09:56	-----	0.9	4.7
145	05/14/14	09:57	-----	0.0	0.3
146	05/14/14	09:58	-----	0.1	3.1
147	05/14/14	09:59	-----	1.6	6.0
148	05/14/14	10:00	-----	14.6	22.0
149	05/14/14	10:01	-----	344.5 H	6466.0 H
150	05/14/14	10:02	-----	8.2	13.5
151	05/14/14	10:03	-----	4.9	7.1
152	05/14/14	10:04	-----	3.5	4.3
153	05/14/14	10:05	-----	2.8	5.0
154	05/14/14	10:06	-----	1.8	2.9
155	05/14/14	10:07	-----	0.9	4.0
156	05/14/14	10:08	-----	0.6	0.9
157	05/14/14	10:09	-----	0.6	1.1
158	05/14/14	10:10	-----	0.4	0.7
159	05/14/14	10:11	-----	0.4	0.8
160	05/14/14	10:12	-----	0.4	0.7
161	05/14/14	10:13	-----	0.4	0.9
162	05/14/14	10:14	-----	0.4	0.6
163	05/14/14	10:15	-----	0.3	0.5
164	05/14/14	10:16	-----	0.6	3.9
165	05/14/14	10:17	-----	1.3	1.7
166	05/14/14	10:18	-----	1.2	2.7
167	05/14/14	10:19	-----	3.6	5.6
168	05/14/14	10:20	-----	4.5	6.4
169	05/14/14	10:21	-----	3.8	5.2
170	05/14/14	10:22	-----	5.1	6.1
171	05/14/14	10:23	-----	5.1	6.1
172	05/14/14	10:24	-----	4.3	5.7
173	05/14/14	10:25	-----	4.0	4.8
174	05/14/14	10:26	-----	4.3	5.0
175	05/14/14	10:27	-----	4.4	6.3
176	05/14/14	10:28	-----	2.5	5.2
177	05/14/14	10:29	-----	2.8	6.0
178	05/14/14	10:30	-----	2.7	4.3
179	05/14/14	10:31	-----	1.8	3.1
180	05/14/14	10:32	-----	1.1	2.4
181	05/14/14	10:33	-----	1.2	2.2
182	05/14/14	10:34	-----	3.2	4.8
183	05/14/14	10:35	-----	4.0	5.8
184	05/14/14	10:36	-----	4.0	6.5
185	05/14/14	10:37	-----	3.3	4.8
186	05/14/14	10:38	-----	1.7	3.1
187	05/14/14	10:39	-----	1.3	1.6
188	05/14/14	10:40	-----	1.3	1.6
189	05/14/14	10:41	-----	1.5	2.1
190	05/14/14	10:42	-----	1.9	2.3
191	05/14/14	10:43	-----	2.0	2.5
192	05/14/14	10:44	-----	2.1	2.3
193	05/14/14	10:45	-----	1.9	2.3

PDR-1000 S/N: 00000

Tag Number: 01

Number of logged points: 190

Start time and date: 07:21:10 14-May

Elapsed time: 03:10:00

Logging period (sec): 60

Calibration Factor (%): 100

Max Display Concentration: 1.125 mg/m³

Time at maximum: 07:46:02 May 14

Max STEL Concentration: 0.114 mg/m³

Time at max STEL: 09:10:40 May 14

Overall Avg Conc: 0.066 mg/m³

Logged Data:

Point	Date	Time	Avg. (mg/m ³)
1	14 May	07:22:10	0.143
2	14 May	07:23:10	0.028
3	14 May	07:24:10	0.046
4	14 May	07:25:10	0.046
5	14 May	07:26:10	0.037
6	14 May	07:27:10	0.033
7	14 May	07:28:10	0.024
8	14 May	07:29:10	0.024
9	14 May	07:30:10	0.038
10	14 May	07:31:10	0.050
11	14 May	07:32:10	0.045
12	14 May	07:33:10	0.027
13	14 May	07:34:10	0.026
14	14 May	07:35:10	0.031
15	14 May	07:36:10	0.038
16	14 May	07:37:10	0.045
17	14 May	07:38:10	0.075
18	14 May	07:39:10	0.053
19	14 May	07:40:10	0.037
20	14 May	07:41:10	0.041
21	14 May	07:42:10	0.044
22	14 May	07:43:10	0.062
23	14 May	07:44:10	0.043
24	14 May	07:45:10	0.073
25	14 May	07:46:10	0.251
26	14 May	07:47:10	0.045
27	14 May	07:48:10	0.030
28	14 May	07:49:10	0.040
29	14 May	07:50:10	0.041
30	14 May	07:51:10	0.061
31	14 May	07:52:10	0.041
32	14 May	07:53:10	0.201
33	14 May	07:54:10	0.048
34	14 May	07:55:10	0.041
35	14 May	07:56:10	0.045
36	14 May	07:57:10	0.060
37	14 May	07:58:10	0.051
38	14 May	07:59:10	0.050
39	14 May	08:00:10	0.054
40	14 May	08:01:10	0.080
41	14 May	08:02:10	0.069
42	14 May	08:03:10	0.062
43	14 May	08:04:10	0.058
44	14 May	08:05:10	0.078
45	14 May	08:06:10	0.045
46	14 May	08:07:10	0.048
47	14 May	08:08:10	0.053
48	14 May	08:09:10	0.068
49	14 May	08:10:10	0.057
50	14 May	08:11:10	0.043
51	14 May	08:12:10	0.041
52	14 May	08:13:10	0.071
53	14 May	08:14:10	0.064
54	14 May	08:15:10	0.083
55	14 May	08:16:10	0.067
56	14 May	08:17:10	0.042
57	14 May	08:18:10	0.050

58,	14	May,	08:19:10,	0.066
59,	14	May,	08:20:10,	0.068
60,	14	May,	08:21:10,	0.046
61,	14	May,	08:22:10,	0.041
62,	14	May,	08:23:10,	0.040
63,	14	May,	08:24:10,	0.053
64,	14	May,	08:25:10,	0.051
65,	14	May,	08:26:10,	0.076
66,	14	May,	08:27:10,	0.066
67,	14	May,	08:28:10,	0.063
68,	14	May,	08:29:10,	0.054
69,	14	May,	08:30:10,	0.092
70,	14	May,	08:31:10,	0.086
71,	14	May,	08:32:10,	0.077
72,	14	May,	08:33:10,	0.118
73,	14	May,	08:34:10,	0.094
74,	14	May,	08:35:10,	0.092
75,	14	May,	08:36:10,	0.093
76,	14	May,	08:37:10,	0.053
77,	14	May,	08:38:10,	0.069
78,	14	May,	08:39:10,	0.035
79,	14	May,	08:40:10,	0.047
80,	14	May,	08:41:10,	0.054
81,	14	May,	08:42:10,	0.066
82,	14	May,	08:43:10,	0.078
83,	14	May,	08:44:10,	0.060
84,	14	May,	08:45:10,	0.063
85,	14	May,	08:46:10,	0.065
86,	14	May,	08:47:10,	0.063
87,	14	May,	08:48:10,	0.077
88,	14	May,	08:49:10,	0.133
89,	14	May,	08:50:10,	0.080
90,	14	May,	08:51:10,	0.061
91,	14	May,	08:52:10,	0.052
92,	14	May,	08:53:10,	0.061
93,	14	May,	08:54:10,	0.066
94,	14	May,	08:55:10,	0.049
95,	14	May,	08:56:10,	0.089
96,	14	May,	08:57:10,	0.154
97,	14	May,	08:58:10,	0.086
98,	14	May,	08:59:10,	0.135
99,	14	May,	09:00:10,	0.120
100,	14	May,	09:01:10,	0.075
101,	14	May,	09:02:10,	0.146
102,	14	May,	09:03:10,	0.151
103,	14	May,	09:04:10,	0.128
104,	14	May,	09:05:10,	0.054
105,	14	May,	09:06:10,	0.098
106,	14	May,	09:07:10,	0.094
107,	14	May,	09:08:10,	0.173
108,	14	May,	09:09:10,	0.086
109,	14	May,	09:10:10,	0.089
110,	14	May,	09:11:10,	0.114
111,	14	May,	09:12:10,	0.080
112,	14	May,	09:13:10,	0.054
113,	14	May,	09:14:10,	0.125
114,	14	May,	09:15:10,	0.091
115,	14	May,	09:16:10,	0.067
116,	14	May,	09:17:10,	0.051
117,	14	May,	09:18:10,	0.096
118,	14	May,	09:19:10,	0.055
119,	14	May,	09:20:10,	0.058
120,	14	May,	09:21:10,	0.054
121,	14	May,	09:22:10,	0.054
122,	14	May,	09:23:10,	0.060
123,	14	May,	09:24:10,	0.047
124,	14	May,	09:25:10,	0.041
125,	14	May,	09:26:10,	0.065
126,	14	May,	09:27:10,	0.068
127,	14	May,	09:28:10,	0.057
128,	14	May,	09:29:10,	0.078

129,	14	May,	09:30:10,	0.057
130,	14	May,	09:31:10,	0.062
131,	14	May,	09:32:10,	0.049
132,	14	May,	09:33:10,	0.053
133,	14	May,	09:34:10,	0.051
134,	14	May,	09:35:10,	0.027
135,	14	May,	09:36:10,	0.036
136,	14	May,	09:37:10,	0.037
137,	14	May,	09:38:10,	0.043
138,	14	May,	09:39:10,	0.070
139,	14	May,	09:40:10,	0.048
140,	14	May,	09:41:10,	0.159
141,	14	May,	09:42:10,	0.060
142,	14	May,	09:43:10,	0.044
143,	14	May,	09:44:10,	0.033
144,	14	May,	09:45:10,	0.091
145,	14	May,	09:46:10,	0.082
146,	14	May,	09:47:10,	0.169
147,	14	May,	09:48:10,	0.080
148,	14	May,	09:49:10,	0.052
149,	14	May,	09:50:10,	0.039
150,	14	May,	09:51:10,	0.125
151,	14	May,	09:52:10,	0.076
152,	14	May,	09:53:10,	0.052
153,	14	May,	09:54:10,	0.089
154,	14	May,	09:55:10,	0.267
155,	14	May,	09:56:10,	0.103
156,	14	May,	09:57:10,	0.068
157,	14	May,	09:58:10,	0.053
158,	14	May,	09:59:10,	0.036
159,	14	May,	10:00:10,	0.044
160,	14	May,	10:01:10,	0.066
161,	14	May,	10:02:10,	0.119
162,	14	May,	10:03:10,	0.044
163,	14	May,	10:04:10,	0.125
164,	14	May,	10:05:10,	0.074
165,	14	May,	10:06:10,	0.055
166,	14	May,	10:07:10,	0.045
167,	14	May,	10:08:10,	0.059
168,	14	May,	10:09:10,	0.055
169,	14	May,	10:10:10,	0.056
170,	14	May,	10:11:10,	0.074
171,	14	May,	10:12:10,	0.046
172,	14	May,	10:13:10,	0.053
173,	14	May,	10:14:10,	0.063
174,	14	May,	10:15:10,	0.031
175,	14	May,	10:16:10,	0.062
176,	14	May,	10:17:10,	0.035
177,	14	May,	10:18:10,	0.052
178,	14	May,	10:19:10,	0.031
179,	14	May,	10:20:10,	0.037
180,	14	May,	10:21:10,	0.035
181,	14	May,	10:22:10,	0.032
182,	14	May,	10:23:10,	0.022
183,	14	May,	10:24:10,	0.022
184,	14	May,	10:25:10,	0.026
185,	14	May,	10:26:10,	0.074
186,	14	May,	10:27:10,	0.045
187,	14	May,	10:28:10,	0.036
188,	14	May,	10:29:10,	0.050
189,	14	May,	10:30:10,	0.049
190,	14	May,	10:31:10,	0.028

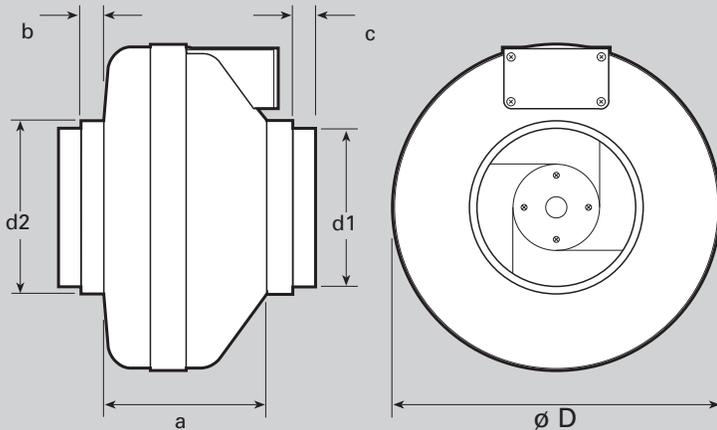
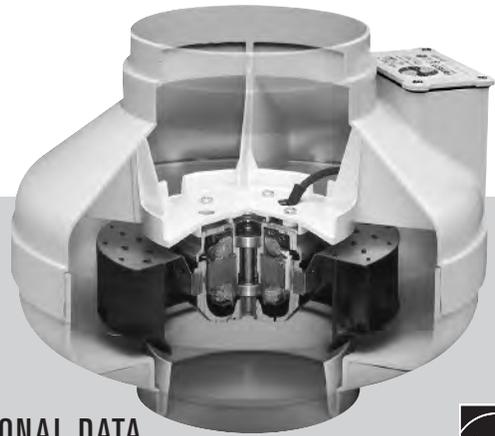
Appendix-D

Heat Vent Fan Specs



FR SERIES

THE ORIGINAL MITIGATOR



DIMENSIONAL DATA

model	øD	d1	d2	a	b	c
FR100	9 1/2	3 7/8	4 7/8	6 1/8	7/8	7/8
FR110	9 1/2	3 7/8	4 7/8	6 1/8	7/8	7/8
FR125	9 1/2	-	4 7/8	6 1/8	7/8	-
FR140	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR150	11 3/4	5 7/8	6 1/4	5 7/8	1	7/8
FR160	11 3/4	5 7/8	6 1/4	6 3/8	1	7/8
FR200	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR225	13 1/4	7 7/8	9 7/8	6 1/4	1 1/2	1 1/2
FR250	13 1/4	-	9 7/8	6 1/4	-	1 1/2

All dimensions in inches



PERFORMANCE DATA

Fan Model	Energy Star	RPM	Volts	Rated Watts	Wattage Range	Max. Amps	CFM vs. Static Pressure in Inches W.G.							Max. Ps	Duct Dia.
							0"	.2"	.4"	.6"	.8"	1.0"	1.5"		
FR100	✓	2950	120	21.2	13 - 22	0.18	137	110	83	60	21	-	-	0.90"	4"
FR125	✓	2950	115	18	15 - 18	0.18	148	120	88	47	-	-	-	0.79"	5"
FR150	✓	2750	120	71	54 - 72	0.67	263	230	198	167	136	106	17	1.58"	6"
FR160	-	2750	115	129	103 - 130	1.14	289	260	233	206	179	154	89	2.32"	6"
FR200	✓	2750	115	122	106 - 128	1.11	408	360	308	259	213	173	72	2.14"	8"
FR225	✓	3100	115	137	111 - 152	1.35	429	400	366	332	297	260	168	2.48"	8"
FR250*	-	2850	115	241	146 - 248	2.40	649	600	553	506	454	403	294	2.58"	10"

FR Series performance is shown with ducted outlet. Per HVI's Certified Ratings Program, charted air flow performance has been derated by a factor based on actual test results and the certified rate at .2 inches WG.
* Also available with B* duct connection. Model FR 250-8. Special Order.

NOTE:

Installations that will result in condensate forming in the outlet ducting should have a condensate bypass installed to route the condensate outside of the fan housing. Conditions that are likely to produce condensate include but are not limited to: outdoor installations in cold climates, long lengths of outlet ducting, high moisture content in soil and thin wall or aluminum outlet ducting. Failure to install a proper condensate bypass may void any warranty claims.

FIVE YEAR WARRANTY

DURING ENTIRE WARRANTY PERIOD:

FANTECH will replace any fan which has a factory defect in workmanship or material. Product may need to be returned to the Fantech factory, together with a copy of the bill of sale and identified with RMA number.

FOR FACTORY RETURN YOU MUST:

- Have a Return Materials Authorization (RMA) number. This may be obtained by calling FANTECH either in the USA at 1.800.747.1762 or in CANADA at 1.800.565.3548. Please have bill of sale available.
- The RMA number must be clearly written on the outside of the carton, or the carton will be refused.
- All parts and/or product will be repaired/replaced and shipped back to buyer; no credit will be issued.

OR

The Distributor may place an order for the warranty fan and is invoiced. The Distributor will receive a credit equal to the invoice only after product is returned prepaid and verified to be defective.

FANTECH WARRANTY TERMS DO NOT PROVIDE FOR REPLACEMENT WITHOUT CHARGE PRIOR TO INSPECTION FOR A DEFECT. REPLACEMENTS ISSUED IN ADVANCE OF DEFECT INSPECTION ARE INVOICED, AND CREDIT IS PENDING INSPECTION OF RETURNED MATERIAL. DEFECTIVE MATERIAL RETURNED BY END USERS SHOULD NOT BE REPLACED BY THE DISTRIBUTOR WITHOUT CHARGE TO THE END USER, AS CREDIT TO DISTRIBUTOR'S ACCOUNT WILL BE PENDING INSPECTION AND VERIFICATION OF ACTUAL DEFECT BY FANTECH.

THE FOLLOWING WARRANTIES DO NOT APPLY:

- Damages from shipping, either concealed or visible. Claim must be filed with freight company.

- Damages resulting from improper wiring or installation.
- Damages or failure caused by acts of God, or resulting from improper consumer procedures, such as:
 1. Improper maintenance
 2. Misuse, abuse, abnormal use, or accident, and
 3. Incorrect electrical voltage or current.
- Removal or any alteration made on the FANTECH label control number or date of manufacture.
- Any other warranty, expressed, implied or written, and to any consequential or incidental damages, loss or property, revenues, or profit, or costs of removal, installation or reinstallation, for any breach of warranty.

WARRANTY VALIDATION

- The user must keep a copy of the bill of sale to verify purchase date.
- These warranties give you specific legal rights, and are subject to an applicable consumer protection legislation. You may have additional rights which vary from state to state.

DISTRIBUTED BY:



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Canada 50 Kanalfakt Way • Bouctouche, NB E4S 3M5 • 1.800.565.3548 • www.fantech.net

Item #: 411741
Rev Date: 021010

Fantech, reserves the right to modify, at any time and without notice, any or all of its products' features, designs, components and specifications to maintain their technological leadership position.

Appendix-E

SSDS Start-up Lab Data



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

**90 Knickerbocker Avenue
Bohemia, NY 11716**

Attn To : Tina Berninger

Collected : 6/27/2014 11:00:00 AM

Received : 6/27/2014 12:50:00 PM 135 Kent Ave Brooklyn

Collected By BER

Lab No. : 1406K71-001

Client Sample ID: Stack Emission

Sample Information:

Type : Air

Origin:

Analytical Method: ETO-15 :

Analyst: KG

<u>Parameter(s)</u>	<u>Results</u>	<u>Qualifier</u>	<u>D.F.</u>	<u>Units</u>	<u>Analyzed:</u>	<u>Container:</u>
1,1,1-Trichloroethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,1,2,2-Tetrachloroethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,1,2-Trichloro-1,2,2-trifluoroethan	0.10	J	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,1,2-Trichloroethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,1-Dichloroethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,1-Dichloroethene	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2,4-Trichlorobenzene	< 0.20	cS	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2,4-Trimethylbenzene	2.26		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2-Dibromoethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2-Dichlorobenzene	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2-Dichloroethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2-Dichloroethene (cis)	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2-Dichloroethene (trans)	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2-Dichloropropane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,2-Dichlorotetrafluoroethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,3,5-Trimethylbenzene	0.71		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,3-Butadiene	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,3-Dichlorobenzene	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,3-Dichloropropene (cis)	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,3-Dichloropropene (trans)	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,3-Hexachlorobutadiene	< 0.20	cS	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
1,4-Dichlorobenzene	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
2,2,4-Trimethylpentane	1.26		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
2-Chlorotoluene	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
4-Ethyltoluene	0.69	+	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Allyl Chloride	< 0.20	+	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Benzene	0.86		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Bromodichloromethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Bromoform	0.04	J	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Bromomethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Carbon disulfide	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Carbon tetrachloride	0.12	J	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = ELAP / NELAC does not offer certification for this analyte
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Kennia Vernard

Test results meet the requirements of NELAC unless otherwise noted.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Date Reported :



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

**90 Knickerbocker Avenue
Bohemia, NY 11716**

Attn To : Tina Berninger

Collected : 6/27/2014 11:00:00 AM

Received : 6/27/2014 12:50:00 PM 135 Kent Ave Brooklyn

Collected By BER

Lab No. : 1406K71-001
Client Sample ID: Stack Emission

Sample Information:

Type : Air

Origin:

Analytical Method: ETO-15 :

Analyst: KG

<u>Parameter(s)</u>	<u>Results</u>	<u>Qualifier</u>	<u>D.F.</u>	<u>Units</u>	<u>Analyzed:</u>	<u>Container:</u>
Chlorobenzene	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Chloroethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Chloroform	0.19	J	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Chloromethane	0.53		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Cyclohexane	1.56		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Dibromochloromethane	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Dichlorodifluoromethane	0.41		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Ethylbenzene	2.62		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Methylene chloride	0.83		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
n-Heptane	3.27		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
n-Hexane	2.05		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Styrene	1.24		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Tetrachloroethene	0.18	J	1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Toluene	8.02		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Trichloroethene	< 0.05		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Trichlorofluoromethane	0.45		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Vinyl bromide	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Vinyl chloride	< 0.20		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Xylenes (m&p)	9.48		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Xylenes (o)	3.18		1	ppbv	06/30/2014 1:11 PM	Container-01 of 01
Surr: 4-Bromofluorobenzene	112		1	%REC	Limit 70-130 06/30/2014 1:11 PM	Container-01 of 01

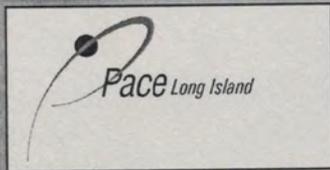
Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = ELAP / NELAC does not offer certification for this analyte
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Kennia Vernate

Test results meet the requirements of NELAC
unless otherwise noted.

This report shall not be reproduced except in full,
without the written approval of the laboratory.

Date Reported :



Pace Analytical Services, Inc.
575 Broadhollow Road
Melville, NY 11747
T: 631-694-3040
F: 631-420-8436
www.h2mlabs.com

Analytical Data Package For:

BERNINGER ENVIRONMENTAL
SDG NO: BER138
Samples Received: 6/27/14

RECEIVED JUL 25 2014

SAMPLE DATA SUMMARY PACKAGE

JUNE 2014

135 Kent Ave

Report to:

Berninger Environmental, Inc.
90 Knickerbocker Avenue
Unit B
Bohemia, NY 11716
ATTN: Tina Berninger



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

1. NYS DEC SUMMARY FORMS

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

SDG: BER138

Analytical Requirements

Customer Sample Code	Laboratory Sample Code	AIR
Stack Emission	1406K71-001	X

CLP, ~~Non-CLP~~ (Please indicate year of protocol)
TCL/TAL, HSL, Priority Pollutant,

ASP B. 2000
BC 7-22-14

BER138 S3

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

SDG: BER138

Laboratory Samp ID	Client Sample ID	Matrix	Analytical Protocol	Date Collected	Date Recd at Lab	Date Extracted	Date Analyzed	Extraction Method	DF	Level	Aux Cleanup
1406K71-001A	Stack Emission	Air	ETO-15	27-Jun-14	27-Jun-14		30-Jun-14		1	LOW	



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

2. CHAIN OF CUSTODY DOCUMENTATION



PACE ANALYTICAL
 575 Broad Hollow Road
 Melville, NY 11747
 TEL: (631) 694-3040 FAX: (631) 420-8436
 Website: www.pacelabs.com

Sample Receipt Checklist

BER138

Client Name **BER**

Date and Time Received: 6/27/2014 12:50:00 PM

Work Order Number: **1406K71**

RcptNo: 1

Received by: **JoshLaedke**

Completed by: *[Signature]*

Reviewed by: *[Signature]*

Completed Date: 6/27/2014 12:59:18 PM

Reviewed Date: 7/2/2014 6:34:18 PM

Carrier name: Client

- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Are matrices correctly identified on Chain of custody? Yes No
- Is it clear what analyses were requested? Yes No
- Custody seals intact on sample bottles? Yes No Not Present
- Samples in proper container/bottle? Yes No
- Were correct preservatives used and noted? Yes No NA
- Preservative added to bottles:
 - Sample Condition? Intact Broken Leaking
 - Sufficient sample volume for indicated test? Yes No
 - Were container labels complete (ID, Pres, Date)? Yes No
 - All samples received within holding time? Yes No
 - Was an attempt made to cool the samples? Yes No NA
 - All samples received at a temp. of > 0° C to 6.0° C? Yes No NA
 - Response when temperature is outside of range:
 - Sample Temp. taken and recorded upon receipt? Yes No To °
 - Water - Were bubbles absent in VOC vials? Yes No No Vials
 - Water - Was there Chlorine Present? Yes No NA
 - Water - pH acceptable upon receipt? Yes No No Water
 - Are Samples considered acceptable? Yes No
 - Custody Seals present? Yes No
 - Airbill or Sticker? Air Bill Sticker Not Present

Case Number:

SDG:

SAS:

Any No response should be detailed in the comments section below, if applicable.

Client Contacted? Yes No NA Person Contacted:
 Contact Mode: Phone: Fax: Email: In Person:
 Client Instructions:
 Date Contacted: Contacted By:
 Regarding:
 Comments:
 sample is air
 CorrectiveAction:

INTERNAL CHAIN OF CUSTODY

CLIENT: BER DELIVERABLES: BO-700 TURN AROUND TIME: 21 DAYS

SDG: BER138 CASE#: _____ MATRIX: AIR pH CHECK Y or N

REMARKS: _____

RECEIVED BY: (Signature) SIGNATURE: (Signature) DATE: 6/27/14 TIME: 12:50

CLIENT SAMPLE ID	LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED
1. Stack Emission	1406R71 -001A	6/27/14	canister	1	TO-15 (SEC)
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

3. SDG NARRATIVES



575 Broad Hollow Road
Melville, NY 11747

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fax 631.420.8436

**SDG NARRATIVE FOR VOLATILE ANALYSES
SAMPLES RECEIVED: 6/27/14
SDG#: BER138**

For Sample(s):

Stack Emission

The canisters for the above air sample(s) was/were analyzed by EPA method TO-15 for a select list of volatile organic analytes.

All Q. C. data and calibrations met the requirements of the method, unless discussed below, and no problems were encountered with sample analysis. The following should be noted:

No matrix spike/matrix spike duplicate (MS/MSD) sample was submitted. A lab fortified blank (LFB) was analyzed, and all percent recoveries were within Q. C. limits except for a 68% recovery for 1,3-hexachlorobutadiene (lower limit 70%) and a 58% recovery for 1,2,4 trichlorobenzene (lower limit 70%).

Tentatively identified compounds (TICs) identified as siloxanes are suspected to be column/septa bleed and were flagged with the qualifier "X".

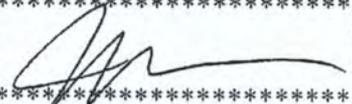
TICs identified as alkanes are not counted as TICs, but they are included in the TIC reports.

Results for targeted analytes are reported in ppbv as well as in $\mu\text{g}/\text{m}^3$, whereas TICs are reported as ppbv.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: July 21, 2014

*
*


Joann M. Slavin
General Manager



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

4. SAMPLE REPORTS
4.1 VOLATILES



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

4.1 VOLATILES



575 Broad Hollow Road
Melville, NY 11747

tel. 631.694.3040
fax. 631.420.8436

QUALIFIERS FOR REPORTING ORGANICS DATA

Value - If the result is a value greater than or equal to the quantification limit, report the value.

U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol (300 U) would be corrected to:

$$\frac{(300 \text{ U})}{D} \times \text{df where } D = \frac{100\% \text{ moisture}}{100}$$

and df - dilution factor

$$\text{For example, at 24\% moisture, } D = \frac{100 - 24}{100} = 0.76$$

$$\frac{(300 \text{ U})}{.76} \times 10 = 4300 \text{ U rounded to the appropriate number of significant figures}$$

For semivolatiles soil samples, the extract must be concentrated to 0.5 mL, and the sensitivity of the analysis is not compromised by the cleanup procedures. Similarly, pesticide samples subjected to GPC are concentrated to 5.0 mL. Therefore, the CRQL values in Exhibit C will apply to all samples, regardless of cleanup. However, if a sample extract cannot be concentrated to the protocol-specified volume (see Exhibit C), this fact must be accounted for in reporting the sample quantitation limit.

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicates the presence of a compound that meets the identification criteria but the result is less than the specified quantification limit but greater than zero. (e.g.: If limit of quantification is 10 ug/L and a concentration of 3 ug/L is calculated, report as 3J.) The sample quantitation limit must be adjusted for dilution as discussed for the U flag.

N - Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds, where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.

P - This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns (see Form X). The lower of the two values is reported of Form I with a "P".

C - This flag applies to pesticide results when the identification has been confirmed by GC/MS. If GC/MS confirmation was attempted but was unsuccessful, do not apply this flag, instead use a Laboratory defined flag, discussed below.

Pace Analytical

575 Broad Hollow Road, Melville, NY 11747
 TEL: (631) 694-3040 FAX: (631) 420-8436
 NYSDOH ID#10478 www.pacelabs.com

Berninger Environmental, Inc.

90 Knickerbocker Avenue
 Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 6/27/2014 11:00:00 AM

Received : 6/27/2014 12:50:00 PM 135 Kent Ave Brooklyn

Collected By BER

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Sample Information:

Type : Air

Lab No. : 1406K71-001

Client Sample ID: Stack Emission

Origin:

Method: ETO-15 :

Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	06/30/2014 1:11 PM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	06/30/2014 1:11 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	0.10	ppbv	J	1	0.77	µg/m³	06/30/2014 1:11 PM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	06/30/2014 1:11 PM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	06/30/2014 1:11 PM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	06/30/2014 1:11 PM
1,2,4-Trichlorobenzene	< 0.20	ppbv	cS	1	< 1.48	µg/m³	06/30/2014 1:11 PM
1,2,4-Trimethylbenzene	2.26	ppbv		1	11.1	µg/m³	06/30/2014 1:11 PM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	06/30/2014 1:11 PM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	06/30/2014 1:11 PM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	06/30/2014 1:11 PM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	06/30/2014 1:11 PM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	06/30/2014 1:11 PM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	06/30/2014 1:11 PM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	06/30/2014 1:11 PM
1,3,5-Trimethylbenzene	0.71	ppbv		1	3.49	µg/m³	06/30/2014 1:11 PM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	06/30/2014 1:11 PM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	06/30/2014 1:11 PM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	06/30/2014 1:11 PM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	06/30/2014 1:11 PM
1,3-Hexachlorobutadiene	< 0.20	ppbv	cS	1	< 2.13	µg/m³	06/30/2014 1:11 PM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	06/30/2014 1:11 PM
2,2,4-Trimethylpentane	1.26	ppbv		1	5.89	µg/m³	06/30/2014 1:11 PM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	06/30/2014 1:11 PM
4-Ethyltoluene	0.69	ppbv	+	1	3.39	µg/m³	06/30/2014 1:11 PM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	06/30/2014 1:11 PM
Benzene	0.86	ppbv		1	2.75	µg/m³	06/30/2014 1:11 PM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	06/30/2014 1:11 PM
Bromoform	< 0.20	ppbv		1	< 2.07	µg/m³	06/30/2014 1:11 PM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	06/30/2014 1:11 PM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	06/30/2014 1:11 PM
Carbon tetrachloride	0.12	ppbv	J	1	0.76	µg/m³	06/30/2014 1:11 PM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	06/30/2014 1:11 PM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	06/30/2014 1:11 PM
Chloroform	0.19	ppbv	J	1	0.93	µg/m³	06/30/2014 1:11 PM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Joann M. Slavins
 Laboratory Manager

Test results meet the requirements of NELAC unless otherwise noted.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Date Reported : 7/22/2014



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 6/27/2014 11:00:00 AM

Received : 6/27/2014 12:50:00 PM 135 Kent Ave Brooklyn

Collected By BER

Lab No. : 1406K71-001

Client Sample ID: Stack Emission

Sample Information:

Type : Air

Origin:

Method: ETO-15 :							
Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.53	ppbv		1	1.09	µg/m³	06/30/2014 1:11 PM
Cyclohexane	1.56	ppbv		1	5.37	µg/m³	06/30/2014 1:11 PM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	06/30/2014 1:11 PM
Dichlorodifluoromethane	0.41	ppbv		1	2.03	µg/m³	06/30/2014 1:11 PM
Ethylbenzene	2.62	ppbv		1	11.4	µg/m³	06/30/2014 1:11 PM
Methylene chloride	0.83	ppbv		1	3.22	µg/m³	06/30/2014 1:11 PM
n-Heptane	3.27	ppbv		1	13.4	µg/m³	06/30/2014 1:11 PM
n-Hexane	2.05	ppbv		1	7.22	µg/m³	06/30/2014 1:11 PM
Styrene	1.24	ppbv		1	5.28	µg/m³	06/30/2014 1:11 PM
Tetrachloroethene	0.18	ppbv	J	1	1.22	µg/m³	06/30/2014 1:11 PM
Toluene	8.02	ppbv		1	30.2	µg/m³	06/30/2014 1:11 PM
Trichloroethene	< 0.05	ppbv		1	< 0.25	µg/m³	06/30/2014 1:11 PM
Trichlorofluoromethane	0.45	ppbv		1	2.53	µg/m³	06/30/2014 1:11 PM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	06/30/2014 1:11 PM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	06/30/2014 1:11 PM
Xylenes (m&p)	9.48	ppbv		1	41.2	µg/m³	06/30/2014 1:11 PM
Xylenes (o)	3.18	ppbv		1	13.8	µg/m³	06/30/2014 1:11 PM
Surr: 4-Bromofluorobenzene	112	%REC	Limit	70-130	No M.W. Data		06/30/2014 1:11 PM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Joann M. Slavicek
 Laboratory Manager

Test results meet the requirements of NELAC unless otherwise noted.
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Date Reported : 7/22/2014

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Stack Emission

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: BER

SAS No.: _____

SDG No.: BER138

Matrix: (soil/water)

AIRLab Sample ID: 1406K71-001ASample wt/vol: 400

(g/mL)

Lab File ID: 4\I13077.DLevel: (low/med) LOWDate Received: 06/27/14

% Moisture: not dec.

Date Analyzed: 06/30/14GC Column: Rxi-1MSID: .32 (mm)Dilution Factor: 1.00

Soil Extract Volume:

(μ l)Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found:

4

(μ g/L or μ g/Kg)ML

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	3.98	2.2	J
2.	unknown alkene	4.15	2.8	J
3. 000067-63-0	Isopropyl Alcohol (5.3)	5.32	2.4	JN
4.	(DEL) Alkane: Straight-Chain (5.57)	5.57	1.8	J
5. 001066-40-6	Silanol, trimethyl-	7.04	4.3	JN
6.	(DEL) Alkane: Branched (7.21)	7.21	1.6	J
7. 000109-99-9	Furan, tetrahydro- (8.5)	8.58	5.5	JN
8.	(DEL) Alkane: Branched (10.1)	10.10	3.1	J
9.	(DEL) Alkane: Branched (10.18)	10.18	1.9	J
10.	(DEL) Alkane: Branched (10.37)	10.37	4.3	J
11. 000108-87-2	Cyclohexane, methyl-	11.74	11	JN
12.	(DEL) Alkane: Branched (12.05)	12.05	2.0	J
13.	(DEL) Alkane: Branched (13.13)	13.13	2.3	J
14.	(DEL) Alkane: Straight-Chain (13.8)	13.80	4.0	J
15.	(DEL) Alkane: Branched (17.58)	17.58	1.8	J
16.	(DEL) Alkane: Branched (17.63)	17.63	5.0	J
17.	(DEL) Alkane: Branched (17.83)	17.83	2.1	J
18.	(DEL) Alkane: Straight-Chain (18.11)	18.11	18	J
19.	(DEL) Alkane: Branched (20.62)	20.62	2.0	J
20.	(DEL) Alkane: Straight-Chain (20.96)	20.96	4.4	J

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK062914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER138

Matrix: (soil/water) AIR Lab Sample ID: VBLK062914

Sample wt/vol: 400 (g/mL) Lab File ID: 4\I13052.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. Date Analyzed: 06/29/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>ML</u>	<u>Q</u>
75-71-8	Dichlorodifluoromethane	0.2	U
76-14-2	1,2-Dichlorotetrafluoroethane	0.2	U
74-87-3	Chloromethane	0.2	U
106-99-0	1,3-Butadiene	0.2	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl chloride	0.2	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene chloride	0.2	U
107-05-1	Allyl Chloride	0.2	U
593-60-2	Vinyl bromide	0.2	U
75-15-0	Carbon disulfide	0.2	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroethane	0.2	U
75-35-4	1,1-Dichloroethene	0.2	U
75-34-3	1,1-Dichloroethane	0.2	U
75-69-4	Trichlorofluoromethane	0.2	U
110-54-3	n-Hexane	0.2	U
156-60-5	1,2-Dichloroethene (trans)	0.2	U
156-59-2	1,2-Dichloroethene (cis)	0.2	U
67-66-3	Chloroform	0.2	U
107-06-2	1,2-Dichloroethane	0.2	U
71-55-6	1,1,1-Trichloroethane	0.2	U
110-82-7	Cyclohexane	0.2	U
56-23-5	Carbon tetrachloride	0.2	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.2	U
540-84-1	2,2,4-Trimethylpentane	0.2	U
10061-01-5	1,3-Dichloropropene (cis)	0.2	U
79-01-6	Trichloroethene	0.05	U
71-43-2	Benzene	0.2	U
124-48-1	Dibromochloromethane	0.2	U
10061-02-6	1,3-Dichloropropene (trans)	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
75-25-2	Bromoform	0.2	U
142-82-5	n-Heptane	0.2	U
106-93-4	1,2-Dibromoethane	0.2	U



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

5. SURROGATE SPIKE ANALYSIS RESULTS
5.1 VOLATILES

SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478

Case No.: BER

SAS No.: _____

SDG No.: BER138

	EPA SAMPLE NO.	1 BFB#							TOT OUT
01	VBLK062914	107							0
02	LFB062914	116							0
03	Stack Emission	112							0

QC Limit

1 BFB = 4-Bromofluorobenzene 70-130

Column to be used to flag recovery values

* Values outside of contract required QC limits



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

6. MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY
6.1 VOLATILES

3A
SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER138
 Sample ID LFB062914 Level: (low/med) LOW
 Column ID Rxi-1MS Column Diam .32
 Inst. ID HP5973I Init. Calib. Date(s): 04/10/14 16:14
 Analysis Date: 06/29/14 18:43 04/11/14 0:31

COMPOUND	SPIKE ADDED (ppbv)	SAMPLE CONCENTRATION (ppbv)	SPIKE CONCENTRATION (ppbv)	SPIKE % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	10	0	11.7	117	70-130
1,2-Dichlorotetrafluoroethane	10	0	10.9	109	70-130
Chloromethane	10	0	12.3	123	70-130
1,3-Butadiene	10	0	11.6	116	70-130
Bromomethane	10	0	12.4	124	70-130
Vinyl chloride	10	0	12.2	122	70-130
Chloroethane	10	0	11.6	116	70-130
Methylene chloride	10	0	7.92	79	70-130
Allyl Chloride	10	0	11.9	119	70-130
Vinyl bromide	10	0	12.1	121	70-130
Acetone	10	0	10.8	108	70-130
Carbon disulfide	10	0	12.9	129	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	10	0	11	110	70-130
1,1-Dichloroethene	10	0	11.5	115	70-130
1,1-Dichloroethane	10	0	11.7	117	70-130
Trichlorofluoromethane	10	0	11.6	116	70-130
n-Hexane	10	0	11.4	114	70-130
Vinyl acetate	10	0	11.4	114	70-130
Methyl tert-butyl ether	10	0	10.9	109	70-130
1,2-Dichloroethene (trans)	10	0	11.8	118	70-130
1,2-Dichloroethene (cis)	10	0	11.3	113	70-130
Methyl ethyl ketone	10	0	10.4	104	70-130
Chloroform	10	0	11.3	113	70-130
1,2-Dichloroethane	10	0	11.4	114	70-130
1,1,1-Trichloroethane	10	0	12.1	121	70-130
Cyclohexane	10	0	12.1	121	70-130
Carbon tetrachloride	10	0	12.2	122	70-130
Bromodichloromethane	10	0	11.2	112	70-130
1,2-Dichloropropane	10	0	11.4	114	70-130
2,2,4-Trimethylpentane	10	0	12.3	123	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 2 out of 58 outside limits

COMMENTS: _____

3A
SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER138
 Sample ID LFB062914 Level: (low/med) LOW
 Column ID Rxi-1MS Column Diam .32
 Inst. ID HP5973I Init. Calib. Date(s): 04/10/14 16:14
 Analysis Date: 06/29/14 18:43 04/11/14 0:31

1,3-Dichloropropene (cis)	10	0	11.2	112	70-130
Trichloroethene	10	0	10.3	103	70-130
Benzene	10	0	11.2	112	70-130
Dibromochloromethane	10	0	10	100	70-130
1,3-Dichloropropene (trans)	10	0	10.9	109	70-130
1,1,2-Trichloroethane	10	0	10.4	104	70-130
Bromoform	10	0	9.04	90	70-130
n-Heptane	10	0	11.3	113	70-130
Methyl isobutyl ketone	10	0	8.91	89	70-130
Methyl butyl ketone	10	0	8.36	84	70-130
1,2-Dibromoethane	10	0	10.2	102	70-130
Tetrachloroethene	10	0	8.76	88	70-130
1,1,2,2-Tetrachloroethane	10	0	10.2	102	70-130
Toluene	10	0	10.9	109	70-130
Chlorobenzene	10	0	9.62	96	70-130
Ethylbenzene	10	0	10.6	106	70-130
Styrene	10	0	9.8	98	70-130
Xylenes (m&p)	20	0	21	105	70-130
Xylenes (o)	10	0	10.7	107	70-130
2-Chlorotoluene	10	0	9.76	98	70-130
4-Ethyltoluene	10	0	9.75	98	70-130
1,3,5-Trimethylbenzene	10	0	9.8	98	70-130
1,2,4-Trimethylbenzene	10	0	9.72	97	70-130
1,3-Dichlorobenzene	10	0	8.34	83	70-130
1,4-Dichlorobenzene	10	0	8.06	81	70-130
1,2-Dichlorobenzene	10	0	8.09	81	70-130
1,3-Hexachlorobutadiene	10	0	6.77	68*	70-130
1,2,4-Trichlorobenzene	10	0	5.8	58*	70-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 2 out of 58 outside limits

COMMENTS: _____



575 Broad Hollow Road
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7. BLANK SUMMARY DATA AND RESULTS
7.1 VOLATILES

METHOD BLANK SUMMARY

VBLK062914

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478

Case No.: BER

SAS No.: _____

SDG No.: BER138

Lab File ID: 4\I13052.D

Lab Sample ID: VBLK062914

Date Analyzed: 6/29/2014

Time Analyzed: 18:00

GC Column: Rxi-1MS ID: .32 (mm)

Heated Purge: (Y/N) N

Instrument ID: HP5973I

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	LFB062914	LFB062914	4\I13053.D	18:43
02	Stack Emission	1406K71-001A	4\I13077.D	13:11

COMMENTS:

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK062914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER138

Matrix: (soil/water) AIR Lab Sample ID: VBLK062914

Sample wt/vol: 400 (g/mL) Lab File ID: 4\I13052.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. Date Analyzed: 06/29/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (µL) Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) <u>ML</u>	<u>Q</u>
127-18-4	Tetrachloroethene	0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.2	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethylbenzene	0.2	U
100-42-5	Styrene	0.2	U
108-38-3/106-42-3	Xylenes (m&p)	0.2	U
95-47-6	Xylenes (o)	0.2	U
95-49-8	2-Chlorotoluene	0.2	U
622-96-8	4-Ethyltoluene	0.2	U
108-67-8	1,3,5-Trimethylbenzene	0.2	U
95-63-6	1,2,4-Trimethylbenzene	0.2	U
541-73-1	1,3-Dichlorobenzene	0.2	U
106-46-7	1,4-Dichlorobenzene	0.2	U
95-50-1	1,2-Dichlorobenzene	0.2	U
87-68-3	1,3-Hexachlorobutadiene	0.2	U
120-82-1	1,2,4-Trichlorobenzene	0.2	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK062914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER138

Matrix: (soil/water) AIR Lab Sample ID: VBLK062914

Sample wt/vol: 400 (g/mL) Lab File ID: 4\I13052.D

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. Date Analyzed: 06/29/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μ l) Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found: 0 (μ g/L or μ g/Kg) ML

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q



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8. INTERNAL STANDARD AREA DATA
8.1 VOLATILES

INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PACE ANALYTICALSDG No.: BER138Lab Code: 10478Lab File ID (Standard): 4\13050.DDate Analyzed: 6/29/2014Instrument ID: HP5973JTime Analyzed: 15:51GC Column: Rxi-1MS ID: .32 (mm)Heated Purge: (Y/N) N

	IS1		IS2		IS3 (CBZ)			
	AREA #	RT #	AREA #	RT #	AREA #	RT #		
12 HOUR STD	523597	8.025	2171975	10.006	1683078	14.652		
UPPER LIMIT	733035.8	8.355	3040765	10.336	2356309.2	14.982		
LOWER LIMIT	314158	7.695	1303185	9.676	1009847	14.322		
SAMPLE NO.								
01 VBLK062914	476212	8.02	2095163	10.00	1361432	14.65		
02 LFB062914	509894	8.03	2047877	10.01	1538613	14.65		
03 Stack Emission	533260	8.01	2131561	10.00	1589839	14.65		

IS1 = Bromochloromethane

IS3 (CBZ) = Chlorobenzene-d5

IS2 = 1,4-Difluorobenzene

AREA UPPER LIMIT = +40% of internal standard area

AREA LOWER LIMIT = -40% of internal standard area

RT UPPER LIMIT = +0.33 minutes of internal standard RT

RT LOWER LIMIT = -0.33 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

Appendix-F

Indoor CAMP

**NEW YORK STATE
Brownfield Cleanup Program**

**COMMUNITY AIR MONITORING PLAN
(CAMP)**

**Former Cleaners Sales and Equipment
135 Kent Avenue
Brooklyn, NY**

**Prepared by:
John V. Soderberg P.E
PO Box 263
Stony Brook , New York**

April 2014

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1.0 INTRODUCTION

This Community Air Monitoring Plan (CAMP) has been prepared for the SSDS installation and the boring and sampling activities to be performed under a Remedial Investigation Work Plan (RIWP) at the Former Kent Avenue Cleaners Sales and Equipment site. The CAMP provides measures for protection for the downwind community (i.e., off-site receptors including residences, businesses, and on-site workers not directly involved in the remedial work) from potential airborne contaminant releases resulting from investigative activities at the site.

Compliance with this CAMP is required during all ground intrusive activities that have the potential to generate airborne particulate matter and volatile organic compounds (VOCs). These activities include, but are not limited to, floor openings, boring, soil and groundwater sampling activities. This CAMP has been prepared to ensure that investigation activities do not adversely affect passers by, residents, or workers in the area immediately surrounding the Site and to preclude or minimize airborne migration of investigation-related contaminants to off-site areas.

1.1 Regulatory Requirements

This CAMP was established in accordance with the following requirements:

- New York State Department of Health's (NYSDOH) Generic Community Air Monitoring Plan as presented in DER-10 Technical Guidance for Site Investigation and Remediation (NYSDEC May 3, 2010). This guidance specifies that a community air-monitoring program shall be implemented to protect the surrounding community and to confirm that the work does not spread contamination off-site through the air;
- New York State Department of Environmental Conservation Fugitive Dust Suppression and Particulate Monitoring Program at Inactive Hazardous Waste Sites: This guidance provides a basis for developing and implementing a fugitive dust suppression and particulate monitoring program as an element of a hazardous waste site's health and safety program.

2.0 AIR MONITORING

Chlorinated volatile organic compounds (VOCs) are the constituents of concern at the Site. The appropriate method to monitor air for these constituents during the investigation activities is through real-time VOC and air particulate (dust) monitoring.

2.1 Meteorological Data

At a minimum, wind direction will be evaluated at the start of each workday, noon of each workday, and the end of each workday.

2.2 Community Air Monitoring Requirements

To establish indoor air background concentrations, CAMP readings in the occupied spaces will be taken prior to commencement of the planned work and continuously in work areas that will be within 20 feet of potentially exposed populations or occupied structures, the perimeter monitoring points will be located to represent the nearest potentially exposed individuals at the location.

Fugitive respirable dust will be monitored using a Thermo MIE PDR 1000AN aerosol monitor (or equivalent). Air will be monitored for VOCs with a portable Mini Rae 2000 photoionization detector (PID), or equivalent. All air monitoring data will be documented in a site log book by the designated site safety officer. The site safety officer or delegate must ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. All instruments will be zeroed daily and checked for accuracy. A daily log will be kept. If additional monitoring is required, the protocols will be developed and appended to this plan.

3.0 VOC MONITORING, RESPONSE LEVELS, AND ACTIONS

Volatile organic compounds (VOCs) will be monitored at the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Background concentrations should be measured at the start of each workday and continuously thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present.

The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below:

- If the background air concentration of total organic vapors at the of the work area or exclusion zone exceeds 1 part per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 1 ppm over background, work activities can resume with continued monitoring.
- If total organic vapor levels at the work area or exclusion zone persist at levels in excess of 1 ppm over background but less than 5 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 20 feet from the work area or the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 1 ppm over background for the 15-minute average.
- If the organic vapor level is above 5 ppm at the perimeter of the work area, activities must be shutdown. All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

All readings will be recorded and made available for NYSDEC and NYSDOH personnel to review. If an exceedance of the Action Limits occurs, an Action Limit Report will be completed.

3.1 Potential Corrective Measures and VOC Suppression Techniques

If the 15-minute integrated VOC level at the work area location persists at a concentration that exceeds more than 5 ppm but less than 10 ppm during remediation activities, then vapor suppression

techniques will be employed. The following techniques, or others, may be employed to mitigate the generation and migration of fugitive organic vapors:

- Collection of purge water in covered containers;
- storage of excess samples and soils in drums or covering with plastic

4.0 PARTICULATE MONITORING

Air monitoring for particulates (i.e., dust) will be performed continuously during boring activities using both air monitoring equipment and visual observation at upwind and downwind locations. Monitoring equipment capable of measuring particulate matter smaller than 10 microns (PM₁₀) and capable of integrating (averaging) over periods of 15 minutes or less will be set up at upwind (i.e., background) and downwind locations, at heights approximately four to five feet above land surface (i.e., the breathing zone). Monitoring equipment will be MIE Data Ram monitors, or equivalent. The audible alarm on the particulate monitoring device will be set at 90 micrograms per cubic meter (1 g/m³). This setting will allow proactive evaluation of worksite conditions prior to reaching the action level of 100 1 g/m³ above background. The monitors will be calibrated at least once per day prior to work activities and recalibrated as needed thereafter. In addition, fugitive dust migration will be visually assessed during all intrusive work activities.

The following summarizes particulate action levels and the appropriate responses:

- If the downwind PM-10 particulate level is 100 1 g/m³ greater than background (upwind perimeter) for the 15-minute period, or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 1 g/m³ above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 1 g/m³ above the upwind level, work must be stopped and an evaluation of activities initiated. Work can resume provided that dust suppression measures (as described in Section 2.3.1 below) and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 1 g/m³ of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for NYSDEC and NYSDOH personnel to review. If an exceedance of the Action Limits occurs, an Action Limit Report will be completed.

4.1 Potential Particulate Suppression Techniques

If the integrated particulate level at the downwind location exceeds the upwind level by more than $100 \mu\text{g}/\text{m}^3$ at any time during boring activities, then dust suppression techniques will be employed. The following techniques, or others, may be employed to mitigate the generation and migration of fugitive dusts:

- Placement of soils in drums or covering stockpiles with plastic;
- Misting of the boring area with a fine water spray from a hand-held spray bottle

Work may continue with dust suppression techniques provided that downwind PM_{10} levels are not more than $150 \mu\text{g}/\text{m}^3$ greater than the upwind levels.

There may also be situations where the dust is generated by boring activities and migrates to downwind locations, but is not detected by the monitoring equipment at or above the action level. Therefore, if dust is observed leaving the working area, dust suppression techniques such as those listed above will be employed.

If dust suppression techniques do not lower particulates to below $150 \mu\text{g}/\text{m}^3$, or visible dust persists, work will be suspended until appropriate corrective measures are identified and implemented to remedy the situation.

All air monitoring readings will be recorded in the field logbook and will be available for the NYSDEC and NYSDOH personnel to review.

5.0 DATA QUALITY ASSURANCE

5.1 Calibration

Instrument calibration shall be documented on instrument calibration and maintenance sheets or in the designated field logbook. All instruments shall be calibrated as required by the manufacturer. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings may be taken to confirm individual instrument response.

5.2 Operations

All instruments shall be operated in accordance with the manufacturer's specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on-site by the SSO for reference.

5.3 Data Review

The SSO will interpret all monitoring data based upon the established criteria and his/her professional judgment. The SSO shall review the data with the PM to evaluate the potential for worker exposure, upgrades/downgrades in level of protection, comparison to direct reading instrumentation and changes in the integrated monitoring strategy.

Monitoring and sampling data, along with all sample documentation will be periodically reviewed by the PM.

6.0 RECORDS AND REPORTING

All air readings must be recorded on daily air monitoring log sheets and made available for review by personnel from NYSDEC and NYSDOH.

DATA USABILITY SUMMARY REPORT (DUSR)

ORGANIC ANALYSIS

**EPA Compendium Method TO-15
VOLATILES BY GC/MS**

**From 135 Kent Avenue, Brooklyn, NY
Kent Avenue Management
Collected on August 19, 2014
by Berninger Environmental, Inc.**

**SAMPLE DELIVERY GROUP NUMBER:
BER139**

By Pace Long Island (Former H2M Labs, Inc.) -(ELAP #10478)

SUBMITTED TO:

**Mr. Walter Berninger
WRS d.b.a Berninger Environmental
17 Old Dock Road
Yaphank, NY 11980**

September 29, 2014

PREPARED BY:

**Lori A. Beyer/President
L.A.B. Validation Corp.
14 West Point Drive
East Northport, NY 11731**

Lori A. Beyer

Kent Avenue Management, Brooklyn, NY; August 2014 Sampling Event.
Data Validation Report: Volatile Organics by TO15

Table of Contents:

- Introduction
- Data Qualifier Definitions
- Sample Receipt

- 1.0 Volatile Organics by GC/MS EPA Compendium Method TO-15
 - 1.1 Holding Time
 - 1.2 System Monitoring Compounds (Surrogate) Recovery
 - 1.3 Matrix Spikes (MS), Matrix Spike Duplicates (MSD)
 - 1.4 Laboratory Control Sample
 - 1.5 Blank Contamination
 - 1.6 GC/MS Instrument Performance Check
 - 1.7 Initial and Continuing Calibrations
 - 1.8 Internal Standards
 - 1.9 Target Compound List Identification
 - 1.10 Tentatively Identified Compounds
 - 1.11 Compound Quantification and Reported Detection Limits
 - 1.12 Overall System Performance

APPENDICES:

- A. Data Summary Form Is with Qualifications
- B. NYSDEC ASP Summary Forms
- C. Chain of Custody Documents
- D. SDG Narratives

Introduction:

A validation was performed on eleven (11) indoor/ambient air samples for Volatile Organic analysis collected by Berninger Environmental, Inc. and submitted to Pace Long Island for subsequent analysis under chain of custody documentation. This report contains the laboratory and validation results for the field samples itemized below. The samples were collected on August 19, 2014.

The samples were analyzed by Pace Long Island utilizing EPA Method TO-15 and in accordance with NYSDEC Analytical Services Protocol (2005) and submitted under NYSDEC ASP Category B equivalent deliverable requirements for the associated analytical methodology employed. The analytical testing consisted of the selected TO-15 Target Compound List (TCL) of analytes for Volatile Organics listed in Appendix A.

The data was evaluated in accordance with the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (Publication 9240.1-05), EPA SOP #HW31 (Revision 4-Updated 2009) and in conjunction with the analytical methodology for which the samples were analyzed, where applicable and relevant.

The data validation report pertains to the following field air samples:

Sample Identification	Laboratory Identification	Sample Matrix	Collection Date
IA-01-081914	14-9E00-001A	Indoor/Ambient Air	08/19/14
IA-02-081914	14-9E00-002A	Indoor/Ambient Air	08/19/14
IA-03-081914	14-9E00-003A	Indoor/Ambient Air	08/19/14
IA-04-081914	14-9E00-004A	Indoor/Ambient Air	08/19/14
IA-05-081914	14-9E00-005A	Indoor/Ambient Air	08/19/14
IA-06-081914	14-9E00-006A	Indoor/Ambient Air	08/19/14
IA-07-081914	14-9E00-007A	Indoor/Ambient Air	08/19/14
IA-08-081914	14-9E00-008A	Indoor/Ambient Air	08/19/14
IA-09	14-9E00-009A	Indoor/Ambient Air	08/19/14
OA-0081914	14-9E00-010A	Outside/Ambient Air	08/19/14
SSDS-EFF081914	14-9E00-011A	Indoor/Ambient Air	08/19/14

Data Qualifier Definitions:

The following definitions provide brief explanations of the qualifiers assigned to results in the data review process.

- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.**
- J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.**
- UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.**
- R - The sample results are rejected due to deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.**
- N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a “tentative identification.”**
- NJ - The analysis indicates the presence of an analyte that has been “tentatively identified” and the associated numerical value represents its approximate quantity.**
- K - The analyte is present. The reported value may be biased high. The actual value is expected to be lower than reported.**
- L - The analyte is present. The reported value may be biased low. The actual value is expected to be higher than reported.**
- UL - The analyte was not detected and the reported quantitation limit is most likely higher than reported.**
- D - Analyte concentration was obtained from diluted analysis.**

Sample Receipt:

The Chain of Custody document from 08/18/14 indicates that the air samples were hand delivered by sampling personnel immediately upon completion of the sampling event. Sample login notes and the chain of custody indicate that at the Validated Time of Sample Receipt (VTSR) at the laboratory no discrepancies were notated and therefore the integrity of the summa canister samples is assumed to be good.

Summa Canisters were leak tested prior to collection of each sample. Initial pressure gauge is recorded on the chain of custody and is required to be approximately 30 psi with zero air. Acceptable canister pressure was observed for these samples.

The data summary tables and Form I's included in Appendix A includes all usable (qualified) and unusable (rejected) results for the samples identified above. These tables summarize the detailed narrative section of the report. All data validation qualifications have been reported on the Form I's for ease of review and verification.

NOTE:

L.A.B. Validation Corp. believes it is appropriate to note that the data validation criteria utilized for data evaluation is different than the method requirements utilized by the laboratory. Qualified data does not necessarily mean that the laboratory was non-compliant in the analysis that was performed.

Volatile Organics by EPA Compendium Method TO-15

The following method criteria were reviewed: holding times, surrogate standards, LCS, Blanks, Tunes, Calibrations, Internal Standards, Target Component Identification and Quantitation, Reported Quantitation Limits and Overall System Performance. The volatile results were considered to be valid and useable as noted on the data summary tables in Appendix A and within the following text:

1.1 Holding Time

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the technical holding time is exceeded, the data may not be considered valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimates, "J". The non-detects (sample quantitation limits) are required to be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

Sample analysis was performed within the method and technical required holding times of thirty (30) days from sample collection for analysis. No qualifications were required based upon holding time criteria.

Canister pressure gauge was within requirements of 30 psi prior to sampling.

1.2 System Monitoring Compound (Surrogate) Recovery

All samples are spiked with surrogate compounds prior to sample analysis to evaluate overall laboratory performance and efficiency of the analytical technique. If the measure of surrogate concentrations is outside contract specification, qualifications are required to be applied to associated samples and analytes.

Surrogate recoveries (%R) for BFB were found to be within acceptable limits for all analyses pertaining to this SDG.

1.3 Matrix Spikes (MS)/ Matrix Spike Duplicates (MSD)/Duplicate Analysis

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices.

Site specific Matrix Spike/Matrix Spike Duplicate analysis was not performed on samples pertaining to this SDG. The laboratory performed a laboratory control sample (laboratory fortified blank).

1.4 Laboratory Control Sample

The LCS data for laboratory control samples (LCS) are generated to provide information on the accuracy of the analytical method and on the laboratory performance.

The following table summarizes the LCS criteria and the data qualification guidelines for all associated field samples.

LCS	NOT QUALIFIED	J (or K/L)	R
% Recovery:			
Detects	70-130%	<70%, >130%	
Non-Detects	>=130%	50-69%	<50%
Absolute RT of LCS Compounds:			
LCS Compounds in samples RT: (min)	+/-0.33		>/=0.33

Acceptable LCS was analyzed at 10 ppbv. Recovery values for all spiked compounds were determined to be acceptable (>70% - <130%) for all reported analytes with the exception of 1,2,4-Trichlorobenzene which recovered low (51%) in the LCS applicable to all samples. Results have been qualified, "J/UJ" as required for this compound.

No additional qualifications to the data were required.

1.5 Blank Contamination

Quality assurance (QA) blanks; i.e. method, trip and field blanks are prepared to identify any contamination which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of Samples during field operations. Storage blanks measure cross-contamination during sample storage of the field samples and are not required for TO15 analysis. Canister blanks measure cross-contamination from the sampling media.

The following table was utilized to qualify target analyte results due to method blank contamination. The largest value from all the associated blanks is required to be utilized and the dilution factor has been taken into account when calculating the blank level:

For:	Report CRQL & Qualify "U" when:	No Qualification is Needed when:
Target Compounds	$\leq 5x$ Blank Value	$>5x$ Blank Value

All canisters are required to be checked after cleaning. The table below is utilized to qualify samples with target compound results also present in certification blanks:

Certification Contamination	Sample Result	Action for Sample
\geq detect limit	$>5x$ certification contamination	No qualification required
\geq detect limit	$<$ detect limit	Detection limit "U"
\geq detect limit	\geq detect limit and $\leq 5x$ certification contamination level	5x certification contamination "U"
$<$ detect limit	\leq detection limit and \geq detection limit	No qualification

Below is a summary of the compounds in the sample and the associated qualifications that have been applied:

A) Method Blank Contamination:

Method blanks were determined to be free of any contamination.

Canister cleaning documentation was not submitted in the data package.

B) Field Blank Contamination:

Field Blank analysis was not conducted for this sampling event.

1.6 GC/MS Instrument Performance Check

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The Tuning standard for volatile organics is Bromofluorobenzene (BFB).

Instrument performance was generated within acceptable limits and frequency (24 hours) for Bromofluorobenzene (BFB) for all analyses conducted for this SDG.

1.7 Initial and Continuing Calibrations

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The GC/MS must be calibrated at 5 concentrations that span the monitoring range of interest in an initial calibration sequence to determine the sensitivity and the linearity of the GC/MS response for the target compounds.

The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for all compounds must be ≥ 0.05 in both initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound in the corresponding samples will be rejected, "R".

The following compounds are allowed to be >0.01 without qualification:

2-Butanone
Carbon Disulfide
Chloroethane
Chloromethane
1,2-Dibromoethane
1,2-Dichloropropane
1,4-Dioxane
1,2-Dibromo-3-chloropropane
Methylene Chloride

All the response factors for the target analytes reported were found to be within acceptable limits (≥ 0.05) [or ≥ 0.01 for the 9 compounds above], for the initial and continuing calibrations.

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentrations. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be $<30\%$ (with 2 compounds allowed to be up to 40%) and %D must be $<30\%$. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria ($>90\%$), non-detect data may be qualified, "R", unusable. Additionally, in cases where the %RSD is $>30\%$ and eliminating either the high or the low point of the curve does not restore the %RSD to less than or equal to 30% then positive results are qualified, "J". In cases where removal of either the low or high point restores the linearity, then only low or high level results will be qualified, "J" in the portion of the curve where non linearity exists.

Initial Calibrations: The initial calibrations provided and the %RSD were within acceptable limits (30%) for all target compounds with the following exceptions:

ICAL 04/10/14; Instrument HP5973I – Methylene Chloride – 39.1%, Bromoform – 34.2%. Results must be considered estimated, “J/UJ” in all samples.

Continuing Calibrations: The continuing calibrations provided and the %D was within acceptable limits (30%) for all target compounds with the following exceptions:

CCAL 08/20/14; Instrument HP5973I – Methylene Chloride – 32.5%, Carbon Tetrachloride – 28.5%, Bromoform 27.5%. Results have been qualified, “J/UJ.”

1.8 Internal Standards

Internal Standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-40% to +40%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than +/- 20 seconds from the associated continuing calibration standard. If the area count is outside the (-40% to +40%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, “J”, and all non-detects as “UJ”, or “R” if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 20 seconds, professional judgment will be used to determine either partial or total rejection of the data for that sample fraction.

Internal Standard area responses met QC requirements.

1.9 Target Compound List Identification

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound.

GC/MS spectra met the qualitative criteria for identification. All retention times were within required specifications.

Methylene chloride is a common laboratory contaminant and was detected in all field samples. The end user should proceed with caution when making decisions based on the presence of this compound at the levels detected for this sampling event. The analyte could not be negated due to lack of presence in the method blanks.

1.10 Tentatively Identified Compounds (TICs)

TICs were reported in accordance with the project requirements. The identification must be considered tentative (both quantitative and qualitative) due to the lack of required compound specific response factors. Consequently all concentrations should be considered estimated, "J" and as a result of the qualitative uncertainty should be qualified, "N" where an identification has been made.

TICs were submitted with this data set and primarily consist of branched alkanes. Column bleed artifacts were rejected, "R" since they cannot be attributed to sample matrix constituents.

1.11 Compound Quantification and Reported Detection Limits

GC/MS quantitative analysis is considered to be acceptable. Correct internal standards and response factors and air volumes were used to calculate final concentrations.

Sample results have been presented in ug/m3 as well as ppbv.

Samples were all analyzed undiluted.

1.12 Overall System Performance

GC/MS analytical methodology was acceptable for this analysis except where explained in the laboratory SDG Narratives and the detailed validation report. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report packages.

Reviewer's Signature _____ Date _____

**Appendix A
Data Summary
Form I's
With Qualifications**



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue

Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:40:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-001

Client Sample ID: IA-01-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 12:38 PM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 12:38 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 12:38 PM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 12:38 PM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 12:38 PM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 12:38 PM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S U J	1	< 1.48	µg/m³	08/20/2014 12:38 PM
1,2,4-Trimethylbenzene	0.40	ppbv		1	1.97	µg/m³	08/20/2014 12:38 PM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 12:38 PM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 12:38 PM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 12:38 PM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 12:38 PM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 12:38 PM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 12:38 PM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 12:38 PM
1,3,5-Trimethylbenzene	0.18	ppbv	J	1	0.88	µg/m³	08/20/2014 12:38 PM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 12:38 PM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 12:38 PM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 12:38 PM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 12:38 PM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 12:38 PM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 12:38 PM
2,2,4-Trimethylpentane	0.26	ppbv		1	1.21	µg/m³	08/20/2014 12:38 PM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 12:38 PM
4-Ethyltoluene	0.13	ppbv	J +	1	0.64	µg/m³	08/20/2014 12:38 PM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 12:38 PM
Benzene	0.28	ppbv		1	0.89	µg/m³	08/20/2014 12:38 PM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 12:38 PM
Bromoform	< 0.20	ppbv	U J	1	< 2.07	µg/m³	08/20/2014 12:38 PM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 12:38 PM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 12:38 PM
Carbon tetrachloride	0.10	ppbv	+ J	1	0.63	µg/m³	08/20/2014 12:38 PM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 12:38 PM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 12:38 PM
Chloroform	0.63	ppbv		1	3.08	µg/m³	08/20/2014 12:38 PM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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for 9/27/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:40:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-001

Client Sample ID: IA-01-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 :	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.65	ppbv		1	1.34	µg/m ³	08/20/2014 12:38 PM
Cyclohexane	0.15	ppbv	J	1	0.52	µg/m ³	08/20/2014 12:38 PM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m ³	08/20/2014 12:38 PM
Dichlorodifluoromethane	0.60	ppbv		1	2.97	µg/m ³	08/20/2014 12:38 PM
Ethylbenzene	0.17	ppbv	J	1	0.74	µg/m ³	08/20/2014 12:38 PM
Methylene chloride	0.75	ppbv	CS J	1	2.91	µg/m ³	08/20/2014 12:38 PM
n-Heptane	0.31	ppbv		1	1.27	µg/m ³	08/20/2014 12:38 PM
n-Hexane	0.65	ppbv		1	2.29	µg/m ³	08/20/2014 12:38 PM
Styrene	< 0.20	ppbv		1	< 0.85	µg/m ³	08/20/2014 12:38 PM
Tetrachloroethene	2.35	ppbv		1	15.9	µg/m ³	08/20/2014 12:38 PM
Toluene	1.26	ppbv		1	4.75	µg/m ³	08/20/2014 12:38 PM
Trichloroethene	0.07	ppbv		1	0.38	µg/m ³	08/20/2014 12:38 PM
Trichlorofluoromethane	0.33	ppbv		1	1.85	µg/m ³	08/20/2014 12:38 PM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m ³	08/20/2014 12:38 PM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m ³	08/20/2014 12:38 PM
Xylenes (m&p)	0.60	ppbv		1	2.61	µg/m ³	08/20/2014 12:38 PM
Xylenes (o)	0.24	ppbv		1	1.04	µg/m ³	08/20/2014 12:38 PM
Surr: 4-Bromofluorobenzene	116	%REC	Limit	70-130	No M.W. Data		08/20/2014 12:38 PM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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for 9/27/14

BER139 V17

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

IA-01-081914

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: BER

SAS No.: _____

SDG No.: BER139

Matrix: (soil/water)

AIRLab Sample ID: 1408E00-001ASample wt/vol: 400(g/mL) MLLab File ID: 4\I13558.DLevel: (low/med) LOWDate Received: 08/19/14

% Moisture: not dec.

Date Analyzed: 08/20/14GC Column: Rxi-1MSID: .32 (mm)Dilution Factor: 1.00

Soil Extract Volume:

(μ l)Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found: 7(μ g/L or μ g/Kg)ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched	3.99	39	J
2.	(DEL) Alkane: Straight-Chain	4.23	3.5	J
3. 000064-17-5	Ethanol (4.7)	4.73	12	JN
4. 000067-64-1	Acetone (5.1)	5.11	4.7	JN
5. 000067-63-0	Isopropyl Alcohol (5.3)	5.39	1.8	JN
6. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.31	1.2	JNX
7.	.alpha.-Pinene isomer	17.04	1.2	J
8.	Limonene isomer	18.65	15	J
9.	unknown siloxane	20.38	2.6	JX

R

R

Handwritten:
 JPA
 9/2/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:42:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-002

Client Sample ID: IA-02-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 1:21 PM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 1:21 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 1:21 PM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 1:21 PM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 1:21 PM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 1:21 PM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S/J	1	< 1.48	µg/m³	08/20/2014 1:21 PM
1,2,4-Trimethylbenzene	0.36	ppbv		1	1.77	µg/m³	08/20/2014 1:21 PM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 1:21 PM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 1:21 PM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 1:21 PM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 1:21 PM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 1:21 PM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 1:21 PM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 1:21 PM
1,3,5-Trimethylbenzene	0.11	ppbv	J	1	0.54	µg/m³	08/20/2014 1:21 PM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 1:21 PM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 1:21 PM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 1:21 PM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 1:21 PM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 1:21 PM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 1:21 PM
2,2,4-Trimethylpentane	0.28	ppbv		1	1.31	µg/m³	08/20/2014 1:21 PM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 1:21 PM
4-Ethyltoluene	0.11	ppbv	J +	1	0.54	µg/m³	08/20/2014 1:21 PM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 1:21 PM
Benzene	0.47	ppbv		1	1.50	µg/m³	08/20/2014 1:21 PM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 1:21 PM
Bromoform	< 0.20	ppbv	UJ	1	< 2.07	µg/m³	08/20/2014 1:21 PM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 1:21 PM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 1:21 PM
Carbon tetrachloride	0.11	ppbv	+ J	1	0.69	µg/m³	08/20/2014 1:21 PM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 1:21 PM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 1:21 PM
Chloroform	0.21	ppbv		1	1.03	µg/m³	08/20/2014 1:21 PM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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JH 9/27/14

BER139 V42



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.
 90 Knickerbocker Avenue
 Bohemia, NY 11716

Attn To : Tina Berninger
 Collected : 8/19/2014 2:42:00 PM
 Received : 8/19/2014 3:15:00 PM
 Collected By JH99

Lab No. : 1408E00-002
 Client Sample ID: IA-02-081914

Sample Information:
 Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.54	ppbv		1	1.12	µg/m³	08/20/2014 1:21 PM
Cyclohexane	0.50	ppbv		1	1.72	µg/m³	08/20/2014 1:21 PM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 1:21 PM
Dichlorodifluoromethane	0.64	ppbv		1	3.16	µg/m³	08/20/2014 1:21 PM
Ethylbenzene	0.33	ppbv		1	1.43	µg/m³	08/20/2014 1:21 PM
Methylene chloride	0.51	ppbv	CS J	1	1.98	µg/m³	08/20/2014 1:21 PM
n-Heptane	0.67	ppbv		1	2.75	µg/m³	08/20/2014 1:21 PM
n-Hexane	0.97	ppbv		1	3.42	µg/m³	08/20/2014 1:21 PM
Styrene	0.10	ppbv	J	1	0.43	µg/m³	08/20/2014 1:21 PM
Tetrachloroethene	35.4	ppbv		1	240	µg/m³	08/20/2014 1:21 PM
Toluene	2.16	ppbv		1	8.14	µg/m³	08/20/2014 1:21 PM
Trichloroethene	0.28	ppbv		1	1.50	µg/m³	08/20/2014 1:21 PM
Trichlorofluoromethane	0.32	ppbv		1	1.80	µg/m³	08/20/2014 1:21 PM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 1:21 PM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	08/20/2014 1:21 PM
Xylenes (m&p)	1.13	ppbv		1	4.91	µg/m³	08/20/2014 1:21 PM
Xylenes (o)	0.41	ppbv		1	1.78	µg/m³	08/20/2014 1:21 PM
Surr: 4-Bromofluorobenzene	114	%REC	Limit	70-130	No M.W. Data		08/20/2014 1:21 PM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.
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Date Reported : 9/9/2014

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8/19/2014

BER139 V43

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

IA-02-081914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-002A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13559.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μ l) Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found: 5 (μ g/L or μ g/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched (3.99)	3.99	15	J
2.	(DEL) Alkane: Straight-Chain (4.23)	4.23	2.7	J
3. 000064-17-5	Ethanol (4.7)	4.71	5.0	JN
4. 000067-64-1	Acetone (5.1)	5.11	9.4	JN
5. 000067-63-0	Isopropyl Alcohol (5.3)	5.36	4.8	JN
6.	(DEL) Alkane: Straight-Chain (5.58)	5.58	1.6	J
7.	(DEL) Alkane: Branched (7.23)	7.23	1.2	J
8. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.31	1.3	JNX
9.	Limonene isomer	18.65	3.6	J

8/27/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue

Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:44:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-003

Client Sample ID: IA-03-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 7:45 AM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 7:45 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 7:45 AM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 7:45 AM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 7:45 AM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 7:45 AM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S U J	1	< 1.48	µg/m³	08/20/2014 7:45 AM
1,2,4-Trimethylbenzene	0.36	ppbv		1	1.77	µg/m³	08/20/2014 7:45 AM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 7:45 AM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 7:45 AM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 7:45 AM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 7:45 AM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 7:45 AM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 7:45 AM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 7:45 AM
1,3,5-Trimethylbenzene	0.11	ppbv	J	1	0.54	µg/m³	08/20/2014 7:45 AM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 7:45 AM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 7:45 AM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 7:45 AM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 7:45 AM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 7:45 AM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 7:45 AM
2,2,4-Trimethylpentane	0.33	ppbv		1	1.54	µg/m³	08/20/2014 7:45 AM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 7:45 AM
4-Ethyltoluene	0.11	ppbv	J +	1	0.54	µg/m³	08/20/2014 7:45 AM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 7:45 AM
Benzene	0.41	ppbv		1	1.31	µg/m³	08/20/2014 7:45 AM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 7:45 AM
Bromoform	< 0.20	ppbv	U J	1	< 2.07	µg/m³	08/20/2014 7:45 AM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 7:45 AM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 7:45 AM
Carbon tetrachloride	0.10	ppbv	+ J	1	0.63	µg/m³	08/20/2014 7:45 AM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 7:45 AM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 7:45 AM
Chloroform	0.41	ppbv		1	2.00	µg/m³	08/20/2014 7:45 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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BER139 V69



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.
 90 Knickerbocker Avenue
 Bohemia, NY 11716

Attn To : Tina Berninger
 Collected : 8/19/2014 2:44:00 PM
 Received : 8/19/2014 3:15:00 PM
 Collected By JH99

Lab No. : 1408E00-003
 Client Sample ID: IA-03-081914

Sample Information:
 Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.55	ppbv		1	1.14	µg/m³	08/20/2014 7:45 AM
Cyclohexane	0.31	ppbv		1	1.07	µg/m³	08/20/2014 7:45 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 7:45 AM
Dichlorodifluoromethane	0.66	ppbv		1	3.26	µg/m³	08/20/2014 7:45 AM
Ethylbenzene	0.28	ppbv		1	1.22	µg/m³	08/20/2014 7:45 AM
Methylene chloride	4.42	ppbv	es J	1	17.2	µg/m³	08/20/2014 7:45 AM
n-Heptane	0.41	ppbv		1	1.68	µg/m³	08/20/2014 7:45 AM
n-Hexane	4.31	ppbv		1	15.2	µg/m³	08/20/2014 7:45 AM
Styrene	0.21	ppbv		1	0.89	µg/m³	08/20/2014 7:45 AM
Tetrachloroethene	1.37	ppbv		1	9.29	µg/m³	08/20/2014 7:45 AM
Toluene	2.19	ppbv		1	8.25	µg/m³	08/20/2014 7:45 AM
Trichloroethene	0.05	ppbv		1	0.27	µg/m³	08/20/2014 7:45 AM
Trichlorofluoromethane	0.44	ppbv		1	2.47	µg/m³	08/20/2014 7:45 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 7:45 AM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	08/20/2014 7:45 AM
Xylenes (m&p)	0.98	ppbv		1	4.26	µg/m³	08/20/2014 7:45 AM
Xylenes (o)	0.37	ppbv		1	1.61	µg/m³	08/20/2014 7:45 AM
Surr: 4-Bromofluorobenzene	113	%REC	Limit	70-130	No M.W. Data		08/20/2014 7:45 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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BER139 V70

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

IA-03-081914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-003A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13552.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μ l) Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found: 3 (μ g/L or μ g/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched	4.00	11	J
2.	(DEL) Alkane: Straight-Chain (4.24)	4.24	2.1	J
3. 000064-17-5	Ethanol (4.7)	4.77	4.9	JN
4. 000067-64-1	Acetone (5.1)	5.13	5.7	JN
5.	(DEL) Alkane: Straight-Chain (5.59)	5.59	1.4	J
6.	Limonene isomer	18.65	2.5	J



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:46:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-004

Client Sample ID: IA-04-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 :							
Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 8:28 AM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 8:28 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 8:28 AM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 8:28 AM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 8:28 AM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 8:28 AM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S V J	1	< 1.48	µg/m³	08/20/2014 8:28 AM
1,2,4-Trimethylbenzene	0.91	ppbv		1	4.47	µg/m³	08/20/2014 8:28 AM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 8:28 AM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 8:28 AM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 8:28 AM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 8:28 AM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 8:28 AM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 8:28 AM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 8:28 AM
1,3,5-Trimethylbenzene	0.27	ppbv		1	1.33	µg/m³	08/20/2014 8:28 AM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 8:28 AM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 8:28 AM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 8:28 AM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 8:28 AM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 8:28 AM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 8:28 AM
2,2,4-Trimethylpentane	0.55	ppbv		1	2.57	µg/m³	08/20/2014 8:28 AM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 8:28 AM
4-Ethyltoluene	0.27	ppbv	+	1	1.33	µg/m³	08/20/2014 8:28 AM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 8:28 AM
Benzene	0.79	ppbv		1	2.52	µg/m³	08/20/2014 8:28 AM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 8:28 AM
Bromoform	< 0.20	ppbv	U J	1	< 2.07	µg/m³	08/20/2014 8:28 AM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 8:28 AM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 8:28 AM
Carbon tetrachloride	< 0.20	ppbv	U J	1	< 1.26	µg/m³	08/20/2014 8:28 AM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 8:28 AM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 8:28 AM
Chloroform	0.28	ppbv		1	1.37	µg/m³	08/20/2014 8:28 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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BER139 V93



Berninger Environmental, Inc.
 90 Knickerbocker Avenue
 Bohemia, NY 11716

Attn To : Tina Berninger
 Collected : 8/19/2014 2:46:00 PM
 Received : 8/19/2014 3:15:00 PM
 Collected By JH99

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested

Lab No. : 1408E00-004
 Client Sample ID: IA-04-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.56	ppbv		1	1.16	µg/m³	08/20/2014 8:28 AM
Cyclohexane	0.66	ppbv		1	2.27	µg/m³	08/20/2014 8:28 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 8:28 AM
Dichlorodifluoromethane	0.55	ppbv		1	2.72	µg/m³	08/20/2014 8:28 AM
Ethylbenzene	0.77	ppbv		1	3.34	µg/m³	08/20/2014 8:28 AM
Methylene chloride	1.20	ppbv	cS J	1	4.66	µg/m³	08/20/2014 8:28 AM
n-Heptane	2.15	ppbv		1	8.81	µg/m³	08/20/2014 8:28 AM
n-Hexane	2.01	ppbv		1	7.08	µg/m³	08/20/2014 8:28 AM
Styrene	0.22	ppbv		1	0.94	µg/m³	08/20/2014 8:28 AM
Tetrachloroethene	3.38	ppbv		1	22.9	µg/m³	08/20/2014 8:28 AM
Toluene	5.77	ppbv		1	21.7	µg/m³	08/20/2014 8:28 AM
Trichloroethene	0.05	ppbv		1	0.27	µg/m³	08/20/2014 8:28 AM
Trichlorofluoromethane	0.28	ppbv		1	1.57	µg/m³	08/20/2014 8:28 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 8:28 AM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	08/20/2014 8:28 AM
Xylenes (m&p)	2.67	ppbv		1	11.6	µg/m³	08/20/2014 8:28 AM
Xylenes (o)	0.98	ppbv		1	4.26	µg/m³	08/20/2014 8:28 AM
Surr: 4-Bromofluorobenzene	109	%REC	Limit	70-130	No M.W. Data		08/20/2014 8:28 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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John 9/27/14

BER139 V94

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

IA-04-081914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-004A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13553.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μ l) Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found: 9 (μ g/L or μ g/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched (4)	4.00	25	J
2.	(DEL) Alkane: Straight-Chain (4.25)	4.25	8.7	J
3. 000064-17-5	Ethanol (4.8)	4.81	6.4	JN
4. 000067-64-1	Acetone (5.1)	5.13	22	JN
5. 000067-63-0	Isopropyl Alcohol (5.5)	5.50	1.3	JN
6.	(DEL) Alkane: Straight-Chain (5.59)	5.59	3.1	J
7.	(DEL) Alkane: Branched (7.24)	7.24	2.2	J
8.	(DEL) Alkane: Branched (7.63)	7.63	1.1	J
9.	(DEL) Alkane: Cyclic	8.92	1.1	J
10.	(DEL) Alkane: Branched (10.12)	10.12	1.2	J
11.	(DEL) Alkane: Branched (10.38)	10.38	1.6	J
12. 000108-87-2	Cyclohexane, methyl- (11.7)	11.75	1.2	JN
13. 000066-25-1	Hexanal (13.2)	13.27	1.4	JN
14. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.32	1.6	JNX
15.	.alpha.-Pinene isomer	17.05	1.1	J
16. 000124-13-0	Octanal (17.8)	17.85	1.0	JN
17.	Limonene isomer	18.65	8.1	J

R

8/22/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:48:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Sample Information:

Type : Air

Origin:

Lab No. : 1408E00-005

Client Sample ID: IA-05-081914

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 4:54 AM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 4:54 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 4:54 AM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 4:54 AM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 4:54 AM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 4:54 AM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S	1	< 1.48	µg/m³	08/20/2014 4:54 AM
1,2,4-Trimethylbenzene	0.57	ppbv		1	2.80	µg/m³	08/20/2014 4:54 AM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 4:54 AM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 4:54 AM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 4:54 AM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 4:54 AM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 4:54 AM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 4:54 AM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 4:54 AM
1,3,5-Trimethylbenzene	0.20	ppbv		1	0.98	µg/m³	08/20/2014 4:54 AM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 4:54 AM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 4:54 AM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 4:54 AM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 4:54 AM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 4:54 AM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 4:54 AM
2,2,4-Trimethylpentane	0.34	ppbv		1	1.59	µg/m³	08/20/2014 4:54 AM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 4:54 AM
4-Ethyltoluene	0.14	ppbv	J +	1	0.69	µg/m³	08/20/2014 4:54 AM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 4:54 AM
Benzene	0.36	ppbv		1	1.15	µg/m³	08/20/2014 4:54 AM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 4:54 AM
Bromoform	< 0.20	ppbv	UJ	1	< 2.07	µg/m³	08/20/2014 4:54 AM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 4:54 AM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 4:54 AM
Carbon tetrachloride	0.11	ppbv	J	1	0.69	µg/m³	08/20/2014 4:54 AM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 4:54 AM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 4:54 AM
Chloroform	0.36	ppbv		1	1.76	µg/m³	08/20/2014 4:54 AM

Qualifiers: E = Value above quantitation range, Value estimated.

B = Found in Blank

D.F. = Dilution Factor D = Results for Dilution

H = Received/analyzed outside of analytical holding time

+ = NYSDOH ELAP does not offer certification for this analyte / matrix / method

c = Calibration acceptability criteria exceeded for this analyte

r = Reporting limit > MDL and < LOQ, Value estimated.

J = Estimated value - below calibration range

S = Recovery exceeded control limits for this analyte

N = Indicates presumptive evidence of compound

Brianna Camens

Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Date Reported : 9/9/2014

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for 9/22/14

BER139 V127



Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:48:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Sample Information:

Type : Air

Origin:

Lab No. : 1408E00-005

Client Sample ID: IA-05-081914

Method: ETO-15 :							
Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.57	ppbv		1	1.18	µg/m³	08/20/2014 4:54 AM
Cyclohexane	0.24	ppbv		1	0.83	µg/m³	08/20/2014 4:54 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 4:54 AM
Dichlorodifluoromethane	0.58	ppbv		1	2.87	µg/m³	08/20/2014 4:54 AM
Ethylbenzene	0.31	ppbv		1	1.35	µg/m³	08/20/2014 4:54 AM
Methylene chloride	1.70	ppbv	CS J	1	6.60	µg/m³	08/20/2014 4:54 AM
n-Heptane	0.91	ppbv		1	3.73	µg/m³	08/20/2014 4:54 AM
n-Hexane	0.66	ppbv		1	2.33	µg/m³	08/20/2014 4:54 AM
Styrene	0.18	ppbv	J	1	0.77	µg/m³	08/20/2014 4:54 AM
Tetrachloroethene	2.54	ppbv		1	17.2	µg/m³	08/20/2014 4:54 AM
Toluene	2.02	ppbv		1	7.61	µg/m³	08/20/2014 4:54 AM
Trichloroethene	0.05	ppbv		1	0.27	µg/m³	08/20/2014 4:54 AM
Trichlorofluoromethane	0.30	ppbv		1	1.69	µg/m³	08/20/2014 4:54 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 4:54 AM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	08/20/2014 4:54 AM
Xylenes (m&p)	0.96	ppbv		1	4.17	µg/m³	08/20/2014 4:54 AM
Xylenes (o)	0.38	ppbv		1	1.65	µg/m³	08/20/2014 4:54 AM
Surr: 4-Bromofluorobenzene	114	%REC	Limit	70-130	No M.W. Data		08/20/2014 4:54 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brianna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.
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Date Reported : 9/9/2014

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John 9/22/14

BER139 V128

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

IA-05-081914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-005A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13548.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μl) Soil Aliquot Volume: 0 (μL)

CONCENTRATION UNITS:

Number TICs found: 10 (μg/L or μg/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched (4)	4.00	38	J
2.	(DEL) Alkane: Straight-Chain (4.24)	4.24	2.4	J
3. 000064-17-5	Ethanol (4.7)	4.78	10	JN
4. 000067-64-1	Acetone (5.1)	5.12	6.7	JN
5. 000067-63-0	Isopropyl Alcohol (5.4)	5.46	1.1	JN
6.	(DEL) Alkane: Straight-Chain (5.59)	5.59	1.0	J
7. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.32	1.2	JNX
8.	.alpha.-Pinene isomer	17.05	1.6	J
9.	.beta.-Pinene isomer	17.85	1.4	J
10.	(DEL) Alkane: Straight-Chain (18.11)	18.11	1.0	J
11.	(DEL) Alkane: Branched (18.4)	18.40	1.5	J
12.	c4-subs.benzene	18.47	1.1	J
13.	Limonene isomer	18.65	12	J
14.	(DEL) Alkane: Branched (19.32)	19.32	1.2	J
15.	unknown (19.47)	19.47	1.3	J
16.	(DEL) Alkane: Branched (19.6)	19.60	2.2	J
17.	(DEL) Alkane: Branched (19.67)	19.67	2.7	J
18.	unknown (19.75)	19.75	2.6	J
19.	(DEL) Alkane: Branched (19.91)	19.91	1.7	J
20.	(DEL) Alkane: Branched (19.96)	19.96	2.8	J

J. P. 8/20/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:50:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-006
Client Sample ID: IA-06-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 5:37 AM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 5:37 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 5:37 AM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 5:37 AM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 5:37 AM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 5:37 AM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S UJ	1	< 1.48	µg/m³	08/20/2014 5:37 AM
1,2,4-Trimethylbenzene	0.62	ppbv		1	3.05	µg/m³	08/20/2014 5:37 AM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 5:37 AM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 5:37 AM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 5:37 AM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 5:37 AM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 5:37 AM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 5:37 AM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 5:37 AM
1,3,5-Trimethylbenzene	0.21	ppbv		1	1.03	µg/m³	08/20/2014 5:37 AM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 5:37 AM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 5:37 AM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 5:37 AM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 5:37 AM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 5:37 AM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 5:37 AM
2,2,4-Trimethylpentane	0.27	ppbv		1	1.26	µg/m³	08/20/2014 5:37 AM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 5:37 AM
4-Ethyltoluene	0.15	ppbv	J +	1	0.74	µg/m³	08/20/2014 5:37 AM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 5:37 AM
Benzene	0.36	ppbv		1	1.15	µg/m³	08/20/2014 5:37 AM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 5:37 AM
Bromoform	< 0.20	ppbv	UJ	1	< 2.07	µg/m³	08/20/2014 5:37 AM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 5:37 AM
Carbon disulfide	0.13	ppbv	J	1	0.40	µg/m³	08/20/2014 5:37 AM
Carbon tetrachloride	0.11	ppbv	+ J	1	0.69	µg/m³	08/20/2014 5:37 AM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 5:37 AM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 5:37 AM
Chloroform	1.96	ppbv		1	9.57	µg/m³	08/20/2014 5:37 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brianna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue

Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:50:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-006

Client Sample ID: IA-06-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.67	ppbv		1	1.38	µg/m ³	08/20/2014 5:37 AM
Cyclohexane	0.28	ppbv		1	0.96	µg/m ³	08/20/2014 5:37 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m ³	08/20/2014 5:37 AM
Dichlorodifluoromethane	0.53	ppbv		1	2.62	µg/m ³	08/20/2014 5:37 AM
Ethylbenzene	0.26	ppbv		1	1.13	µg/m ³	08/20/2014 5:37 AM
Methylene chloride	1.04	ppbv	-e8 J	1	4.04	µg/m ³	08/20/2014 5:37 AM
n-Heptane	0.46	ppbv		1	1.89	µg/m ³	08/20/2014 5:37 AM
n-Hexane	0.71	ppbv		1	2.50	µg/m ³	08/20/2014 5:37 AM
Styrene	0.15	ppbv	J	1	0.64	µg/m ³	08/20/2014 5:37 AM
Tetrachloroethene	4.92	ppbv		1	33.4	µg/m ³	08/20/2014 5:37 AM
Toluene	1.93	ppbv		1	7.27	µg/m ³	08/20/2014 5:37 AM
Trichloroethene	0.10	ppbv		1	0.54	µg/m ³	08/20/2014 5:37 AM
Trichlorofluoromethane	0.28	ppbv		1	1.57	µg/m ³	08/20/2014 5:37 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m ³	08/20/2014 5:37 AM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m ³	08/20/2014 5:37 AM
Xylenes (m&p)	0.90	ppbv		1	3.91	µg/m ³	08/20/2014 5:37 AM
Xylenes (o)	0.35	ppbv		1	1.52	µg/m ³	08/20/2014 5:37 AM
Surr: 4-Bromofluorobenzene	116	%REC	Limit	70-130	No M.W. Data		08/20/2014 5:37 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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9/9/2014

BER139 V166

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

IA-06-081914

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478

Case No.: BER

SAS No.: _____

SDG No.: BER139

Matrix: (soil/water)

AIR

Lab Sample ID: 1408E00-006A

Sample wt/vol: 400

(g/mL) ML

Lab File ID: 4\I13549.D

Level: (low/med) LOW

Date Received: 08/19/14

% Moisture: not dec.

Date Analyzed: 08/20/14

GC Column: Rxi-1MS

ID: .32 (mm)

Dilution Factor: 1.00

Soil Extract Volume:

(μ l)

Soil Aliquot Volume:

0 (μ L)

CONCENTRATION UNITS:

Number TICs found: 10

(μ g/L or μ g/Kg)

ppbv

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q
1.	(DEL) Alkane: Branched (4)	4.00	140	J
2.	(DEL) Alkane: Straight-Chain (4.25)	4.25	4.3	J
3. 000064-17-5	Ethanol (4.8)	4.86	18	JN
4. 000067-64-1	Acetone (5.1)	5.12	9.5	JN
5.	(DEL) Alkane: Straight-Chain (5.59)	5.59	1.6	J
6.	unknown diene	5.69	1.7	J
7. 000078-83-1	1-Propanol, 2-methyl-	8.73	2.9	JN
8.	.alpha.-Pinene isomer	17.05	3.3	J
9.	.beta.-Pinene isomer	17.85	2.2	J
10.	(DEL) Alkane: Branched (18.4)	18.40	2.4	J
11.	c4-subst.benzene	18.47	1.5	J
12.	Limonene isomer	18.66	66	J
13. 000099-85-4	1,4-Cyclohexadiene, 1-methyl-4-(1-	19.06	1.8	JN
14.	(DEL) Alkane: Branched (19.32)	19.32	1.8	J
15.	(DEL) Alkane: Branched (19.38)	19.38	1.6	J
16.	(DEL) Alkane: Branched (19.54)	19.54	2.0	J
17.	(DEL) Alkane: Straight-Chain (19.6)	19.60	2.8	J
18.	(DEL) Alkane: Straight-Chain (19.68)	19.68	2.5	J
19.	unknown	19.76	1.6	J
20.	(DEL) Alkane: Branched (19.96)	19.96	2.4	J



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:52:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-007
Client Sample ID: IA-07-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 9:10 AM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 9:10 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 9:10 AM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 9:10 AM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 9:10 AM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 9:10 AM
1,2,4-Trichlorobenzene	< 0.20	ppbv	SUT	1	< 1.48	µg/m³	08/20/2014 9:10 AM
1,2,4-Trimethylbenzene	0.16	ppbv	J	1	0.79	µg/m³	08/20/2014 9:10 AM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 9:10 AM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 9:10 AM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 9:10 AM
1,2-Dichloroethene (cis)	0.14	ppbv	J	1	0.56	µg/m³	08/20/2014 9:10 AM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 9:10 AM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 9:10 AM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 9:10 AM
1,3,5-Trimethylbenzene	< 0.20	ppbv		1	< 0.98	µg/m³	08/20/2014 9:10 AM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 9:10 AM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 9:10 AM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 9:10 AM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 9:10 AM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 9:10 AM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 9:10 AM
2,2,4-Trimethylpentane	0.24	ppbv		1	1.12	µg/m³	08/20/2014 9:10 AM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 9:10 AM
4-Ethyltoluene	< 0.20	ppbv	+	1	< 0.98	µg/m³	08/20/2014 9:10 AM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 9:10 AM
Benzene	0.21	ppbv		1	0.67	µg/m³	08/20/2014 9:10 AM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 9:10 AM
Bromoform	< 0.20	ppbv	UJ	1	< 2.07	µg/m³	08/20/2014 9:10 AM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 9:10 AM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 9:10 AM
Carbon tetrachloride	0.10	ppbv	+ J	1	0.63	µg/m³	08/20/2014 9:10 AM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 9:10 AM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 9:10 AM
Chloroform	1.53	ppbv		1	7.47	µg/m³	08/20/2014 9:10 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brianna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Date Reported : 9/9/2014

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Sofia 9/11/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested

Berninger Environmental, Inc.

90 Knickerbocker Avenue

Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:52:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-007

Client Sample ID: IA-07-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.50	ppbv		1	1.03	µg/m³	08/20/2014 9:10 AM
Cyclohexane	< 0.20	ppbv		1	< 0.69	µg/m³	08/20/2014 9:10 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 9:10 AM
Dichlorodifluoromethane	0.55	ppbv		1	2.72	µg/m³	08/20/2014 9:10 AM
Ethylbenzene	0.13	ppbv	J	1	0.56	µg/m³	08/20/2014 9:10 AM
Methylene chloride	0.42	ppbv	ES J	1	1.63	µg/m³	08/20/2014 9:10 AM
n-Heptane	0.17	ppbv	J	1	0.70	µg/m³	08/20/2014 9:10 AM
n-Hexane	0.35	ppbv		1	1.23	µg/m³	08/20/2014 9:10 AM
Styrene	0.05	ppbv	J	1	0.21	µg/m³	08/20/2014 9:10 AM
Tetrachloroethene	3.26	ppbv		1	22.1	µg/m³	08/20/2014 9:10 AM
Toluene	0.90	ppbv		1	3.39	µg/m³	08/20/2014 9:10 AM
Trichloroethene	0.15	ppbv		1	0.81	µg/m³	08/20/2014 9:10 AM
Trichlorofluoromethane	0.29	ppbv		1	1.63	µg/m³	08/20/2014 9:10 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 9:10 AM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	08/20/2014 9:10 AM
Xylenes (m&p)	0.43	ppbv		1	1.87	µg/m³	08/20/2014 9:10 AM
Xylenes (o)	0.17	ppbv	J	1	0.74	µg/m³	08/20/2014 9:10 AM
Surr: 4-Bromofluorobenzene	110	%REC	Limit	70-130	No M.W. Data		08/20/2014 9:10 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
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 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brianna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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BER139 V204

1F

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

IA-07-081914

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478

Case No.: BER

SAS No.: _____

SDG No.: BER139

Matrix: (soil/water)

AIR

Lab Sample ID: 1408E00-007A

Sample wt/vol: 400

(g/mL) ML

Lab File ID: 4\I13554.D

Level: (low/med) LOW

Date Received: 08/19/14

% Moisture: not dec.

Date Analyzed: 08/20/14

GC Column: Rxi-1MS

ID: .32 (mm)

Dilution Factor: 1.00

Soil Extract Volume:

(μ l)

Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found:

1

(μ g/L or μ g/Kg)

ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched	4.00	4.0	J
2. 000067-64-1	Acetone (5.1)	5.14	2.3	JN



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:54:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-008

Client Sample ID: IA-08-081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 2:04 PM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 2:04 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 2:04 PM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 2:04 PM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 2:04 PM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 2:04 PM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S	1	< 1.48	µg/m³	08/20/2014 2:04 PM
1,2,4-Trimethylbenzene	0.74	ppbv		1	3.64	µg/m³	08/20/2014 2:04 PM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 2:04 PM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 2:04 PM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 2:04 PM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 2:04 PM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 2:04 PM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 2:04 PM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 2:04 PM
1,3,5-Trimethylbenzene	0.27	ppbv		1	1.33	µg/m³	08/20/2014 2:04 PM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 2:04 PM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 2:04 PM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 2:04 PM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 2:04 PM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 2:04 PM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 2:04 PM
2,2,4-Trimethylpentane	0.27	ppbv		1	1.26	µg/m³	08/20/2014 2:04 PM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 2:04 PM
4-Ethyltoluene	0.20	ppbv	+	1	0.98	µg/m³	08/20/2014 2:04 PM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 2:04 PM
Benzene	0.31	ppbv		1	0.99	µg/m³	08/20/2014 2:04 PM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 2:04 PM
Bromoform	< 0.20	ppbv	J	1	< 2.07	µg/m³	08/20/2014 2:04 PM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 2:04 PM
Carbon disulfide	0.10	ppbv	J	1	0.31	µg/m³	08/20/2014 2:04 PM
Carbon tetrachloride	< 0.20	ppbv		1	< 1.26	µg/m³	08/20/2014 2:04 PM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 2:04 PM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 2:04 PM
Chloroform	0.39	ppbv		1	1.90	µg/m³	08/20/2014 2:04 PM

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 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.
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Date Reported : 9/9/2014

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for 9/27/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.
 90 Knickerbocker Avenue
 Bohemia, NY 11716

Attn To : Tina Berninger
 Collected : 8/19/2014 2:54:00 PM
 Received : 8/19/2014 3:15:00 PM
 Collected By JH99

Lab No. : 1408E00-008
 Client Sample ID: IA-08-081914

Sample Information:
 Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.57	ppbv		1	1.18	µg/m³	08/20/2014 2:04 PM
Cyclohexane	0.20	ppbv		1	0.69	µg/m³	08/20/2014 2:04 PM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 2:04 PM
Dichlorodifluoromethane	0.57	ppbv		1	2.82	µg/m³	08/20/2014 2:04 PM
Ethylbenzene	0.28	ppbv		1	1.22	µg/m³	08/20/2014 2:04 PM
Methylene chloride	1.79	ppbv	es J	1	6.95	µg/m³	08/20/2014 2:04 PM
n-Heptane	0.83	ppbv		1	3.40	µg/m³	08/20/2014 2:04 PM
n-Hexane	0.60	ppbv		1	2.11	µg/m³	08/20/2014 2:04 PM
Styrene	0.18	ppbv	J	1	0.77	µg/m³	08/20/2014 2:04 PM
Tetrachloroethene	2.24	ppbv		1	15.2	µg/m³	08/20/2014 2:04 PM
Toluene	1.84	ppbv		1	6.93	µg/m³	08/20/2014 2:04 PM
Trichloroethene	0.05	ppbv		1	0.27	µg/m³	08/20/2014 2:04 PM
Trichlorofluoromethane	0.31	ppbv		1	1.74	µg/m³	08/20/2014 2:04 PM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 2:04 PM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	08/20/2014 2:04 PM
Xylenes (m&p)	0.89	ppbv		1	3.87	µg/m³	08/20/2014 2:04 PM
Xylenes (o)	0.36	ppbv		1	1.56	µg/m³	08/20/2014 2:04 PM
Surr: 4-Bromofluorobenzene	112	%REC	Limit	70-130	No M.W. Data		08/20/2014 2:04 PM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
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 H = Received/analyzed outside of analytical holding time
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 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brianna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.
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Date Reported : 9/9/2014

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BER139 V223

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

IA-08-081914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-008A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13560.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μl) Soil Aliquot Volume: 0 (μL)

CONCENTRATION UNITS:

Number TICs found: 9 (μg/L or μg/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched (3.99)	3.99	26	J
2.	(DEL) Alkane: Straight-Chain (4.23)	4.23	2.5	J
3. 000064-17-5	Ethanol (4.7)	4.73	15	JN
4. 000067-64-1	Acetone (5.1)	5.11	7.5	JN
5. 000067-63-0	Isopropyl Alcohol (5.3)	5.39	2.4	JN
6.	(DEL) Alkane: Straight-Chain (5.58)	5.58	1.1	J
7.	unknown diene	5.68	1.1	J
8. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.31	1.3	JNX
9.	.alpha.-Pinene isomer	17.04	1.9	J
10.	.beta.-Pinene isomer	17.85	1.3	J
11.	(DEL) Alkane: Straight-Chain (18.11)	18.11	1.1	J
12.	Limonene isomer	18.64	8.5	J
13.	(DEL) Alkane: Branched (18.87)	18.87	1.2	J
14.	unknown siloxane	20.38	1.7	JX

8/20/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.
 90 Knickerbocker Avenue
 Bohemia, NY 11716

Lab No. : 1408E00-009

Client Sample ID: IA-09

Sample Information:
 Type : Air

Attn To : Tina Berninger
 Collected : 8/19/2014 2:56:00 PM
 Received : 8/19/2014 3:15:00 PM
 Collected By JH99

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 6:20 AM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 6:20 AM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 6:20 AM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 6:20 AM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 6:20 AM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 6:20 AM
1,2,4-Trichlorobenzene	< 0.20	ppbv	S	1	< 1.48	µg/m³	08/20/2014 6:20 AM
1,2,4-Trimethylbenzene	0.90	ppbv		1	4.42	µg/m³	08/20/2014 6:20 AM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 6:20 AM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 6:20 AM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 6:20 AM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 6:20 AM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 6:20 AM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 6:20 AM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 6:20 AM
1,3,5-Trimethylbenzene	0.34	ppbv		1	1.67	µg/m³	08/20/2014 6:20 AM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 6:20 AM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 6:20 AM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 6:20 AM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 6:20 AM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 6:20 AM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 6:20 AM
2,2,4-Trimethylpentane	0.24	ppbv		1	1.12	µg/m³	08/20/2014 6:20 AM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 6:20 AM
4-Ethyltoluene	0.23	ppbv	+	1	1.13	µg/m³	08/20/2014 6:20 AM
Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 6:20 AM
Benzene	0.29	ppbv		1	0.93	µg/m³	08/20/2014 6:20 AM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 6:20 AM
Bromoform	< 0.20	ppbv	U	1	< 2.07	µg/m³	08/20/2014 6:20 AM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 6:20 AM
Carbon disulfide	0.12	ppbv	J	1	0.37	µg/m³	08/20/2014 6:20 AM
Carbon tetrachloride	0.10	ppbv	J	1	0.63	µg/m³	08/20/2014 6:20 AM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 6:20 AM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 6:20 AM
Chloroform	0.38	ppbv		1	1.86	µg/m³	08/20/2014 6:20 AM

Qualifiers: E = Value above quantitation range, Value estimated.
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 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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BER139 V254



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue

Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:56:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-009

Client Sample ID: IA-09

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.60	ppbv		1	1.24	µg/m ³	08/20/2014 6:20 AM
Cyclohexane	0.18	ppbv	J	1	0.62	µg/m ³	08/20/2014 6:20 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m ³	08/20/2014 6:20 AM
Dichlorodifluoromethane	0.54	ppbv		1	2.67	µg/m ³	08/20/2014 6:20 AM
Ethylbenzene	0.24	ppbv		1	1.04	µg/m ³	08/20/2014 6:20 AM
Methylene chloride	1.24	ppbv	es J	1	4.81	µg/m ³	08/20/2014 6:20 AM
n-Heptane	0.64	ppbv		1	2.62	µg/m ³	08/20/2014 6:20 AM
n-Hexane	0.49	ppbv		1	1.73	µg/m ³	08/20/2014 6:20 AM
Styrene	0.17	ppbv	J	1	0.72	µg/m ³	08/20/2014 6:20 AM
Tetrachloroethene	2.64	ppbv		1	17.9	µg/m ³	08/20/2014 6:20 AM
Toluene	1.54	ppbv		1	5.80	µg/m ³	08/20/2014 6:20 AM
Trichloroethene	0.07	ppbv		1	0.38	µg/m ³	08/20/2014 6:20 AM
Trichlorofluoromethane	0.30	ppbv		1	1.69	µg/m ³	08/20/2014 6:20 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m ³	08/20/2014 6:20 AM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m ³	08/20/2014 6:20 AM
Xylenes (m&p)	0.76	ppbv		1	3.30	µg/m ³	08/20/2014 6:20 AM
Xylenes (o)	0.32	ppbv		1	1.39	µg/m ³	08/20/2014 6:20 AM
Surr: 4-Bromofluorobenzene	113	%REC	Limit	70-130	No M.W. Data		08/20/2014 6:20 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
 r = Reporting limit > MDL and < LOQ, Value estimated.
 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Date Reported : 9/9/2014

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8/19/2014

BER139 V255

1F
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

IA-09

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-009A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13550.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μl) Soil Aliquot Volume: 0 (μL)

CONCENTRATION UNITS:

Number TICs found: 8 (μg/L or μg/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched (4)	4.00	22	J
2.	(DEL) Alkane: Straight-Chain (4.24)	4.24	2.5	J
3. 000064-17-5	Ethanol (4.8)	4.81	9.2	JN
4. 000067-64-1	Acetone (5.1)	5.12	7.0	JN
5. 000067-63-0	Isopropyl Alcohol (5.5)	5.51	1.3	JN
6.	(DEL) Alkane: Straight-Chain (5.59)	5.59	1.2	J
7.	unknown diene	5.68	1.8	J
8. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.32	1.4	JNX
9.	.alpha.-Pinene isomer	17.05	2.5	J
10.	(DEL) Alkane: Branched (17.54)	17.54	1.5	J
11.	.beta.-Pinene isomer	17.85	1.5	J
12.	(DEL) Alkane: Straight-Chain (18.11)	18.11	1.3	J
13.	(DEL) Alkane: Branched (18.61)	18.61	1.6	J
14.	Limonene isomer	18.65	6.9	J
15.	(DEL) Alkane: Branched (18.75)	18.75	1.1	J
16.	(DEL) Alkane: Branched (18.88)	18.88	2.2	J
17.	(DEL) Alkane: Branched (19.18)	19.18	1.5	J
18.	(DEL) Alkane: Branched (19.24)	19.24	1.6	J
19.	(DEL) Alkane: Branched (19.47)	19.47	1.2	J
20.	(DEL) Alkane: Straight-Chain (19.66)	19.66	1.1	J

R

for 9/27/14



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue

Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:58:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Lab No. : 1408E00-010

Client Sample ID: OA-0081914

Sample Information:

Type : Air

Origin:

Method: ETO-15 :	Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
	1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 7:02 AM
	1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 7:02 AM
	1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 7:02 AM
	1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 7:02 AM
	1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 7:02 AM
	1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 7:02 AM
	1,2,4-Trichlorobenzene	< 0.20	ppbv	S	1	< 1.48	µg/m³	08/20/2014 7:02 AM
	1,2,4-Trimethylbenzene	0.17	ppbv	J	1	0.84	µg/m³	08/20/2014 7:02 AM
	1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 7:02 AM
	1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 7:02 AM
	1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 7:02 AM
	1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 7:02 AM
	1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 7:02 AM
	1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 7:02 AM
	1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 7:02 AM
	1,3,5-Trimethylbenzene	< 0.20	ppbv		1	< 0.98	µg/m³	08/20/2014 7:02 AM
	1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 7:02 AM
	1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 7:02 AM
	1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 7:02 AM
	1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 7:02 AM
	1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 7:02 AM
	1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 7:02 AM
	2,2,4-Trimethylpentane	0.22	ppbv		1	1.03	µg/m³	08/20/2014 7:02 AM
	2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 7:02 AM
	4-Ethyltoluene	< 0.20	ppbv	+	1	< 0.98	µg/m³	08/20/2014 7:02 AM
	Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 7:02 AM
	Benzene	0.21	ppbv		1	0.67	µg/m³	08/20/2014 7:02 AM
	Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 7:02 AM
	Bromoform	< 0.20	ppbv	UJ	1	< 2.07	µg/m³	08/20/2014 7:02 AM
	Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 7:02 AM
	Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 7:02 AM
	Carbon tetrachloride	0.11	ppbv	+J	1	0.69	µg/m³	08/20/2014 7:02 AM
	Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 7:02 AM
	Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	08/20/2014 7:02 AM
	Chloroform	0.12	ppbv	J	1	0.59	µg/m³	08/20/2014 7:02 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
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 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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9/9/2014



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.
 90 Knickerbocker Avenue
 Bohemia, NY 11716

Lab No. : 1408E00-010
 Client Sample ID: OA-0081914

Sample Information:
 Type : Air

Attn To : Tina Berninger
 Collected : 8/19/2014 2:58:00 PM
 Received : 8/19/2014 3:15:00 PM
 Collected By JH99

Origin:

Method: ETO-15 :	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.55	ppbv		1	1.14	µg/m³	08/20/2014 7:02 AM
Cyclohexane	< 0.20	ppbv		1	< 0.69	µg/m³	08/20/2014 7:02 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 7:02 AM
Dichlorodifluoromethane	0.57	ppbv		1	2.82	µg/m³	08/20/2014 7:02 AM
Ethylbenzene	0.11	ppbv	J	1	0.48	µg/m³	08/20/2014 7:02 AM
Methylene chloride	0.53	ppbv	cS J	1	2.06	µg/m³	08/20/2014 7:02 AM
n-Heptane	0.17	ppbv	J	1	0.70	µg/m³	08/20/2014 7:02 AM
n-Hexane	0.37	ppbv		1	1.30	µg/m³	08/20/2014 7:02 AM
Styrene	< 0.20	ppbv		1	< 0.85	µg/m³	08/20/2014 7:02 AM
Tetrachloroethene	0.37	ppbv		1	2.51	µg/m³	08/20/2014 7:02 AM
Toluene	0.80	ppbv		1	3.01	µg/m³	08/20/2014 7:02 AM
Trichloroethene	< 0.05	ppbv		1	< 0.25	µg/m³	08/20/2014 7:02 AM
Trichlorofluoromethane	0.32	ppbv		1	1.80	µg/m³	08/20/2014 7:02 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 7:02 AM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	08/20/2014 7:02 AM
Xylenes (m&p)	0.35	ppbv		1	1.52	µg/m³	08/20/2014 7:02 AM
Xylenes (o)	0.15	ppbv	J	1	0.65	µg/m³	08/20/2014 7:02 AM
Surr: 4-Bromofluorobenzene	116	%REC	Limit	70-130	No M.W. Data		08/20/2014 7:02 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
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 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
 Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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John 9/22/14

BER139 V293

1F

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

OA-0081914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-010A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13551.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μl) Soil Aliquot Volume: 0 (μL)

CONCENTRATION UNITS:

Number TICs found: 1 (μg/L or μg/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST.CONC.	Q
1. 000067-64-1	Acetone (5.1)	5.13	2.3	JN



LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:00:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

Sample Information:

Type : Air

Origin:

Lab No. : 1408E00-011
Client Sample ID: SSDS-EFF081914

Method: ETO-15 :	Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
	1,1,1-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 4:11 AM
	1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	08/20/2014 4:11 AM
	1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	08/20/2014 4:11 AM
	1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	08/20/2014 4:11 AM
	1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 4:11 AM
	1,1-Dichloroethene	0.11	ppbv	J	1	0.44	µg/m³	08/20/2014 4:11 AM
	1,2,4-Trichlorobenzene	< 0.20	ppbv	SUT	1	< 1.48	µg/m³	08/20/2014 4:11 AM
	1,2,4-Trimethylbenzene	< 0.20	ppbv		1	< 0.98	µg/m³	08/20/2014 4:11 AM
	1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	08/20/2014 4:11 AM
	1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 4:11 AM
	1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	08/20/2014 4:11 AM
	1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 4:11 AM
	1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	08/20/2014 4:11 AM
	1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 4:11 AM
	1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	08/20/2014 4:11 AM
	1,3,5-Trimethylbenzene	< 0.20	ppbv		1	< 0.98	µg/m³	08/20/2014 4:11 AM
	1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	08/20/2014 4:11 AM
	1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 4:11 AM
	1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 4:11 AM
	1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	08/20/2014 4:11 AM
	1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	08/20/2014 4:11 AM
	1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	08/20/2014 4:11 AM
	2,2,4-Trimethylpentane	< 0.20	ppbv		1	< 0.93	µg/m³	08/20/2014 4:11 AM
	2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	08/20/2014 4:11 AM
	4-Ethyltoluene	< 0.20	ppbv	+	1	< 0.98	µg/m³	08/20/2014 4:11 AM
	Allyl Chloride	< 0.20	ppbv	+	1	< 0.63	µg/m³	08/20/2014 4:11 AM
	Benzene	< 0.20	ppbv		1	< 0.64	µg/m³	08/20/2014 4:11 AM
	Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	08/20/2014 4:11 AM
	Bromoform	< 0.20	ppbv	UT	1	< 2.07	µg/m³	08/20/2014 4:11 AM
	Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	08/20/2014 4:11 AM
	Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	08/20/2014 4:11 AM
	Carbon tetrachloride	< 0.20	ppbv	UT	1	< 1.26	µg/m³	08/20/2014 4:11 AM
	Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	08/20/2014 4:11 AM
	Chloroethane	0.24	ppbv		1	0.63	µg/m³	08/20/2014 4:11 AM
	Chloroform	< 0.20	ppbv		1	< 0.98	µg/m³	08/20/2014 4:11 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found in Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
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 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brenna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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YOP 9/22/14

BER139 V308



Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Tina Berninger

Collected : 8/19/2014 2:00:00 PM

Received : 8/19/2014 3:15:00 PM

Collected By JH99

LABORATORY RESULTS

Results for the samples and analytes requested

The lab is not directly responsible for the integrity of the sample before receipt at the lab and is responsible only for the certified tests requested.

Sample Information:

Type : Air

Origin:

Lab No. : 1408E00-011
Client Sample ID: SSDS-EFF081914

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	< 0.20	ppbv		1	< 0.41	µg/m³	08/20/2014 4:11 AM
Cyclohexane	< 0.20	ppbv		1	< 0.69	µg/m³	08/20/2014 4:11 AM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	08/20/2014 4:11 AM
Dichlorodifluoromethane	0.53	ppbv		1	2.62	µg/m³	08/20/2014 4:11 AM
Ethylbenzene	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 4:11 AM
Methylene chloride	15.7	ppbv	ES J	1	60.8	µg/m³	08/20/2014 4:11 AM
n-Heptane	< 0.20	ppbv		1	< 0.82	µg/m³	08/20/2014 4:11 AM
n-Hexane	0.18	ppbv	J	1	0.63	µg/m³	08/20/2014 4:11 AM
Styrene	< 0.20	ppbv		1	< 0.85	µg/m³	08/20/2014 4:11 AM
Tetrachloroethene	0.23	ppbv		1	1.56	µg/m³	08/20/2014 4:11 AM
Toluene	< 0.20	ppbv		1	< 0.75	µg/m³	08/20/2014 4:11 AM
Trichloroethene	< 0.05	ppbv		1	< 0.25	µg/m³	08/20/2014 4:11 AM
Trichlorofluoromethane	0.54	ppbv		1	3.03	µg/m³	08/20/2014 4:11 AM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 4:11 AM
Vinyl chloride	0.13	ppbv	J	1	0.33	µg/m³	08/20/2014 4:11 AM
Xylenes (m&p)	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 4:11 AM
Xylenes (o)	< 0.20	ppbv		1	< 0.87	µg/m³	08/20/2014 4:11 AM
Surr: 4-Bromofluorobenzene	114	%REC	Limit	70-130	No M.W. Data		08/20/2014 4:11 AM

Qualifiers: E = Value above quantitation range, Value estimated.
 B = Found In Blank
 D.F. = Dilution Factor D = Results for Dilution
 H = Received/analyzed outside of analytical holding time
 + = NYSDOH ELAP does not offer certification for this analyte / matrix / method
 c = Calibration acceptability criteria exceeded for this analyte
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 J = Estimated value - below calibration range
 S = Recovery exceeded control limits for this analyte
 N = Indicates presumptive evidence of compound

Brianna Camens
Project Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported : 9/9/2014

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JH99 9/2/14

BER139 V309

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SSDS-EFF081914

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER139

Matrix: (soil/water) AIR Lab Sample ID: 1408E00-011A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I13547.D

Level: (low/med) LOW Date Received: 08/19/14

% Moisture: not dec. Date Analyzed: 08/20/14

GC Column: Rxi-1MS ID: .32 (mm) Dilution Factor: 1.00

Soil Extract Volume: _____ (μ l) Soil Aliquot Volume: 0 (μ L)

CONCENTRATION UNITS:

Number TICs found: 1 (μ g/L or μ g/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane: Branched	4.00	20	J
2.	(DEL) Alkane: Straight-Chain	4.24	1.4	J
3. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.32	1.2	JNX

R

8/19/14

**Appendix B
NYSDEC ASP Summary Forms**

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

SDG: BER139

Analytical Requirements

Customer Sample Code	Laboratory Sample Code	AIR
IA-01-081914	1408E00-001	X
IA-02-081914	1408E00-002	X
IA-03-081914	1408E00-003	X
IA-04-081914	1408E00-004	X
IA-05-081914	1408E00-005	X
IA-06-081914	1408E00-006	X
IA-07-081914	1408E00-007	X
IA-08-081914	1408E00-008	X
IA-09	1408E00-009	X
OA-0081914	1408E00-010	X
SSDS-EFF081914	1408E00-011	X

CLP Non-CLP (Please indicate year of protocol)
TCL/TAL, HSL, Priority Pollutant,

ASP B. 2000

BC 9-9-14

BER139 A3

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

SDG: BER139

Laboratory Samp ID	Client Sample ID	Matrix	Analytical Protocol	Date Collected	Date Recd at Lab	Date Extracted	Date Analyzed	Extraction Method	DF	Level	Aux Cleanup
1408E00-001A	IA-01-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-002A	IA-02-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-003A	IA-03-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-004A	IA-04-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-005A	IA-05-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-006A	IA-06-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-007A	IA-07-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-008A	IA-08-081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-009A	IA-09	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-010A	OA-0081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	
1408E00-011A	SSDS-EFF081914	Air	ETO-15	19-Aug-14	19-Aug-14		20-Aug-14		1	LOW	

**Appendix C
Chain of Custody**

AIR CANISTER CHAIN OF CUSTODY

Client Contact Information		Project Manager: <u>John A.</u>		CLIENT: <u>BEI</u>	H2M SDG NO.: <u>BER139</u>								
Company: <u>PERKINS-ER ENVIRONMENTAL</u>		Phone: <u>924 8111</u>		Samplers Name(s)									
Address: <u>90 KIMCKERBOCKER AVE</u>		Site Contact: <u>John</u>		Analysis									
City/State/Zip: <u>BOULDER, NY 11716</u>		Analysis Turnaround Time		Matrix									
Phone: <u>631 924 8111</u>		Standard (Specify) <input checked="" type="checkbox"/>		TO-15									
FAX:		Rush (Specify)		Soil Gas									
Project Name: <u>135 Kent Ave.</u>		Canister Pressure		Indoor / Ambient Air									
Site: <u>Boulevard</u>		FIELD		OTHER									
PO # <u>14081346</u>		LAB		TO-15									
Sample Identification	Date Collected	Time Collected	Temp. (F)	Initial ("Hg) (Start)	Outgoing ("Hg) (Lab)	Incoming ("Hg) (Lab)	Flow Controller ID	Canister ID	Can Size (L)	LAB ID No.	Temperature (Fahrenheit)		
											Maximum	Minimum	Ambient
<u>IA-01-081914</u>	<u>8/19/14</u>	<u>14:40</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>905</u>	<u>825</u>	<u>6</u>	<u>001</u>	<u>X</u>		
<u>IA-02-081914</u>		<u>14:42</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>1167</u>	<u>857</u>	<u>6</u>	<u>002</u>	<u>X</u>		
<u>IA-03-081914</u>		<u>14:44</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>1417</u>	<u>1617</u>	<u>6</u>	<u>003</u>	<u>X</u>		
<u>IA-04-081914</u>		<u>14:46</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>1418</u>	<u>1622</u>	<u>6</u>	<u>004</u>	<u>X</u>		
<u>IA-05-081914</u>		<u>14:48</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>2056</u>	<u>1631</u>	<u>6</u>	<u>005</u>	<u>X</u>		
<u>IA-06-081914</u>		<u>14:50</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>2058</u>	<u>3405</u>	<u>6</u>	<u>006</u>	<u>X</u>		
<u>IA-07-081914</u>		<u>14:52</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>2060</u>	<u>3415</u>	<u>6</u>	<u>007</u>	<u>X</u>		
<u>IA-08-081914</u>		<u>14:54</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>2061</u>	<u>3417</u>	<u>6</u>	<u>008</u>	<u>X</u>		
<u>IA-09</u>		<u>14:56</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>2062</u>	<u>3419</u>	<u>6</u>	<u>009</u>	<u>X</u>		
<u>CA-0081914</u>		<u>14:58</u>	<u>78</u>	<u>-2</u>	<u>-30"</u>		<u>2073</u>	<u>3425</u>	<u>6</u>	<u>010</u>	<u>X</u>		
Special Instructions/QC Requirements & Comments: <u>ASR Cat-B delimitables</u>												Start	Stop
Samples Relinquished by: <u>[Signature]</u>												Start	Stop
Date/Time: <u>8/19/14 2:15</u>												Received by: <u>[Signature]</u>	
Date/Time: <u>8/19/14 2:15</u>												Date/Time: <u>8/19/14 1515</u>	
Date/Time: <u>8/19/14 2:15</u>												Date/Time: <u>8/19/14 1515</u>	
Date/Time: <u>8/19/14 2:15</u>												Date/Time: <u>8/19/14 1515</u>	

* Notify lab if equipment is damaged upon receipt. Client is responsible for damage to equipment



PACE ANALYTICAL
 575 Broad Hollow Road
 Melville, NY 11747
 TEL: (631) 694-3040 FAX: (631) 420-8436
 Website: www.pacelabs.com

Sample Receipt Checklist

BER139

Client Name **BER**

Date and Time Received: 8/19/2014 3:15:00 PM

Work Order Number: **1408E00**

RcptNo: 1

Received by **Jamie Spero**

Completed by:

[Signature]

Reviewed by:

[Signature: Brenna Camens]

Completed Date: 8/19/2014 6:37:20 PM

Reviewed Date: 8/20/2014 9:12:32 AM

Carrier name: Client

- Chain of custody present? Yes No
- Chain of custody signed when relinquished and received? Yes No
- Chain of custody agrees with sample labels? Yes No
- Are matrices correctly identified on Chain of custody? Yes No
- Is it clear what analyses were requested? Yes No
- Custody seals intact on sample bottles? Yes No Not Present
- Samples in proper container/bottle? Yes No
- Were correct preservatives used and noted? Yes No NA
- Preservative added to bottles:
- Sample Condition? Intact Broken Leaking
- Sufficient sample volume for indicated test? Yes No
- Were container labels complete (ID, Pres, Date)? Yes No
- All samples received within holding time? Yes No
- Was an attempt made to cool the samples? Yes No NA
- All samples received at a temp. of > 0° C to 6.0° C? Yes No NA
- Response when temperature is outside of range:
- Sample Temp. taken and recorded upon receipt? Yes No To °
- Water - Were bubbles absent in VOC vials? Yes No No Vials
- Water - Was there Chlorine Present? Yes No NA
- Water - pH acceptable upon receipt? Yes No No Water
- Are Samples considered acceptable? Yes No
- Custody Seals present? Yes No
- Airbill or Sticker? Air Bil Sticker Not Present

Airbill No:

Case Number:

SDG:
BER139

SAS:

Any No response should be detailed in the comments section below, if applicable.

Client Contacted? Yes No NA Person Contacted:
 Contact Mode: Phone: Fax: Email: In Person:
 Client Instructions:
 Date Contacted: Contacted By:
 Regarding:
 Comments:
 CorrectiveAction:

**Appendix D
SDG Narrative**



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

**SDG NARRATIVE FOR VOLATILE ANALYSES
SAMPLES RECEIVED: 8/19/14
SDG#: BER139**

For Sample(s):

IA-01-081914	IA-05-081914	IA-09
IA-02-081914	IA-06-081914	OA-0081914
IA-03-081914	IA-07-081914	SSDS-EFF081914
IA-04-081914	IA-08-081914	

The canisters for the above air sample(s) was/were analyzed by EPA method TO-15 for a select list of volatile organic analytes.

All Q. C. data and calibrations met the requirements of the method, unless discussed below, and no problems were encountered with sample analysis. The following should be noted:

No matrix spike/matrix spike duplicate (MS/MSD) sample was submitted. A lab fortified blank (LFB) was analyzed, and all percent recoveries were within Q. C. limits except for a 51% recovery for 1,2,4 trichloro benzene (lower limit 70%)

Tentatively identified compounds (TICs) identified as siloxanes are suspected to be column/septa bleed and were flagged with the qualifier "X".

TICs identified as alkanes are not counted as TICs, but they are included in the TIC reports.

Results for targeted analytes are reported in ppbv as well as in $\mu\text{g}/\text{m}^3$, whereas TICs are reported as ppbv.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Date Reported: September 9, 2014

*
*  *
*

Joann M. Slavin
General Manager

Appendix-H

Sensaphone Spec Sheet

SENSAPHONE®

REMOTE MONITORING SOLUTIONS



Sensaphone 400 & 800

Technical Specifications

INPUT ZONES

Number of Zones: 400 - 4, 800 - 8

Zone Connector: terminal block

Zone Types:

N.O./N.C. contact,
2.8K Thermistor -20° to 150°F | -30° to 65°C

Zone Characteristics: 5.11K to 2.85V (Short circuit current: 1mA max.)

A/D Converter Resolution: 10 bits \pm 2 LSB

Zone Protection: 5.5VDC Metal Oxide Varistor with fast acting diode clamps.

RELAY OUTPUT

Rated for 1A 30VAC/1A 30VDC maximum.

LED INDICATORS

System On, Phone In Use, Alarm, Battery Ok.

MICROPHONE

Internal Electret Condenser: For listening in to on-site sounds and detecting high sound levels.

PHONE INTERFACE

Line RJ11 Jack: For connection to a two-wire analog telephone line. (6' modular cord included)

Extension RJ11 Jack w/ Line Seizure: For connecting other devices on the same telephone line, devices connected to this jack are disconnected in the event that the 400 must dial out for an alarm.

Phone Line Protection: Metal Oxide Varistor & self-resetting fuse

POWER SUPPLY

Power Supply: 120VAC/9VDC 60Hz 6W wall plug-in transformer w/6' cord.

Power Consumption: 1.5 Watts

Power Protection: Metal Oxide Varistor

Battery Backup: Six size-C alkaline batteries (not included), providing up to 24 hours of back-up time.

ENVIRONMENTAL

Operating Temperature:
32° to 122°F | 0° to 50°C

Operating Humidity:
0–90% RH non-condensing

Storage Temperature:
32° to 140°F | 0° to 60°C

PHYSICAL

Dimensions: 2.1 x 7.8 x 8.8"d | 5 x 20 x 22mm

Weight: 8 lbs. | 3.6kg

Enclosure: Indoor rated ABS Plastic & Polycarbonate w/clear window door

Appendix-I

Security Enclosure Photos

