

VOLUNTARY CLEANUP PROGRAM

PERIODIC REVIEW REPORT

**BURTON INDUSTRIES INC.
243 WYANDANCH AVENUE
NORTH BABYLON, NEW YORK 11704
Site No.: V-00239-1 Index No.: D1-0001-02-05**



**PREPARED FOR:
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
SUNY @ STONY BROOK
50 CIRCLE ROAD
STONY BROOK, NEW YORK 11790**

PREPARED BY:

BEI Consulting, LLC

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CERTIFICATION

DER-10

Table 1.5 - Document #16, Certification 1.5(b)5.

For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- (a) the institutional control and/or engineering control employed at this site is unchanged from the date the control was put in place, or last approved by DER;
- (b) nothing has occurred that would impair the ability of such control to protect public health and the environment;
- (c) nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control;
- (d) access to the site will continue to be provided to DER to evaluate the remedy, including access to evaluate the continued maintenance of this control.

Remedial Party

BEI Consulting LLC

Justin Halpin

A handwritten signature in black ink, appearing to be 'JH' with a stylized flourish.

1.0 EXECUTIVE SUMMARY

BEI Consulting, LLC has prepared the Periodic Review Report (PRR) for the Burton Industries Inc. facility (Subject Property) located at 243 Wyandanch Avenue, North Babylon, New York. The Subject Property is further described as SCTM District 0100, Section 082, Block 003, Lot 19.6. (See attached Figures-1 and 2). The site occupant and operator is Burton Industries Inc.

In summary the PRR discusses the remediation efforts undertaken by Burton Industries Inc. as well as the implementation of the Engineering Control (E.C.) that regulated the removal of volatile source material identified at the subject property. The PRR outlines a chronological list of events which discuss the implementation of the E.C. and it's ability to comply with previously instituted standards in order to meet specific remedial objectives. The document sites certified data in an effort to prove the success of the implemented mitigation techniques in conjunction with government compliance. As only a summary of historic data is provided, complete details of previous investigations are provided in prior issued reports. Tables, Charts and Graphs are used to describe the effectiveness of the chosen remedy in achieving the remedial goals for the site. The need for updated monitoring compliance as well as changes to the SMP are discussed only if applicable. This document serves as a guidance in determining if the requirements have been met in order to discontinue site management. The attached Figure -4 depicts the area of remediation and investigation at the subject property. Also discussed within this PRR are the site's institutional controls (IC's): land-use restriction and prohibited use of groundwater for potable use. All IC's were certified by a Qualified Environmental Professional (QEP), which is discussed later in this document.

The PRR provides summary data from all prior work plans, correspondence and reports previously provided, reviewed and approved by the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER) and the New York State Department of Health (NYSDOH) during the implementation of the VCP activities. As only a summary of data is provided, complete details on the investigations are provided in the prior reports, and reference is made to those documents.

A Voluntary Investigation was completed for the Subject Property pursuant to the requirements of an executed Voluntary Cleanup (VCP) Agreement dated November 8, 2002 between the New York State Department of Environmental Conservation (NYSDEC), Division of Environmental Remediation (DER), and the “Volunteer”, Mr. Stanley Yoel, Property Owner of the Burton Industries Inc. Facility (Subject Property) located at 243 Wyandanch Avenue, North Babylon, New York. The Subject Property is further described as SCTM District 0100, Section 082.00, Block 03.00, Lot 019.006. (See attached Figures-1 and 2) The site occupant and operator is Burton Industries Inc.

1.1 Summary of Site Contamination

In summary, a small area of PCE contamination was identified in a storm drain exterior to the site structure located along the eastern side of the building. In 2000 a total of 18 yards of contaminated soil/sediment was removed and disposed of properly from the SD-6 (leaching pool on the east side of building) location.

Previously identified PCE and PCE breakdown products were detected in soils within SD-6 and in the surrounding area which warranted additional investigation with regard to soil vapor and indoor air at the facility during 2004. Subsequent to the soil gas and indoor air testing conducted in August 2004 the NYSDEC and the NYSDOH required supplemental investigation to evaluate sub-slab and indoor air conditions. These findings triggered the development of a Remedial Action Work Plan (RAP) which outlined the implementation of mitigative measures in order to remove harmful sub-slab vapors found underneath the concrete foundation of the building. The installation of an active Soil Vapor Extraction System (SVES)/(SSDS) was completed at the Subject Property in July of 2008. (See Figure-3 for typical SSDS design)

1.2 Remedial Program Effectiveness

Goals for the remedial program were established through the remedy selection process stated in 6 NYCRR Part 375-1.10. At a minimum, the remedy selected must eliminate or mitigate all significant threats to public health and/or the environment presented by the hazardous waste disposed at the Site through the proper application of scientific and engineering principles.

The remediation goals for the Subject Property were to eliminate or reduce to the extent practicable:

- The exposure of persons at or around the Subject Property to potential soil vapor intrusion of residual VOCs, via a concrete slab on grade.

Based upon state certified laboratory data from 2009 (IAQ Lab) and data collected on a yearly basis there after, a significant reduction in exposure to VOC's has been observed. Although the potential for exposure always exists, the threat of soil vapor intrusion has been reduced. A continual downward trend in PCE contamination was noticed throughout the six (6) year monitoring period which included multiple SVE/SSD system stack samples and yearly indoor air quality (IAQ) analysis. The engineering control implemented for this project enabled the remedial program to reach the remedial goals and objectives in a relatively swift manner.

The installation of an active SVES/SSDS system is considered an engineering control. This is the main engineering control (EC) required under the former remedial program for the subject property. Other EC's included: 1) sealing of any identified preferential pathways; 2) installation of a sub-slab depressurization system; and 3) evaluation of the need to change the pressurization of the building and monitoring as necessary.

During the monitoring and operating procedures there was not any areas of non-compliance with the Site Management Plan (SMP) other than annual IAQ testing as opposed to semi-annual IAQ testing. At this time recommendations and/or changes to the SMP are currently being evaluated.

2.0 SITE OVERVIEW

The Subject Property is an approximately 255 feet wide by 300 feet deep (1.8 acres) commercially developed lot, located on the north side of Wyandanch Avenue. The development at the site consists of a 38,000 ft² story slab-on-grade industrial building. The original portion of the building was a 10,000 ft² structure that was built circa 1971. Three building additions (10,000 ft², 6,700 ft², and 5,500 ft²) were constructed in 1976, 1978 and 1981, respectively.

The original occupant of the site was Burton Industries Inc. who at that time operated a manufacturing facility for the fabrication of aluminum parts for swimming pools. In 1978, the business was expanded to include the heat treatment of metals. This manufacturing operation primarily includes the heat treating of metals for the aerospace and defense industries. Heat treating occurs within furnaces to either decrease or increase the hardness of the metal. Between 1980 and 1984, Burton Industries Inc. went public under the name of Burton Energy and Solar Technology and the production of swimming pool parts ceased and the primary operational focus was on heat treating of metal parts and the development of solar panels. Since 1984 the primary business at the subject site has been the heat treatment of metals. The Volunteer, Mr. Stanley Yoel, purchased the property in 1985.

During prior historic operations (prior to the early 1990s), certain metal materials required either pre- or post cleaning to remove cutting oils relative to the heat treatment process. This process was formerly performed in a small closed loop vapor degreaser system that utilized tetrachloroethene (PCE). No later than 1993, PCE and other solvent use was discontinued.

2.1 Summary of Past Investigations

Records were made available to BEI from a Preliminary Site Assessment (PSA) performed by Dvirka & Bartilucci Consulting Engineers (D&B) dated April 1998. The PSA documents investigative field work performed from December 16 to 23, 1996. The PSA was required apparently

due to an earlier study¹ of another property (former Jameco Industries Inc.[Jameco]) located downgradient. Evidence of contamination had been reported in a Jameco on-site monitoring/supply well that might have migrated from an upgradient location. Site investigations prior to the PSA at the subject site included a Suffolk County Department of Health Services (SCDHS) routine inspection in December 1986. A summary of these investigations and subsequent remedial activities are provided below.

2.2 SCDHS Sampling Data 1986 to 1987

Liquid samples were collected from storm drains and sanitary leaching pools at the 243 Wyandanch Avenue, North Babylon property on November 13, 1986 and April 8, 1987. These liquid samples exhibited exceedances of Volatile Organic Compounds (VOCs) (Tetrachloroethylene (PCE) at 250 micrograms per Liter (*ug/L*), 1, 2-dichlorobenzene at 320 *ug/L* and m-dichlorobenzene at 24 *ug/L*) relative to groundwater standards and were potentially indicative of unpermitted discharges. No bottom sediment samples were collected at that time.

2.3 Dvirka & Bartilucci April 1998 Preliminary Site Assessment

As part of the PSA, sediment/sludge samples were collected from the eight (8) stormwater drywells and two (2) primary cesspools comprising the two on-site sanitary systems. Additionally, groundwater was sampled from seven (7) temporary monitoring well locations via a Geoprobe² at multiple depths within the aquifer.

Seven Geoprobe points (GP-1 through GP-7) were installed and two groundwater samples were collected from each sampling location. Two (2) temporary monitoring locations were installed upgradient with five (5) points located downgradient of the building.

¹ October 29, 1992 registry site classification decision: “ Burton Industries Inc. is a likely source of the VOC contamination found in Jameco’s supply well and other nearby wells installed by SCDHS”.

²A Geoprobe is a truck mounted drilling system capable of collecting discrete soil, soil gas, and groundwater samples.

The only groundwater samples which contained VOCs (1,2-dichloroethene [1,2-DCE, total], PCE and/or trichloroethene [TCE]) at concentrations above the NYSDEC Class GA Groundwater Standards or Guidance Values (SGVs) were as follows: GP-3 (23 feet bgs), GP-4 (7 feet bgs), GP-5 (7 feet bgs) and GP-6 (22 feet bgs). These four (4) groundwater sampling locations were located downgradient of the building based on projected regional groundwater flow to the southeast.

Sediment/sludge samples were collected from the two primary sanitary cesspools and the eight storm drains located on the Burton Industries' property. VOCs were found in one of the storm drains, SD-6, at levels above NYSDEC Recommended Soil Cleanup Objectives (RSCOs). SD-6 is located just south of the overhang on the east side of the building. The compounds present at SD-6, which exceeded the RSCOs, were 1,2-DCE at 320 micrograms per kilogram (ug/kg), TCE at 1,100 ug/kg and PCE at 31,000 ug/kg. Toluene, ethylbenzene and xylenes were also detected in SD-6, however, at concentrations below the RSCOs. Based upon these results, the PSA concluded that SD-6 was the likely source of contamination reported in groundwater at GP-4, GP-5 and GP-6.

2.4 Remediation of SD-6

Based upon the findings, NYSDEC requested that Burton submit a work plan for the remediation of SD-6 which included the removal of bottom sediment material from SD-6, followed by end point sampling to evaluate the effectiveness of the remediation. The NYSDEC also required further investigation of groundwater conditions. During the interim an agreement was reached for the remediation of SD-6 and remediation of SD-6 was accomplished on September 30, 2000, in coordination with the NYSDEC DER. End point sampling of the remediated structure was performed on October 2, 2000 to accommodate split sampling by the NYSDEC. 18 yards of RQ hazardous waste solids ([PCE] F001, F002, D039) were removed from the storm drain and was transported off-site by Freehold Cartage, Inc. (NJD054126164) under Manifest No. NYG 2454543 for disposal at North East Environmental Services, Inc. located at 4123 Canal Road, Canastota, New York 13032.

On behalf of the property owner one (1) end point sample was collected by Anson Environmental Ltd. and analyzed by Eco Test Laboratories, Inc. The results of end point testing indicated the detection of only one residual VOC, PCE at 7 ug/kg, significantly below the RSCOs for PCE. The NYSDEC split sample analytical testing results indicated similar data with very low level estimated concentrations of 2J ug/kg for PCE, 6JB ug/kg for methylene chloride and 7J ug/kg for acetone. Correspondence from NYSDEC (August 17, 2001) confirmed that the end point sampling results demonstrated a successful remediation at SD-6.

2.5 Voluntary Site Investigation - September 8 - 11, 2003

As per NYSDEC DER requirements, additional investigation was required to evaluate the September 2000 source area remediation at SD-6, specific to determine groundwater quality conditions, upgradient and downgradient of the remediated storm drain.

This investigative effort required the installation of three permanent monitoring wells to confirm site-specific groundwater flow direction. Then groundwater quality data was to be collected at either the permanent shallow wells and/or via temporary monitoring wells at multiple depths within the aquifer, at locations confirmed to be downgradient of the prior remediated source area, SD-6.

On September 8 -11, 2003, three (3) shallow groundwater monitoring wells were installed at the subject property to determine the direction of groundwater flow. The wells were developed and casing elevations were determined by a New York State licensed surveyor. Depth to groundwater was measured at each well on October 3, 2003. Localized groundwater flow direction was determined to be to the southeast, consistent with the regional groundwater flow direction established by SCDHS water table maps. Based upon the direction of localized groundwater flow, three temporary monitoring wells were installed via Geoprobe.

Groundwater samples were collected from the three existing monitoring wells and the three temporary monitoring wells (GP-8, GP-9 and GP-10) at two discrete intervals on December 2, 2003 for analysis for Volatile Organic Compounds. Supplemental samples from MW-1, MW-2, MW-3

and GP-10 (22-24 ft bgs) were collected and submitted by the NYSDEC for TAL Inorganics.

The results of analytical testing confirmed two VOC compounds above their respective NYSDEC SGVs of 5 ug/L at three of the nine sampling intervals: tetrachloroethene [6 J ug/L at MW-2 (5-15 ft bgs)], [39 ug/L at MW-3 (5-15 ft bgs)] and [11 ug/L at GP-10 (24-26 ft bgs)]. 1,2-dichloroethene was reported above its respective SGVs at [11 J ug/L at MW-3 (5-15 ft bgs)] and at [7J ug/L GP-10 (24-26 ft bgs)].

Comparison with the 1996 data indicated that a substantial reduction in VOC concentrations. Furthermore, the 2003 VOC sampling data clearly demonstrates either non-detection or a decrease of VOCs with increased depth below grade at the subject property. This study confirmed that no unidentified remaining significant environmental concerns are present in on-site groundwater relative to SD-6, either shallow or deep.

Analysis for inorganic parameters by the NYSDEC indicated only two constituents (barium and manganese) present at concentrations elevated above their respective SGVs. No exceedances of chromium, which was the historic target compound of potential environmental concern, were reported at any of the sampling locations. Based upon the above, no significant environmental concerns relative to the presence of inorganic compounds were identified at the subject property.

2.6 Supplemental Investigation (August 23, 2004) - Soil Gas & Groundwater

Subsequent to the review of the VCP Remedial Investigation Report, the New York State Department of Health (NYSDOH) required that a limited soil gas sampling program be conducted to evaluate the potential for soil gas intrusion to impact indoor air quality. Two locations (SG-1 and SG-2) proximate to SD-6 were selected, outside the facility building, along the foundation wall. BEI collected discrete soil gas samples from below the asphalt pavement at 4 feet below grade surface [bgs] on August 23, 2004. The soil gas samples were submitted for analysis for VOCs. As part of the supplemental investigation, the three on-site monitoring wells were also re-sampled.

Soil Gas Sampling

Detections of VOCs identified in the soil gas sampling results represented concentrations of soil gas under the asphalt pavement. Seventeen reported VOCs included the following compounds at the concentration range indicated in parentheses: tetrachloroethene (2,140 to 6,550 $\mu\text{g}/\text{m}^3$); trichloroethene (60 to 601 $\mu\text{g}/\text{m}^3$); 1,2-dichloroethene (60 to 601 $\mu\text{g}/\text{m}^3$), 1,3,5-trimethylbenzene (15 to 24 $\mu\text{g}/\text{m}^3$); 1,2,4-trimethylbenzene (65 to 110 $\mu\text{g}/\text{m}^3$); and benzene (5.8 to 7.5 $\mu\text{g}/\text{m}^3$). Of these five compounds, the primary VOC of concern is tetrachloroethene due to its elevated concentration above its comparative basis.

Groundwater Quality Data

Four VOC compounds were quantified at two of the three groundwater sampling locations; however, only two were present at concentrations above its respective SGVs. Specifically, 1,2-dichloroethene (ND to 53 $\mu\text{g}/\text{L}$), trichloroethene (ND to 9 $\mu\text{g}/\text{L}$), and tetrachloroethene (1J to 87 $\mu\text{g}/\text{L}$) were reported at the MW-2 and MW-3 groundwater sampling locations at the range in concentration shown in parentheses. Of these detections, the following sampling locations reported concentrations of VOCs above their respective SGVs of 5 $\mu\text{g}/\text{L}$: tetrachloroethene (38 to 87 $\mu\text{g}/\text{L}$) at MW-3. 1,2-dichloroethene was reported above its respective SGV at 30 to 53 $\mu\text{g}/\text{L}$ at MW-3.

2.7 Supplemental VCP Investigation - December 1, 2005

As required by NYSDEC and the NYSDOH, the following work was performed on December 1, 2005:

- 1) the collection of a sub-slab soil gas sample and indoor and ambient (outdoor) air sample;
- 2) resampling of MW-3; and
- 3) development of updated localized groundwater flow maps.

The results of groundwater sampling noted that four VOC compounds were quantified at the MW-3. 1,2-dichloroethene (5 $\mu\text{g}/\text{L}$), trichloroethene (1J $\mu\text{g}/\text{L}$), and tetrachloroethene (4J $\mu\text{g}/\text{L}$) were reported at MW-3. The current concentration of VOCs at MW-3 was significantly less than that reported in December 2003 and August 2004.

The indoor sub-slab soil vapor and indoor/outdoor air sampling program was conducted to evaluate the prior elevated VOC concentrations exhibited at the soil gas sampling locations SG-1 and SG-2. These samples were required to provide supplemental data to evaluate the potential for future and/or current indoor air quality issues. A location interior to the building, in line with the former SG-1 and SG-2 sampling locations (and opposite remediated stormwater drywell [SD-6], about ten feet interior of the foundation wall was selected for the collection of a sub-slab gas sample.

In order to evaluate the soil vapor data, comparison was made to both the NYSDOH indoor air quality database contained within the Draft February 2005 guidelines. Up to fifteen VOCs were present at the sub-slab soil gas sampling location (SSV-1). These VOCs included the following compounds at the concentration range indicated in parentheses: tetrachloroethene ($1,400 \text{ ug/m}^3$); trichloroethene (12 ug/m^3); 1,1,1-Trichloroethane (8.7 ug/m^3), toluene (110 ug/m^3), ethylbenzene (17 ug/m^3), xylene (52 ug/m^3); 1,2,4-trimethylbenzene (23 ug/m^3), 4-ethyltoluene (16 ug/m^3); and benzene (11 ug/m^3). Of these compounds, the primary VOC of concern is tetrachloroethene due to its elevated concentration above its comparative basis and prior site-related presence. It was noted that the concentrations of VOCs at SSV-1 were significantly less than those quantified at SG-1 and SG-2, exterior to the building. No significant concentrations of VOCs were noted at either the indoor or outdoor air sampling locations.

An evaluation of the ratio of sub-slab soil vapor to indoor air (NYSDOH Matrix 2) indicated that the sub-slab concentration of tetrachloroethene required the mitigation of site conditions. Therefore, a combination of the following was proposed and implemented for the Subject Property: The RAWP that was developed, approved and implemented at the site included the installation of an active Sub-Slab Depressurization System (SSDS) inclusive of a Soil Vapor Extraction System (SVE). A pilot-test of the SVE system relative to the sub-slab beneath the slab-on-grade building was implemented to establish the radius of influence (ROI). Based upon that pilot test, one SVE well was installed inside the building (opposite the exterior SD-6) and another exterior to the building, directly to the west of SD-6. Both of these SVE wells were connected to a GAST blower for vacuum. The blower did not require an enclosure and was wired to an existing electric sub-panel and operated by a control box located in a secure area of the Burton building. An alarm or system fault light was installed to

indicate times that the system becomes inoperable due to equipment malfunction or power outages. A pressure gauge was included as a supplemental warning device of system malfunction or failure. Routine airflow and concentration sampling of the SVE system has been performed on a monthly basis from June 2008 to April 2009 with reporting to NYSDEC. Yearly monitoring of the system continued from April 2009 to the present day.

3.0 EVALUATION OF THE REMEDY PERFORMANCE

The following section will discuss the remedy performance and effectiveness. Please refer to Figures-5-11, which have been constructed to assist in the portrayal of this discussion.

In June 2008 the start-up of the SVE system led to the first sampling event which took place that same month. Figure-7 shows a spike in PCE concentrations during the first month of sampling with elevated stack levels of 3,555 ug/m³ indicating the immediate removal of source material vapor. The sampling events that followed depicted a rapid decline in PCE stack concentrations over the course of six(6) years.

Figure-6 (Indoor Air PCE ug/m³), results indicated that non-detect readings were observed throughout the six year sampling period including the 2014 sampling event. The indoor air samples were collected on an annual basis and show non-detect results for PCE. Although stack emission samples over the last 6 years have shown low PCE concentrations (with the exception of 2013 which showed non-detect readings in the sub-slab) (Figure-7), indoor air detections have been nonexistent. For 2014 a sub-slab sample was collected, as per the guidance, subsequent to the pulsing of the SVE/SSD system system. PCE was detected at 80.5 ug/m³ in the sub-slab but no PCE was detected in the indoor air.

TCE concentrations for all but one sampling event have been non-detect as well. When taking a look at Figure-8 we can see that TCE was only detected in indoor air during the 2010 sampling event at a concentration of 6.0 ug/m³. Figure-9 shows TCE stack emission concentrations

throughout the duration of the project. When studying Figure-9 we begin to see evidence of the reductive dechlorination process as TCE concentrations increase with time eventually decreasing as the SVE/SSD system continues to remove vapors. When comparing TCE and PCE stack emissions to TCE and PCE indoor air detections there is not much of a correlation because of the non-existent indoor air concentrations. (Figures-10 and 11) During 2014 TCE was detected in the sub-slab at 0.70 ug/m³. This statistic may in fact point to the integrity of the slab on grade floor located at the Burton Industries Inc. facility. Department of Health building questionnaires completed to evaluate building characteristics indicate a concrete slab which is in quality condition. The absence of large cracks, which sometimes result in preferential pathways, is one reason why sub-slab vapors have not infiltrated the indoor air. Another conclusion for relatively absent harmful indoor air vapor can be attributed to the location of a majority of the former source material. Much of the previously identified source material has been discovered outside of the building's perimeter making it less likely to have a substantial impact on the quality of the indoor air. A majority of this source material was also removed in 2000 reducing the risk of exposure substantially. Finally, the SSDS/SVES creates a negative pressure beneath the sub-slab essentially drawing all air within the radius of influence towards the systems vacuum. This can prevent unwanted sub-slab vapors from entering into the building's above grade air.

Overall, the removal of source material via SSDS/SVES at the subject property has proven to be successful based upon indoor air concentrations over several years indicating non-detect PCE readings and the drastic declination of SVE/SSD system exhaust emissions. According to matrix 2 (PCE) guidelines as outlined in the DOH "Guidance for Soil Vapor Intrusion," PCE sub-slab concentrations of less value than 100 ug/m³ in the sub-slab accompanied by non-detect indoor air concentrations substantiate no further action. The 2014 system shutdown sampling event indicated the following detections of PCE and TCE in sub-slab samples respectively: 80.5 ug/m³ and 0.70 ug/m³. PCE and TCE were not detected during the system shutdown testing. The results from this testing determined that the SSDS/SVES was no longer required with no further action warranted.

4.0 MONITORING PLAN COMPLIANCE REPORT (SMP)

A description of the Site Management Plan is being provided to discuss the maintenance, and

monitoring of the former EC at the subject site. The only engineering control for the subject property was the vacuum regenerative blower, which ran continuously, activating the SVE/SSD system.

The installation of the active SVE/SSD system was completed at the subject property during June of 2008. A pilot-test of the SVE/SSD system relative to the sub-slab beneath the slab-on-grade building was implemented to establish the radius of influence (ROI). Based upon the pilot test results one SVE well was installed inside the building (opposite the exterior SD-6) and another exterior to the building, directly to the west of SD-6. Both of these SVE/SSD system wells were connected to a GAST blower for vacuum. The blower did not require an enclosure and was wired to an existing electric sub-panel and operated by a control box located in a secure area of the Burton building.

An in-line sample port and airflow gauge was installed at a working height of approximately 5 feet above the SVE well head. The PVC piping was connected to the blower intake using flexible duct work. Flexible duct work was also used to connect the blower outlet or exhaust to the two-inch diameter air stack. The air stack extends to a height of approximately 10 feet above the roof line, allowing the sub-slab soil gas to vent to the atmosphere, where it will undergo appropriate levels of dilution. The exhaust point was located away from the openings of other buildings and HVAC air intakes. An alarm or system fault light was installed to indicate times that the system becomes inoperable due to equipment malfunction or power outages. A pressure gauge was included as a supplemental warning device of system malfunction or failure.

Subsequent to the initial installation and start-up of the system, weekly monitoring was conducted to evaluate the effectiveness of the system, as well as to ensure that the emission control system was operating effectively. It was ascertained that sufficient dilution was occurring, therefore, no treatment of air effluent had been required. These efforts were conducted to ensure no inadvertent releases to the environment.

Based upon these determinations, routine airflow and concentration sampling of the SVE/SSD system occurred on a monthly basis from June 2008 to April 2009. Figures-(5-11) After the

collection of the April 2009 stack emission sample was collected, sampling continued annually from 2010 to 2014 during the heating season at which time the project had entered into the site management phase. On behalf of the site owner, routine sampling of the SVE/SSD systemS is performed followed by management of data generated monthly. Personnel mobilize to the site to collect airflow and bulk air concentration data. Airflow calculations for the SVE/SSD system system were generated using inline airflow rates and exhaust concentration data near the SVE well. In order to collect air concentration measurements, the SVE/SSD system system was temporarily shut down to eliminate the vacuum on the system piping. Within 20 seconds of system shut-down, bulk VOC measurements were measured with a Photoionization Detector (PID) via a sample port installed in the solid PVC piping. Once air concentration measurements are recorded, the system is returned to normal operation. Samples of the SVE/SSD system stack have been collected via 1.8 liter summa canisters (November 2008 through 2014) and tedlar bags (June 2008-Sept. 2008).

During the 2014 sampling event the active system was “pulsed” prior to the sampling event in an effort to draw conclusions on the amount of residual contamination remaining beneath the sub-slab. When the system is pulsed it is simply shut on and off monthly and then turned on again just prior to sampling. This technique causes residual vapors to build-up in the system piping so an accurate representation of lab findings can be interpreted. Pulsing an SVE/SSD system system helps us to understand how much contamination is remaining in the soil and/or the sub-slab.

As the project entered the site management phase, the sampling frequency of the system’s emissions and interior air was modified to annual analysis, which takes place during the heating season. Since annual sampling became the new protocol, samples were collected via 1.8L summa canisters and analyzed for volatile organic compounds (VOCs) per EPA Method TO-15. The minimum detection limits followed the New York State Department of Health requirements and were reported in ug/m3.

Routine operation of the active SVE/SSDS system included: routine airflow and exhaust sampling of the SVE/SSDS system on a semi-annual basis with periodic reporting to NYSDEC. Personnel were required to check the alarm/system fault light installed to confirm continued operation of the system. Personnel also checked the pressure gauge included as a supplemental warning device of

system malfunction or failure.

During routine maintenance, the following activities were conducted:

- a. A visual inspection of the complete system (e.g., vent fan, piping, warning device, labeling on systems, etc.);
- b. Identification and repair of leaks; and
- c. Inspection of the exhaust or discharge point to verify no air intakes have been located nearby.

As necessary, preventive maintenance (e.g., replacing vent fans), repairs and/or adjustments were made to the system to ensure its continued effectiveness at mitigating exposures related to soil vapor intrusion. The need for preventive maintenance depended upon the life expectancy and warranty for the specific part, as well as visual observations over time. The need for repairs and/or adjustments depended upon the results of a specific activity compared to that obtained when system operations were initiated. Since the start-up of the system in June 2008, to its shutdown in 2014, no deficiencies were observed that directly affected any compliance.

Periodic operation, monitoring and maintenance (OM&M) inspections of the SVE/SSD system were performed on an annual basis as opposed to a semi-annual basis, as stated in the previously issued SMP. As mentioned earlier in this document, monthly monitoring of the system occurred from June 2008 to April 2009 and continued annually thereafter during the 2010, 2011, 2012, 2013 and 2014 heating seasons. During the previously mentioned heating seasons (2009-2012) an indoor air sample accompanied the SVE/SSD system stack sample. The 2013 termination sampling included a sub-slab sample in lieu of an exhaust sample in order to determine the precise nature of any remaining source material beneath the floor, if any at all. The 2014 termination sampling followed the same protocol as 2013.

As SVE/SSDS systems are considered engineering controls and the submission of an annual certification to the State was required and submitted. **At this time the SVE/SSD system is no longer operating and has not operated since 2014, as per the DEC approval to shutdown the system.** Please see Attachment-A, the DEC approval letter to shutdown the system.

The current PRR review five (5) year period for 2019-2024 was performed to strictly ensure that the institutional controls (IC's) remain in place. A site inspection visit was performed by BEI on December 8th, 2025 in order to document the following IC's remain in place at the site:

site-use remains consistent with Commercial/Industrial-use and no on-site pumping wells have been installed or are being used for potable water. The IC certifications are attached as Appendix-A to this PRR and are certified by BEI Consulting, LLC.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Since the system began operating in June of 2008 to until 2014 when it was shutdown, compliance with the SMP was sufficient. The only minor component that was altered was the sampling frequency, which moved from monthly testing to yearly testing in April 2009. Monthly operations continued at the commencement of the system start-up from June 2008 to April 2009 and from April 2009 to the winter of 2014, sampling was performed on a yearly basis. Annual sampling included SVE/SSD system stack emission sampling and IAQ sampling from the winter of 2009 to the winter of 2012 and termination sampling was conducted for the winter of 2013 and 2014.

In conclusion, the performance and effectiveness of the remedy has been a complete success. The operation of the SVE/SSD system during its seven (7) years of operation has been successful in removing chlorinated VOC's from beneath the sub-slab. The remediation goals to reduce or eliminate exposure from soil vapor have been achieved and are strongly supported by certified lab data collected during operation. On six (6) separate occasions (2009-2014) indoor air was tested at the subject property and each sampling event showed non-detection results for PCE. According to matrix-2 guidelines (during 2014) outlined in the DOH "Guidance for Soil Vapor Intrusion," PCE sub-slab concentrations of less value than 100 ug/m³ in the sub-slab accompanied by non-detect indoor air concentrations substantiate no further action. Based upon the data compiled during the 2014 heating season, sub-slab vapor readings were under 100 ug/m³ and indoor air readings were non-detect. The IC's established remain in effect restricting the use of on-site groundwater and site -use remains as commercial/industrial.

FIGURES

◀ Residential Area ▶
Section 083 Block 4

See Tax Map in Appendix F

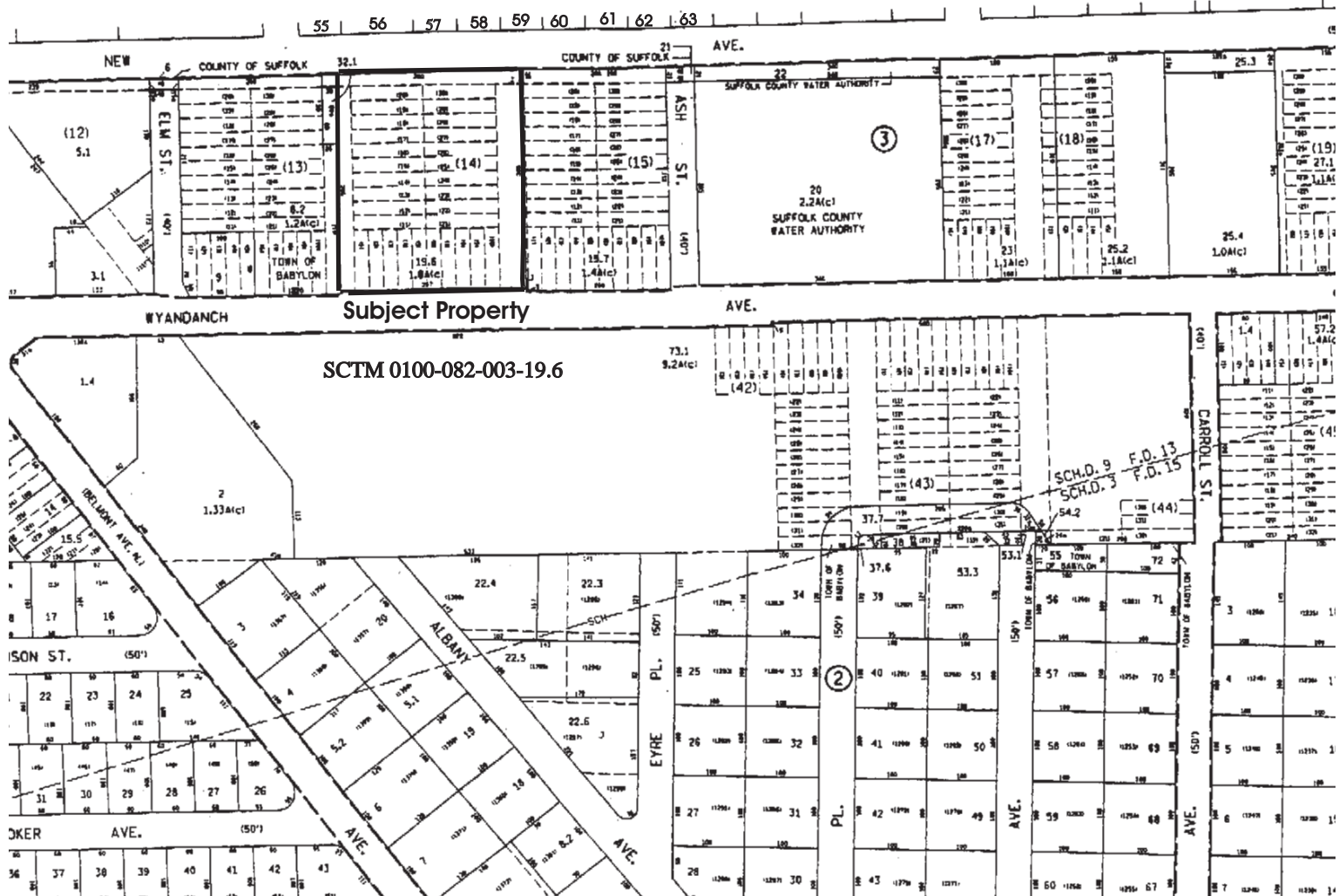


Figure 1 - Tax Map and Location Of Subject Property

Reference: County Of Suffolk Real Property Tax Services
Town of Babylon Radius Map Report

No scale

No scale

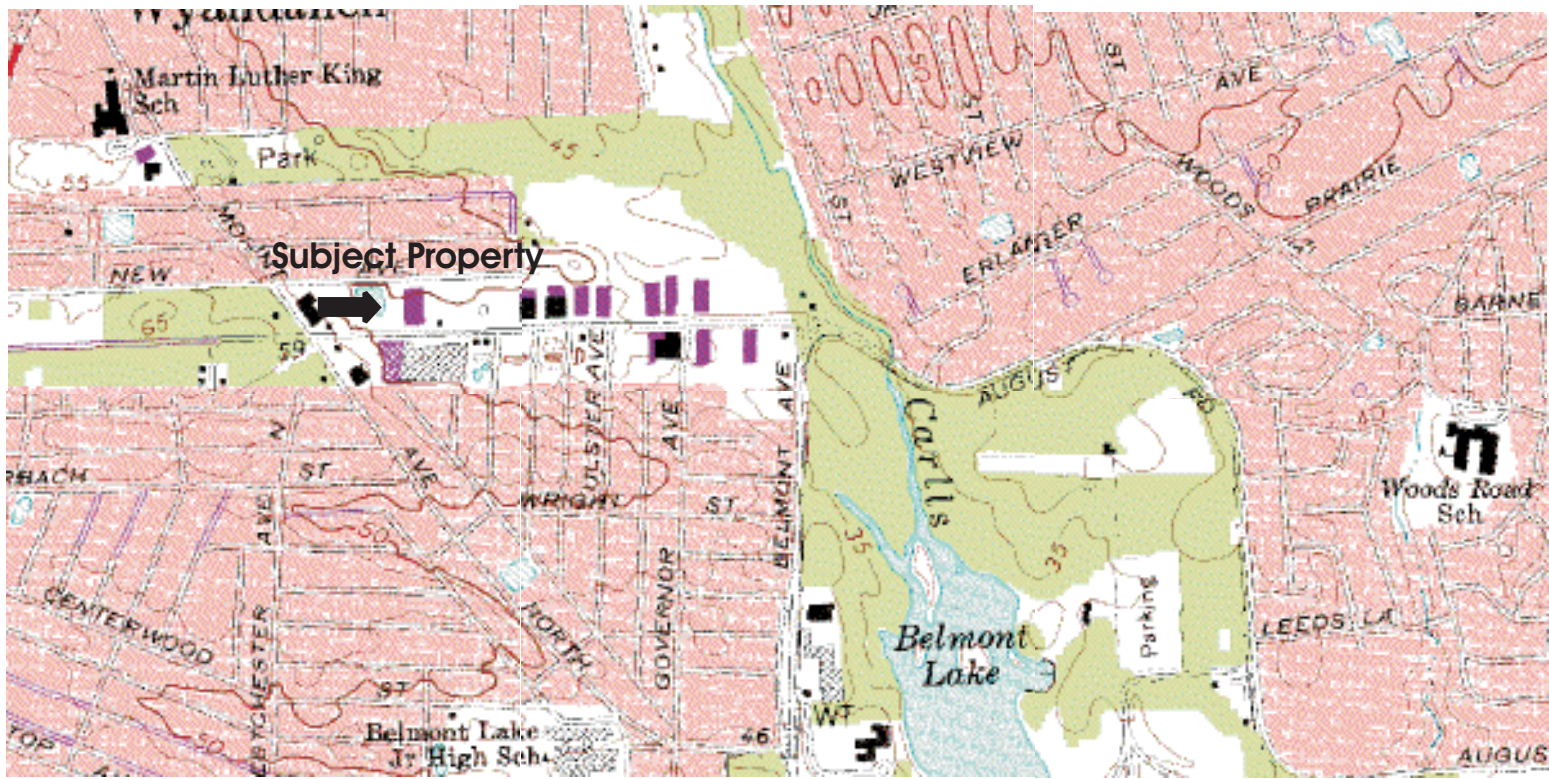


Figure 2 - Site Location and Topography

No scale

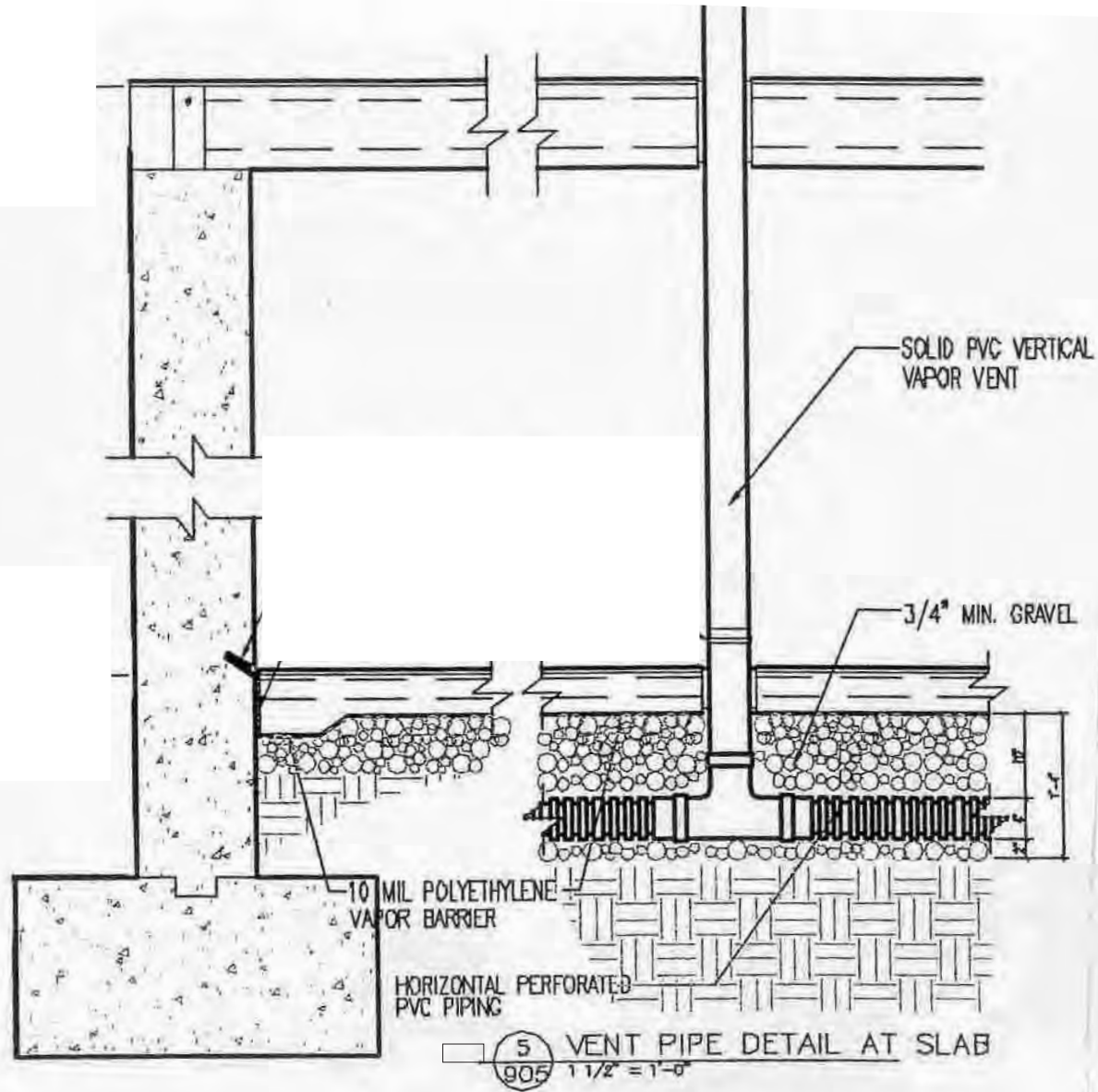


Figure 3 - Typical SSDS for slab-on-grade construction

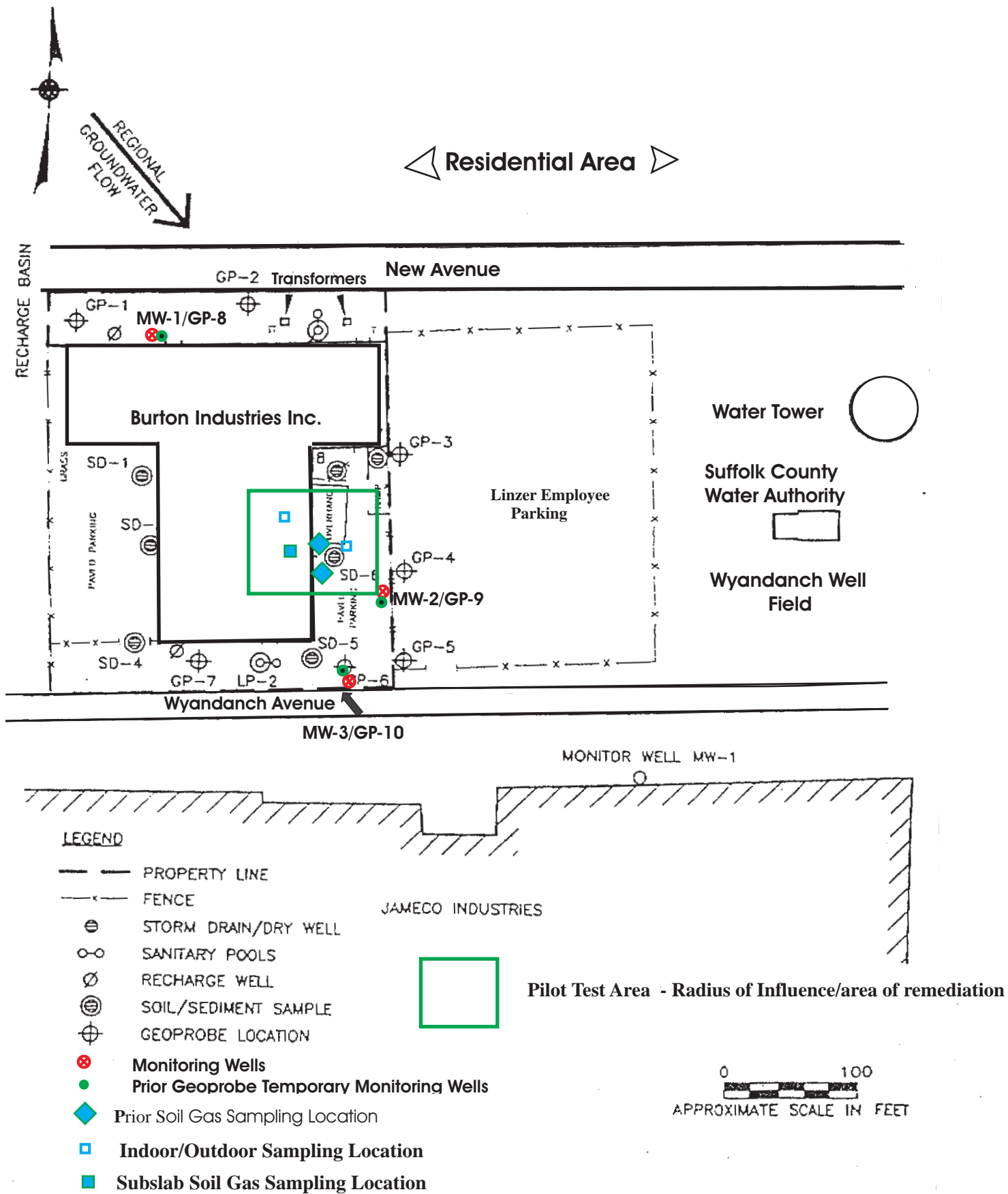


Figure 4 -Pilot Test Area and Radius of Influence for Soil Venting System

Periodic Review Report: Burton Industries **Figure-5**

Indoor Air/ SVE Stack Findings 2008-2014

Contaminant	Perchloroethene PCE ug/m3		TrichloroetheneTCE ug/m3	
Date	Indoor Air	VES Stack	Indoor Air	VES Stack
2008		3,555		0
2008		148		0
2008		148		0
2008		140		0
2008		67		0.27
2008		161		0.55
2009		149		2
2009		94		1
2009		212		5
2009	n/d	219	n/d	7
2010	n/d	229	6	6
2011	n/d	2	n/d	n/d
2012	n/d	70	n/d	2
2013	n/d	0	n/d	**n/d
2014	n/d	80.5	n/d	**0.7
*n/d non-detect *PCE Quantification Detect Limit <1.36 ug/m3				
*n/a not available * TCE Quantification Detect Limit < 1.07 ug/m3				

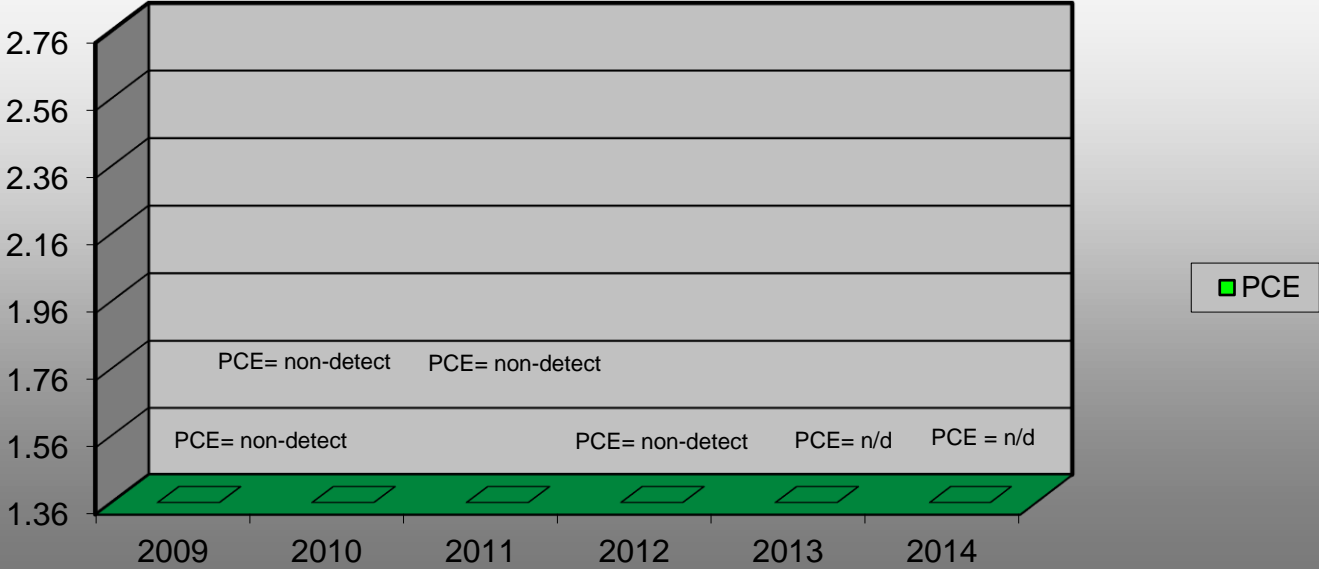
** sub-slab sample in leu of stack sample for termination

Contaminant	Perchloroethene PCE ug/m3		TrichloroetheneTCE ug/m3	
Date	Outdoor Air		Outdoor Air	
2010	n/d		9	
2011	n/s		n/s	
2012	n/s		n/s	
2013	n/d		n/d	
2014	n/d		n/d	
n/d= non-detect				
n/s= not sampled				

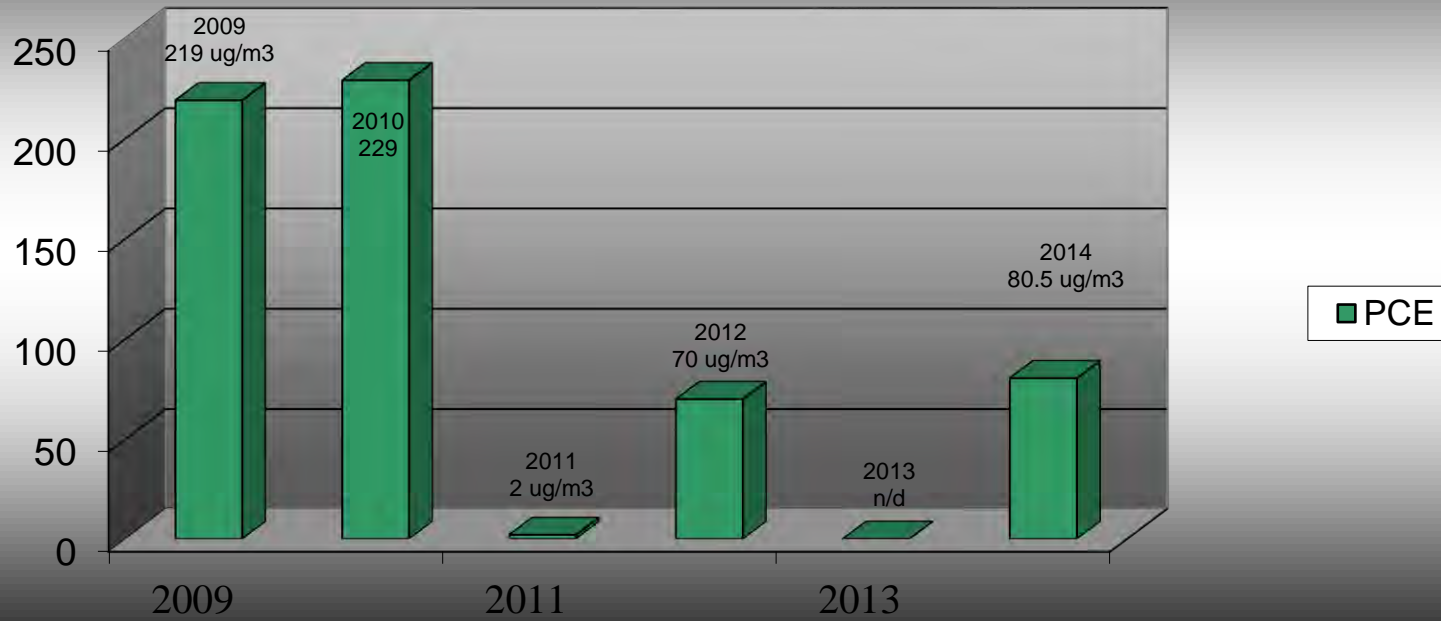
Burton Industries Indoor Air PCE (ug/m3)

Figure-6

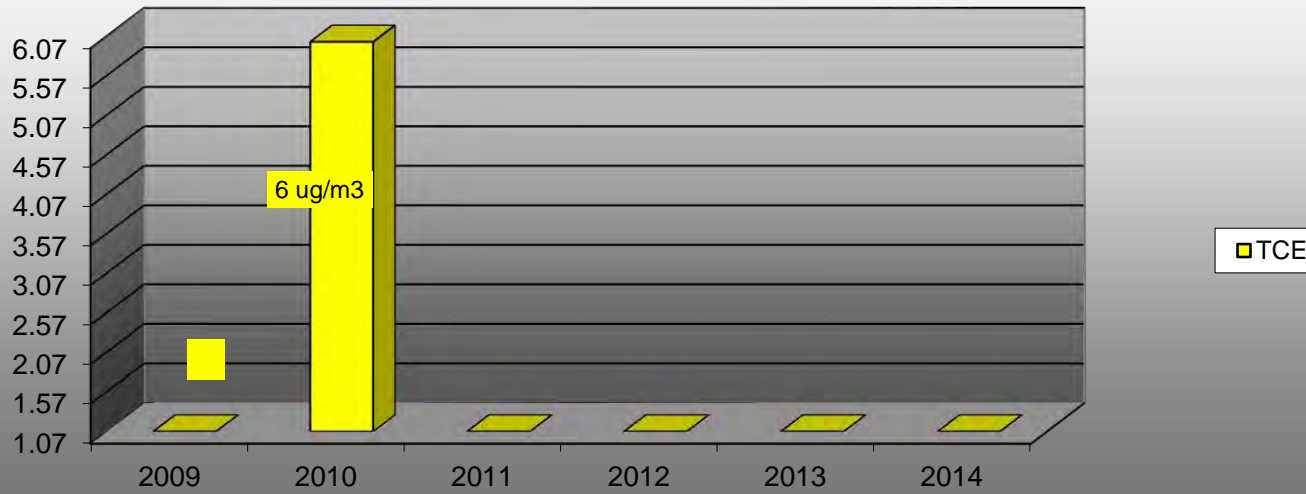
(PCE Quantification Limit <1.36 ug/m3)



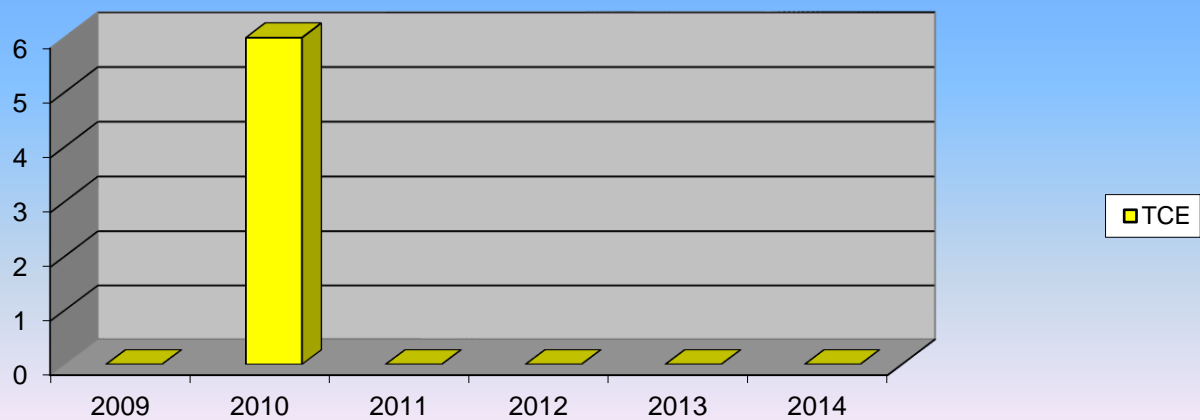
Burton Industries SVES Stack Emissions (ug/m3)
Figure-7



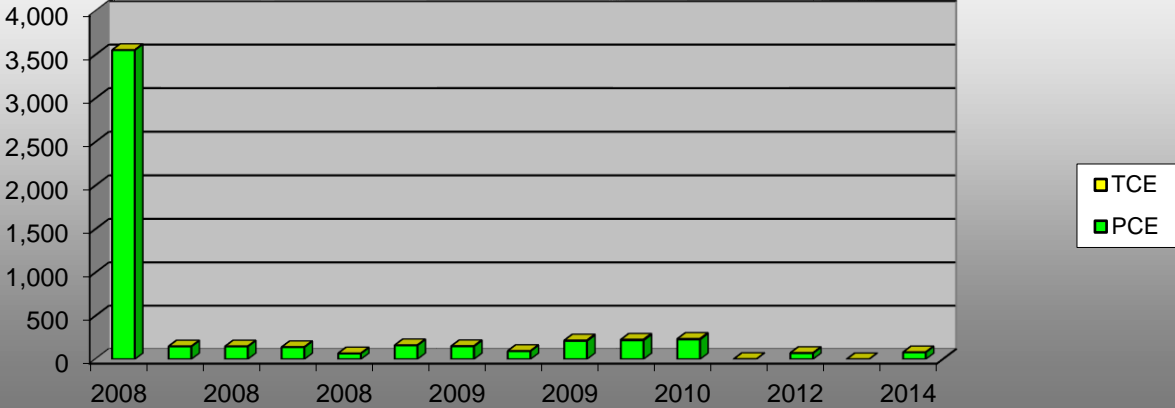
Burton Industries Indoor Air TCE (ug/m3)
Figure-8
(TCE Quantification Limit <1.07 ug/m3)



Burton Industries SVES Stack TCE (ug/m3)
Figure-9



Burton Industries
SVES Stack Comparison between PCE and TCE (ug/m3)
Figure-10

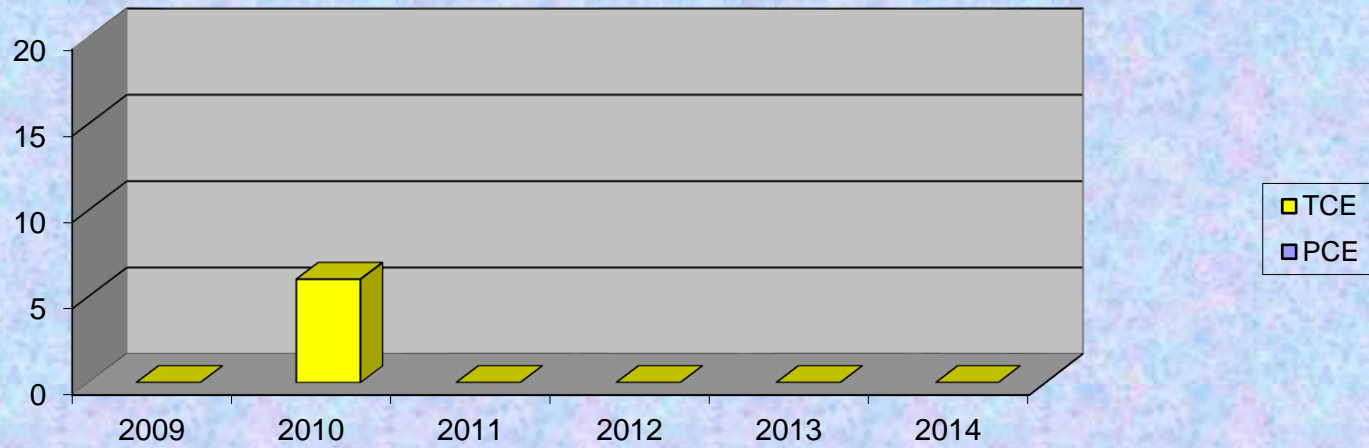


**Burton Industries
Indoor Air PCE vs. TCE ug/m3**

Figure-11

PCE Quantification Limit= 1.36 ug/m3

TCE Quantification Limit= 1.07 ug/m3



Appendix-A
IC certifications

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.
- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.



Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form



	Site Details	Box 1
Site No. V00239		
Site Name Burton Industries, Inc.		
Site Address: 243 Wyandach Avenue	Zip Code: 11704	
City/Town: Babylon		
County: Suffolk		
Site Acreage: 1.800		
Reporting Period: February 28, 2019 to February 28, 2024		
		YES NO
1. Is the information above correct?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
		Box 2
		YES NO
6. Is the current site use consistent with the use(s) listed below? Commercial and Industrial	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs in place and functioning as designed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.		
A Corrective Measures Work Plan must be submitted along with this form to address these issues.		
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date

SITE NO. V00239

Box 3

Description of Institutional Controls

Parcel

082-3-19.006

Owner

Burton Realty Group, LLC

Institutional Control

Ground Water Use Restriction
Landuse Restriction
Site Management Plan

Two consecutive years of post remedial monitoring has demonstrated that the SVES is no longer needed, as SVI is no longer a concern. The system will be dismantled and PR will be modified to every 5 years, at which time the volunteer will certify compliance with the Declaration of Covenants and Restrictions. A DCR was filed with the county clerk's office on 2/23/10 which restricts land use and groundwater use.

has been ~~of~~

Box 4

Description of Engineering Controls

Parcel

082-3-19.006

Engineering Control

~~Vapor Mitigation~~

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the ~~Engineering Control~~ certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

Institutional Control Box 3

2. For each ~~Engineering control~~ listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

Institutional Controls (IC's)

(a) The ~~Engineering Control(s)~~ employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. V00239

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE


I certify that all information and statements in Boxes 1, 2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Justin Halpin at BEI Consulting LLC C. Moriches, NY 11934
print name print business address

29 Beachfern Rd.

am certifying as Remedial Party (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.


Signature of Owner, Remedial Party, or Designated Representative
Rendering Certification

4/24/20
Date

Appendix-B
2014 IAQ Lab Data



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: BER132
Samples Received: 1/29/14

RECEIVED FEB 21 2014

SAMPLE DATA SUMMARY PACKAGE

JANUARY 2014

Report to:

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

Benton



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

SAMPLE DATA SUMMARY PACKAGE

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BERNINGER ENVIRONMENTAL
BURTON INDUSTRIES
SAMPLES RECEIVED: 1/29/14
SDG NO.: BER132

1. **NYS DEC SUMMARY FORMS**
2. **CHAIN OF CUSTODY DOCUMENTATION**
3. **SDG NARRATIVES**
4. **SAMPLE REPORTS**
 - 4.1 **VOLATILES**
5. **SURROGATE SPIKE ANALYSIS RESULTS**
 - 5.1 **VOLATILES**
6. **MATRIX SPIKE / MATRIX SPIKE DUPLICATE SUMMARY**
 - 6.1 **VOLATILES**
7. **BLANK SUMMARY DATA AND RESULTS**
 - 7.1 **VOLATILES**
8. **INTERNAL STANDARD AREA DATA**
 - 8.1 **VOLATILES**



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: BER132

Analytical Requirements

Customer Sample Code	Laboratory Sample Code	MSVOA
IA-14	1401C29-001	X
OA-14	1401C29-002	X
SS-14	1401C29-003	X

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

ASP B 2000
CG 2/18/14

BER132 S 3

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

SDG: BER132

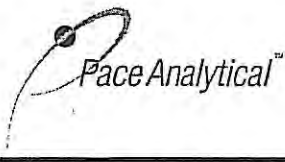
Laboratory Samp ID	Client Sample ID	Matrix	Analytical Protocol	Date Collected	Date Recd at Lab	Date Extracted	Date Analyzed	Extraction Method	DF	Level	Aux Cleanup
1401C29-001A	IA-14	Air	ETO-15	29-Jan-14	29-Jan-14		01-Feb-14		1	LOW	
1401C29-002A	OA-14	Air	ETO-15	29-Jan-14	29-Jan-14		01-Feb-14		1	LOW	
1401C29-003A	SS-14	Air	ETO-15	29-Jan-14	29-Jan-14		01-Feb-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

Client Name BER

Date and Time Received: 1/29/2014 2:25:00 PM

Work Order Number: 1401C29

RcptNo: 1

Received by: Melissa Watson

Completed by:

Reviewed by:

Completed Date: 1/29/2014 2:50:33 PM

Reviewed Date: 1/30/2014 10:57:16 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 Bill Sticker Not Present

Case Number:

SDG:
BER132

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:
 AIR CANISTERS
 Corrective Action:

INTERNAL CHAIN OF CUSTODY

CLIENT: BER DELIVERABLES: B0-70 TURN AROUND TIME: 21 days

SDG: BER132 CASE#: _____ MATRIX: Air pH CHECK Y or N (NA)

REMARKS: _____

RECEIVED BY: JS SIGNATURE: [Signature] DATE: 1/29/14 TIME: 1425

CLIENT SAMPLE ID	LAB #	DATE COLLECTED	BOTTLE TYPE	# OF BOTTLES	TESTS REQUESTED
1. IA-14	1401029-001A	1/29/14	canister	1	TO-15
2. OA-14	↓ -002A	↓	↓	↓	↓
3. SS-14	↓ -003A	↓	↓	↓	↓
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

JS
1/29/14



575 Broad Hollow Road
Melville, NY 11747

tel: 631.694.3040
fax: 631.420.8436

3. SDG NARRATIVES



SDG NARRATIVE FOR VOLATILE ANALYSES
SAMPLES RECEIVED: 1/29/2014
SDG#: BER132

For Sample(s):

IA-14
OA-14
SS-14

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 with the exceptions of a high recoveries for dichlorodifluoromethane and 1,3-butadiene.. The results for these analytes are regarded estimated and were therefore flagged with qualifiers in the samples.

In the initial calibration, the RSDs for the responses exceeded 30% for two compounds, but they were below the limit of 40% permitted for two analytes.

Tentatively identified compounds (TICs) identified as siloxanes are suspected to be column bleed from the analytical column 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: February 10, 2014

*
*

Ursula Middel
Quality Analyst



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

H2M LABS, INC.

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 semivolatile 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.

H2M LABS, INC.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified target compound.

E - This flag identified compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. If one or more compounds have a response greater than full scale, except as noted in Exhibit D, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration ranges in the second analysis, then the results of both analyses shall be reported on separate copies of Form I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g. a diluted analysis is not required for total xylenes unless the concentration of the peak representing the single isomer exceed 200 ug/L or the peak representing the two coeluting isomers on that GC column exceed 400 ug/L. Similarly, if the two 1,2-Dichloroethene isomers coelute, a diluted analysis is not required unless the concentration exceed 400 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag. This flag alerts data users that any discrepancies between the concentrations reported may be due to dilution of the sample or extract.

A - This flag indicates that a TIC is a suspected aldol -condensation product.

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the SDG narrative. Begin by using "X". If more than one flag is required use "Y" and "Z" as needed. If more than five qualifiers are required for a sample result, used the "X" flag to combine several flags as needed. For instance, the "X" flag might combine "A", "B", and "D" flags for some samples. The laboratory defined flags limited to the letters "X", "Y" and "Z".

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are detected in the sample.



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 : Walter Berninger

Collected : 1/29/2014 2:05:00 PM

Received : 1/29/2014 2:25:00 PM

Collected By : JB99

Lab No. : 1401C29-001

Client Sample ID: IA-14

Sample Information:

Type : Alr

Origin:

PO#14011257

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	02/01/2014 1:24 PM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	02/01/2014 1:24 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	02/01/2014 1:24 PM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	02/01/2014 1:24 PM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	02/01/2014 1:24 PM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	02/01/2014 1:24 PM
1,2,4-Trichlorobenzene	< 0.20	ppbv		1	< 1.48	µg/m³	02/01/2014 1:24 PM
1,2,4-Trimethylbenzene	0.23	ppbv		1	1.13	µg/m³	02/01/2014 1:24 PM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	02/01/2014 1:24 PM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	02/01/2014 1:24 PM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	02/01/2014 1:24 PM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	02/01/2014 1:24 PM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	02/01/2014 1:24 PM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	02/01/2014 1:24 PM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	02/01/2014 1:24 PM
1,3,5-Trimethylbenzene	< 0.20	ppbv		1	< 0.98	µg/m³	02/01/2014 1:24 PM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	02/01/2014 1:24 PM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	02/01/2014 1:24 PM
1,3-Dichloropropane (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	02/01/2014 1:24 PM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	02/01/2014 1:24 PM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	02/01/2014 1:24 PM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	02/01/2014 1:24 PM
2,2,4-Trimethylpentane	0.26	ppbv		1	1.21	µg/m³	02/01/2014 1:24 PM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	02/01/2014 1:24 PM
4-Ethyltoluene	< 0.20	ppbv	+	1	< 0.98	µg/m³	02/01/2014 1:24 PM
Allyl Chloride	< 0.20	ppbv		1	< 0.63	µg/m³	02/01/2014 1:24 PM
Benzene	0.47	ppbv		1	1.50	µg/m³	02/01/2014 1:24 PM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	02/01/2014 1:24 PM
Bromoform	< 0.20	ppbv		1	< 2.07	µg/m³	02/01/2014 1:24 PM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	02/01/2014 1:24 PM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	02/01/2014 1:24 PM
Carbon tetrachloride	0.07	ppbv	J	1	0.44	µg/m³	02/01/2014 1:24 PM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	02/01/2014 1:24 PM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	02/01/2014 1:24 PM
Chloroform	< 0.20	ppbv		1	< 0.98	µg/m³	02/01/2014 1:24 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
 + = 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

Joann M. Slavins

Laboratory Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported :



LABORATORY RESULTS

Results for the samples and analytes requested

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

Lab No. : 1401C29-001
Client Sample ID: IA-14

Sample Information:
Type: Air

Attn To : Walter Berninger
Collected : 1/29/2014 2:05:00 PM
Received : 1/29/2014 2:25:00 PM PC#14011257
Collected By: JB99

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.69	ppbv		1	1.43	µg/m³	02/01/2014 1:24 PM
Cyclohexane	0.14	ppbv	J	1	0.48	µg/m³	02/01/2014 1:24 PM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m³	02/01/2014 1:24 PM
Dichlorodifluoromethane	0.57	ppbv	S	1	2.82	µg/m³	02/01/2014 1:24 PM
Ethylbenzene	0.16	ppbv	J	1	0.69	µg/m³	02/01/2014 1:24 PM
Methylene chloride	0.30	ppbv		1	1.16	µg/m³	02/01/2014 1:24 PM
n-Heptane	0.23	ppbv		1	0.94	µg/m³	02/01/2014 1:24 PM
n-Hexane	0.65	ppbv		1	2.29	µg/m³	02/01/2014 1:24 PM
Styrene	< 0.20	ppbv		1	< 0.85	µg/m³	02/01/2014 1:24 PM
Tetrachloroethene	< 0.20	ppbv		1	< 1.36	µg/m³	02/01/2014 1:24 PM
Toluene	0.95	ppbv		1	3.58	µg/m³	02/01/2014 1:24 PM
Trichloroethene	< 0.20	ppbv		1	< 1.07	µg/m³	02/01/2014 1:24 PM
Trichlorofluoromethane	0.27	ppbv		1	1.52	µg/m³	02/01/2014 1:24 PM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m³	02/01/2014 1:24 PM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m³	02/01/2014 1:24 PM
Xylenes (m&p)	0.56	ppbv		1	2.43	µg/m³	02/01/2014 1:24 PM
Xylenes (o)	0.21	ppbv		1	0.91	µg/m³	02/01/2014 1:24 PM
Surr:4 -Bromofluorobenzene	95.7	%REC	Limit:	70-130	No M.W. Data		02/01/2014 1:24 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
+ = 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

Date Reported :

Laboratory Manager

Test results meet the requirements of NELAC unless otherwise noted.

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

IA-14

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER132

Matrix: (soil/water) AIR Lab Sample ID: 1401C29-001A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I11797.D

Level: (low/med) LOW Date Received: 01/29/14

% Moisture: not dec. Date Analyzed: 02/01/14

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 (4.01)	4.01	2	J
2.	(DEL) Alkane: Straight-Chain (4.25)	4.25	2	J
3.	(DEL) Alkane: Branched (5.14)	5.14	6	J
4.	(DEL) Alkane: Straight-Chain (5.61)	5.61	2	J
5. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.33	1	JNX
6.	(DEL) Alkane: Straight-Chain (16.21)	16.21	2	J
7.	(DEL) Alkane: Cyclic (16.5)	16.50	1	J
8.	(DEL) Alkane: Cyclic (16.96)	16.96	2	J
9.	(DEL) Alkane: Branched (17.47)	17.47	1	J
10.	(DEL) Alkane: Straight-Chain (18.12)	18.12	2	J



LABORATORY RESULTS

Results for the samples and analytes requested

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Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Walter Berninger

Collected : 1/29/2014 2:08:00 PM

Received : 1/29/2014 2:25:00 PM

Collected By : JB99

Lab No. : 1401C29-002

Client Sample ID: OA-14

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/m ³	02/01/2014 2:07 PM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m ³	02/01/2014 2:07 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m ³	02/01/2014 2:07 PM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m ³	02/01/2014 2:07 PM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m ³	02/01/2014 2:07 PM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m ³	02/01/2014 2:07 PM
1,2,4-Trichlorobenzene	< 0.20	ppbv		1	< 1.48	µg/m ³	02/01/2014 2:07 PM
1,2,4-Trimethylbenzene	< 0.20	ppbv		1	< 0.98	µg/m ³	02/01/2014 2:07 PM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m ³	02/01/2014 2:07 PM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m ³	02/01/2014 2:07 PM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m ³	02/01/2014 2:07 PM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m ³	02/01/2014 2:07 PM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m ³	02/01/2014 2:07 PM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m ³	02/01/2014 2:07 PM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m ³	02/01/2014 2:07 PM
1,3,5-Trimethylbenzene	< 0.20	ppbv		1	< 0.98	µg/m ³	02/01/2014 2:07 PM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m ³	02/01/2014 2:07 PM
1,3-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m ³	02/01/2014 2:07 PM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m ³	02/01/2014 2:07 PM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m ³	02/01/2014 2:07 PM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m ³	02/01/2014 2:07 PM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m ³	02/01/2014 2:07 PM
2,2,4-Trimethylpentane	< 0.20	ppbv		1	< 0.93	µg/m ³	02/01/2014 2:07 PM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m ³	02/01/2014 2:07 PM
4-Ethyltoluene	< 0.20	ppbv	+	1	< 0.98	µg/m ³	02/01/2014 2:07 PM
Allyl Chloride	< 0.20	ppbv		1	< 0.63	µg/m ³	02/01/2014 2:07 PM
Benzene	0.25	ppbv		1	0.80	µg/m ³	02/01/2014 2:07 PM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m ³	02/01/2014 2:07 PM
Bromoform	< 0.20	ppbv		1	< 2.07	µg/m ³	02/01/2014 2:07 PM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m ³	02/01/2014 2:07 PM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m ³	02/01/2014 2:07 PM
Carbon tetrachloride	0.08	ppbv	J	1	0.50	µg/m ³	02/01/2014 2:07 PM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m ³	02/01/2014 2:07 PM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m ³	02/01/2014 2:07 PM
Chloroform	1.03	ppbv		1	5.03	µg/m ³	02/01/2014 2:07 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
 + = 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

Joann M. Slavins

Laboratory Manager

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Date Reported :



LABORATORY RESULTS

Results for the samples and analytes requested

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Beminger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Walter Beminger

Collected : 1/29/2014 2:08:00 PM

Received : 1/29/2014 2:25:00 PM

Collected By : JB99

Lab No. : 1401C29-002

Client Sample ID: OA-14

Sample Information:

Type : Air

Origin:

PO#14011257

Method: ETO-15 :							
Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.63	ppbv		1	1.30	µg/m ³	02/01/2014 2:07 PM
Cyclohexane	< 0.20	ppbv		1	< 0.69	µg/m ³	02/01/2014 2:07 PM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m ³	02/01/2014 2:07 PM
Dichlorodifluoromethane	0.59	ppbv	S	1	2.92	µg/m ³	02/01/2014 2:07 PM
Ethylbenzene	< 0.20	ppbv		1	< 0.87	µg/m ³	02/01/2014 2:07 PM
Methylene chloride	1.58	ppbv		1	6.14	µg/m ³	02/01/2014 2:07 PM
n-Heptane	< 0.20	ppbv		1	< 0.82	µg/m ³	02/01/2014 2:07 PM
n-Hexane	0.30	ppbv		1	1.06	µg/m ³	02/01/2014 2:07 PM
Styrene	< 0.20	ppbv		1	< 0.85	µg/m ³	02/01/2014 2:07 PM
Tetrachloroethene	< 0.20	ppbv		1	< 1.36	µg/m ³	02/01/2014 2:07 PM
Toluene	0.24	ppbv		1	0.90	µg/m ³	02/01/2014 2:07 PM
Trichloroethene	< 0.20	ppbv		1	< 1.07	µg/m ³	02/01/2014 2:07 PM
Trichlorofluoromethane	0.27	ppbv		1	1.52	µg/m ³	02/01/2014 2:07 PM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m ³	02/01/2014 2:07 PM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m ³	02/01/2014 2:07 PM
Xylenes (m&p)	0.19	ppbv	J	1	0.83	µg/m ³	02/01/2014 2:07 PM
Xylenes (o)	< 0.20	ppbv		1	< 0.87	µg/m ³	02/01/2014 2:07 PM
Surr:4 -Bromofluorobenzene	90.7	%REC		Limit: 70-130	No M.W. Data		02/01/2014 2:07 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
 + = ELAP / NELAC does not offer certification for this analyte
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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

Date Reported :

Laboratory Manager

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

OA-14

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER132

Matrix: (soil/water) AIR Lab Sample ID: 1401C29-002A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I11798.D

Level: (low/med) LOW Date Received: 01/29/14

% Moisture: not dec. Date Analyzed: 02/01/14

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: 2 (μ g/L or μ g/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	(DEL) Alkane; Branched	5.13	1	J
2. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.33	1	JNX
3. 000556-67-2	Cyclotetrasiloxane, octamethyl-	17.99	1	JNX



LABORATORY RESULTS

Results for the samples and analytes requested

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Berninger Environmental, Inc.

90 Knickerbocker Avenue
Bohemia, NY 11716

Attn To : Walter Berninger

Collected : 1/29/2014 2:10:00 PM

Received : 1/29/2014 2:25:00 PM

Collected By : JB99

Lab No. : 1401C29-003

Client Sample ID: SS-14

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	02/01/2014 2:49 PM
1,1,2,2-Tetrachloroethane	< 0.20	ppbv		1	< 1.37	µg/m³	02/01/2014 2:49 PM
1,1,2-Trichloro-1,2,2-trifluoroethane	< 0.20	ppbv		1	< 1.53	µg/m³	02/01/2014 2:49 PM
1,1,2-Trichloroethane	< 0.20	ppbv		1	< 1.09	µg/m³	02/01/2014 2:49 PM
1,1-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	02/01/2014 2:49 PM
1,1-Dichloroethene	< 0.20	ppbv		1	< 0.79	µg/m³	02/01/2014 2:49 PM
1,2,4-Trichlorobenzene	< 0.20	ppbv		1	< 1.48	µg/m³	02/01/2014 2:49 PM
1,2,4-Trimethylbenzene	0.99	ppbv		1	4.87	µg/m³	02/01/2014 2:49 PM
1,2-Dibromoethane	< 0.20	ppbv		1	< 1.54	µg/m³	02/01/2014 2:49 PM
1,2-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	02/01/2014 2:49 PM
1,2-Dichloroethane	< 0.20	ppbv		1	< 0.81	µg/m³	02/01/2014 2:49 PM
1,2-Dichloroethene (cis)	< 0.20	ppbv		1	< 0.79	µg/m³	02/01/2014 2:49 PM
1,2-Dichloroethene (trans)	< 0.20	ppbv		1	< 0.79	µg/m³	02/01/2014 2:49 PM
1,2-Dichloropropane	< 0.20	ppbv		1	< 0.92	µg/m³	02/01/2014 2:49 PM
1,2-Dichlorotetrafluoroethane	< 0.20	ppbv		1	< 1.40	µg/m³	02/01/2014 2:49 PM
1,3,5-Trimethylbenzene	0.24	ppbv		1	1.18	µg/m³	02/01/2014 2:49 PM
1,3-Butadiene	< 0.20	ppbv		1	< 0.44	µg/m³	02/01/2014 2:49 PM
1,3-Dichlorobenzene	8.92	ppbv		1	53.6	µg/m³	02/01/2014 2:49 PM
1,3-Dichloropropene (cis)	< 0.20	ppbv		1	< 0.91	µg/m³	02/01/2014 2:49 PM
1,3-Dichloropropene (trans)	< 0.20	ppbv		1	< 0.91	µg/m³	02/01/2014 2:49 PM
1,3-Hexachlorobutadiene	< 0.20	ppbv		1	< 2.13	µg/m³	02/01/2014 2:49 PM
1,4-Dichlorobenzene	< 0.20	ppbv		1	< 1.20	µg/m³	02/01/2014 2:49 PM
2,2,4-Trimethylpentane	3.77	ppbv		1	17.6	µg/m³	02/01/2014 2:49 PM
2-Chlorotoluene	< 0.20	ppbv		1	< 1.04	µg/m³	02/01/2014 2:49 PM
4-Ethyltoluene	0.22	ppbv	+	1	1.08	µg/m³	02/01/2014 2:49 PM
Allyl Chloride	< 0.20	ppbv		1	< 0.63	µg/m³	02/01/2014 2:49 PM
Benzene	1.61	ppbv		1	5.14	µg/m³	02/01/2014 2:49 PM
Bromodichloromethane	< 0.20	ppbv		1	< 1.34	µg/m³	02/01/2014 2:49 PM
Bromoform	< 0.20	ppbv		1	< 2.07	µg/m³	02/01/2014 2:49 PM
Bromomethane	< 0.20	ppbv		1	< 0.78	µg/m³	02/01/2014 2:49 PM
Carbon disulfide	< 0.20	ppbv		1	< 0.62	µg/m³	02/01/2014 2:49 PM
Carbon tetrachloride	< 0.20	ppbv		1	< 1.26	µg/m³	02/01/2014 2:49 PM
Chlorobenzene	< 0.20	ppbv		1	< 0.92	µg/m³	02/01/2014 2:49 PM
Chloroethane	< 0.20	ppbv		1	< 0.53	µg/m³	02/01/2014 2:49 PM
Chloroform	0.18	ppbv	J	1	0.88	µg/m³	02/01/2014 2:49 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
 + = 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

Joann M. Slavins

Laboratory Manager

Test results meet the requirements of NELAC unless otherwise noted.

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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 : Walter Berninger

Collected : 1/29/2014 2:10:00 PM

Received : 1/29/2014 2:25:00 PM

Collected By : JB99

Lab No. : 1401C29-003
Client Sample ID: SS-14

PO#14011257

Sample Information:

Type : Air

Origin:

Method: ETO-15 : Parameter(s)	Result	Units	Qualifier	D.F.	Result	Units	Date Analyzed
Chloromethane	0.45	ppbv		1	0.93	µg/m ³	02/01/2014 2:49 PM
Cyclohexane	1.43	ppbv		1	4.92	µg/m ³	02/01/2014 2:49 PM
Dibromochloromethane	< 0.20	ppbv		1	< 1.70	µg/m ³	02/01/2014 2:49 PM
Dichlorodifluoromethane	0.59	ppbv	S	1	2.92	µg/m ³	02/01/2014 2:49 PM
Ethylbenzene	1.02	ppbv		1	4.43	µg/m ³	02/01/2014 2:49 PM
Methylene chloride	0.57	ppbv		1	2.21	µg/m ³	02/01/2014 2:49 PM
n-Heptane	2.37	ppbv		1	9.71	µg/m ³	02/01/2014 2:49 PM
n-Hexane	3.88	ppbv		1	13.7	µg/m ³	02/01/2014 2:49 PM
Styrene	0.17	ppbv	J	1	0.72	µg/m ³	02/01/2014 2:49 PM
Tetrachloroethene	11.9	ppbv		1	80.5	µg/m ³	02/01/2014 2:49 PM
Toluene	12.3	ppbv		1	46.3	µg/m ³	02/01/2014 2:49 PM
Trichloroethene	0.13	ppbv	J	1	0.70	µg/m ³	02/01/2014 2:49 PM
Trichlorofluoromethane	0.33	ppbv		1	1.85	µg/m ³	02/01/2014 2:49 PM
Vinyl bromide	< 0.20	ppbv		1	< 0.87	µg/m ³	02/01/2014 2:49 PM
Vinyl chloride	< 0.20	ppbv		1	< 0.51	µg/m ³	02/01/2014 2:49 PM
Xylenes (m&p)	3.32	ppbv		1	14.4	µg/m ³	02/01/2014 2:49 PM
Xylenes (o)	1.47	ppbv		1	6.39	µg/m ³	02/01/2014 2:49 PM
Surr:4 -Bromofluorobenzene	107	%REC		Limit: 70-130	No M.W. Data		02/01/2014 2:49 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
 + = 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

Joann M. Slavins
 Laboratory Manager

Test results meet the requirements of NELAC unless otherwise noted.

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Date Reported :

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SS-14

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER132

Matrix: (soil/water) AIR Lab Sample ID: 1401C29-003A

Sample wt/vol: 400 (g/mL) ML Lab File ID: 4\I11799.D

Level: (low/med) LOW Date Received: 01/29/14

% Moisture: not dec. Date Analyzed: 02/01/14

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: 6 (μ g/L or μ g/Kg) ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 000067-64-1	Acetone (5.1)	5.11	61	JN
2. 000067-63-0	Isopropyl Alcohol (5.4)	5.48	710	JN
3. 001066-40-6	Silanol, trimethyl-	7.15	33	JN
4.	(DEL) Alkane: Straight-Chain (13.83)	13.83	17	J
5. 000541-05-9	Cyclotrisiloxane, hexamethyl-	14.33	34	JNX
6.	(DEL) Alkane: Cyclic (15.26)	15.26	42	J
7.	(DEL) Alkane: Cyclic (15.99)	15.99	16	J
8.	(DEL) Alkane: Cyclic (16.07)	16.07	24	J
9.	(DEL) Alkane: Cyclic (16.13)	16.13	14	J
10.	(DEL) Alkane: Straight-Chain (16.22)	16.22	41	J
11.	(DEL) Alkane: Cyclic (16.5)	16.50	31	J
12.	unknown (16.78)	16.78	17	J
13.	(DEL) Alkane: Cyclic (16.96)	16.96	45	J
14.	(DEL) Alkane: Branched (17.15)	17.15	24	J
15.	(DEL) Alkane: Cyclic (17.58)	17.58	36	J
16.	(DEL) Alkane: Branched (17.65)	17.65	14	J
17.	(DEL) Alkane: Cyclic (17.86)	17.86	16	J
18.	unknown (18.49)	18.49	15	J
19.	(DEL) Alkane: Branched (18.55)	18.55	18	J
20.	(DEL) Alkane: Cyclic (18.8)	18.80	18	J



575 Broad Hollow Road
Melville, NY 11747

tel 631.694.3040
fax 631.420.8436

5. SURROGATE SPIKE ANALYSIS RESULTS
5.1 VOLATILES

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478

Case No.: BER

SAS No.: _____

SDG No.: BER132

Level: (low/med) LOW

	EPA SAMPLE NO.	1 BFB #		OTHER	TOT OUT
01	VBLK013114	94			0
02	LFB013114	100			0
03	IA-14	96			0
04	OA-14	91			0
05	SS-14	107			0

QC Limit

1 BFB = 4-Bromofluorobenzene (70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits



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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.: BER132
 Sample ID LFB013114 Level: (low/med) LOW
 Column ID Rxi-1MS Column Diam .32
 Inst. ID HP5973I Init. Calib. Date(s): 12/17/13 18:13
 Analysis Date: 01/31/14 22:02 12/18/13 16:55

COMPOUND	SPIKE ADDED (ppbv)	SAMPLE CONCENTRATION (ppbv)	SPIKE CONCENTRATION (ppbv)	SPIKE % REC #	QC. LIMITS REC.
Dichlorodifluoromethane	10	0	13.1	131*	70-130
1,2-Dichlorotetrafluoroethane	10	0	12.7	127	70-130
Chloromethane	10	0	13	130	70-130
1,3-Butadiene	10	0	13.2	132*	70-130
Bromomethane	10	0	11.7	117	70-130
Vinyl chloride	10	0	12.3	123	70-130
Chloroethane	10	0	11.9	119	70-130
Methylene chloride	10	0	9.39	94	70-130
Allyl Chloride	10	0	11.5	115	70-130
Vinyl bromide	10	0	11.4	114	70-130
Carbon disulfide	10	0	11.7	117	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	10	0	11.6	116	70-130
1,1-Dichloroethene	10	0	11.2	112	70-130
1,1-Dichloroethane	10	0	11.7	117	70-130
Trichlorofluoromethane	10	0	12.6	126	70-130
n-Hexane	10	0	12	120	70-130
1,2-Dichloroethene (trans)	10	0	11.2	112	70-130
1,2-Dichloroethene (cis)	10	0	10.8	108	70-130
Chloroform	10	0	11.5	115	70-130
1,2-Dichloroethane	10	0	12.3	123	70-130
1,1,1-Trichloroethane	10	0	10.7	107	70-130
Cyclohexane	10	0	10.8	108	70-130
Carbon tetrachloride	10	0	10.7	107	70-130
Bromodichloromethane	10	0	10.8	108	70-130
1,2-Dichloropropane	10	0	10.2	102	70-130
2,2,4-Trimethylpentane	10	0	10.6	106	70-130
1,3-Dichloropropene (cis)	10	0	10.4	104	70-130
Trichloroethene	10	0	8.86	89	70-130
Benzene	10	0	9.72	97	70-130
Dibromochloromethane	10	0	10.3	103	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 52 outside limits

COMMENTS: _____

3A
SYSTEM MONITORING SPIKE RECOVERY

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER132
 Sample ID LFB013114 Level: (low/med) LOW
 Column ID Rxi-1MS Column Diam .32
 Inst. ID HP5973I Init. Calib. Date(s): 12/17/13 18:13
 Analysis Date: 01/31/14 22:02 12/18/13 16:55

1,3-Dichloropropene (trans)	10	0	10.4	104	70-130
1,1,2-Trichloroethane	10	0	9.72	97	70-130
Bromoform	10	0	9.7	97	70-130
n-Heptane	10	0	10.8	108	70-130
1,2-Dibromoethane	10	0	9.4	94	70-130
Tetrachloroethene	10	0	8.23	82	70-130
1,1,2,2-Tetrachloroethane	10	0	9.1	91	70-130
Toluene	10	0	9.32	93	70-130
Chlorobenzene	10	0	9.2	92	70-130
Ethylbenzene	10	0	9.33	93	70-130
Styrene	10	0	9.06	91	70-130
Xylenes (m&p)	20	0	18.5	93	70-130
Xylenes (o)	10	0	9.37	94	70-130
2-Chlorotoluene	10	0	9.85	99	70-130
4-Ethyltoluene	10	0	9.47	95	70-130
1,3,5-Trimethylbenzene	10	0	9.15	92	70-130
1,2,4-Trimethylbenzene	10	0	9.21	92	70-130
1,3-Dichlorobenzene	10	0	8.5	85	70-130
1,4-Dichlorobenzene	10	0	8.07	81	70-130
1,2-Dichlorobenzene	10	0	8.31	83	70-130
1,3-Hexachlorobutadiene	10	0	8.65	87	70-130
1,2,4-Trichlorobenzene	10	0	7.9	79	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 52 outside limits

COMMENTS: _____



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tel 631.694.3040
fax 631.420.8436

7. BLANK SUMMARY DATA AND RESULTS
7.1 VOLATILES

4A

EPA SAMPLE NO.

VOLATILE METHOD BLANK SUMMARY

VBLK013114

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478

Case No.: BER

SAS No.: _____

SDG No.: BER132

Lab File ID: 4\I11779.D

Lab Sample ID: VBLK013114

Date Analyzed: 01/31/14

Time Analyzed: 20:37

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	LFB013114	LFB013114	4\I1781.D	22:02
02	IA-14	1401C29-001A	4\I1797.D	13:24
03	OA-14	1401C29-002A	4\I1798.D	14:07
04	SS-14	1401C29-003A	4\I1799.D	14:49

COMMENTS: _____

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK013114

Lab Name: PACE ANALYTICAL Contract: _____

Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER132

Matrix: (soil/water) AIR Lab Sample ID: VBLK013114

Sample wt/vol: 5 (g/mL) G Lab File ID: 4\I11779.D

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

% Moisture: not dec. Date Analyzed: 01/31/14

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>ppbv</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	0.2	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

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK013114

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478Case No.: BER

SAS No.: _____

SDG No.: BER132

Matrix: (soil/water)

AIRLab Sample ID: VBLK013114Sample wt/vol: 5(g/mL) GLab File ID: 4\I11779.D

Level: (low/med)

LOW

Date Received:

% Moisture: not dec.

Date Analyzed: 01/31/14GC Column: Rxi-1MSID: .32 (mm)Dilution Factor: 1.00

Soil Extract Volume: _____ (µL)

Soil Aliquot Volume _____ (µL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(µg/L or µg/Kg) ppbv	Q
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

1F

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK013114

Lab Name: PACE ANALYTICAL

Contract: _____

Lab Code: 10478

Case No.: BER

SAS No.: _____

SDG No.: BER132

Matrix: (soil/water)

AIR

Lab Sample ID:

VBLK013114

Sample wt/vol: 400

(g/mL) ML

Lab File ID:

4\I11779.D

Level: (low/med) LOW

Date Received:

% Moisture: not dec.

Date Analyzed:

01/31/14

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)

ppbv

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q



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8. INTERNAL STANDARD AREA DATA
8.1 VOLATILES

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: PACE ANALYTICAL Contract: _____
 Lab Code: 10478 Case No.: BER SAS No.: _____ SDG No.: BER132
 Lab File ID (Standard): 4\I11777.D Date Analyzed: 01/31/14
 EPA Sample No. (VSTD050##): VSTD010 Time Analyzed: 19:11
 Instrument ID: HP5973I Heated Purge: (Y/N) N
 GC Column: Rxi-1MS ID: .32 (mm)

	IS1 AREA #	RT #	IS2 AREA #	RT #	IS3 (CBZ) AREA #	RT #	
12 HOUR STD	533646	8.037	2306270	10.018	1861819	14.664	
UPPER LIMIT	747104.4	8.367	3228778	10.348	2606546.6	14.994	
LOWER LIMIT	320188	7.707	1383762	9.688	1117091	14.334	
EPA SAMPLE							
01	VBLK013114	537903	8.04 *	2283928	10.02	1713840	14.66
02	LFB013114	515227	8.04	2251892	10.02	1791388	14.66
03	IA-14	508903	8.04	2247443	10.02	1665982	14.66
04	QA-14	516514	8.04	2174281	10.02	1586559	14.66
05	SS-14	509430	8.04	2180884	10.02	1701120	14.66

IS1 = Bromochloromethane
 IS2 = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

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-C

2014 NYSDOH Questionnaire

Burton Ind. 2014

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

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

Preparer's Name Justin H. Date/Time Prepared 1/29/14
Preparer's Affiliation BEC Phone No. 589-6521 (631)
Purpose of Investigation Final Term. Sampling (PRR)

1. OCCUPANT:

Interviewed: Y/N

Last Name: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

Number of Occupants/persons at this location _____ Age of Occupants _____

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

Interviewed: Y/N

Last Name: Ward First Name: Donna

Address: 243 Wyandanch Ave. N. Babylon NY

County: Suffolk

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

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

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

- | | | |
|--------------|-----------------|-------------------|
| Ranch | 2-Family | 3-Family |
| Raised-Ranch | Split Level | Colonial |
| Cape Cod | Contemporary | Mobile Home |
| Duplex | Apartment House | Townhouses/Condos |
| Modular | Log Home | Other: <u>nk</u> |

If multiple units, how many? nk

If the property is commercial, type?

Business Type(s) Part Manufacturing (Heat treat. metal)

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

Other characteristics:

Number of floors 1

Building age N/A

Is the building insulated? Y N

How air tight? Tight Average Not Tight

4. AIRFLOW

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

Airflow between floors

N/A

Airflow near source

N/A

Outdoor air infiltration

N/A

Infiltration into air ducts

N/A

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

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

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

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

N/A

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

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

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

The primary type of fuel used is:

- Natural Gas
- Electric
- Wood
- Fuel Oil
- Propane
- Coal
- Kerosene
- Solar

Domestic hot water tank fueled by: N/A

Boiler/furnace located in: Basement Outdoors Main Floor Other _____

Air conditioning: Central Air Window units Open Windows None

Are there air distribution ducts present? Y / N

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

Duct work in Commercial/Industry part of Facility

7. OCCUPANCY

Is basement/lowest level occupied? Full-time Occasionally Seldom Almost Never

Level General Use of Each Floor (e.g., familyroom, bedroom, laundry, workshop, storage)

Basement	_____
1 st Floor	<i>Office / Industry</i>
2 nd Floor	_____
3 rd Floor	_____
4 th Floor	_____

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

- a. Is there an attached garage? Y / N
- b. Does the garage have a separate heating unit? Y / N / NA
- c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car) Y / N / NA
Please specify _____
- d. Has the building ever had a fire? Y / N When? _____
- e. Is a kerosene or unvented gas space heater present? Y / N Where? _____
- f. Is there a workshop or hobby/craft area? Y / N Where & Type? *Mech 1*
- g. Is there smoking in the building? Y / N How frequently? _____
- h. Have cleaning products been used recently? Y / N When & Type? _____
- i. Have cosmetic products been used recently? Y / N When & Type? _____

j. Has painting/staining been done in the last 6 months? Y / N Where & When? _____

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

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

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

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

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

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

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

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

If yes, what types of solvents are used? N/A

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

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

Yes, use dry-cleaning regularly (weekly)
Yes, use dry-cleaning infrequently (monthly or less)
Yes, work at a dry-cleaning service Unknown

Is there a radon mitigation system for the building/structure? Y / N Date of Installation: _____
Is the system active or passive? Active/Passive

9. WATER AND SEWAGE

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

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

10. RELOCATION INFORMATION (for oil spill residential emergency)

a. Provide reasons why relocation is recommended: _____

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

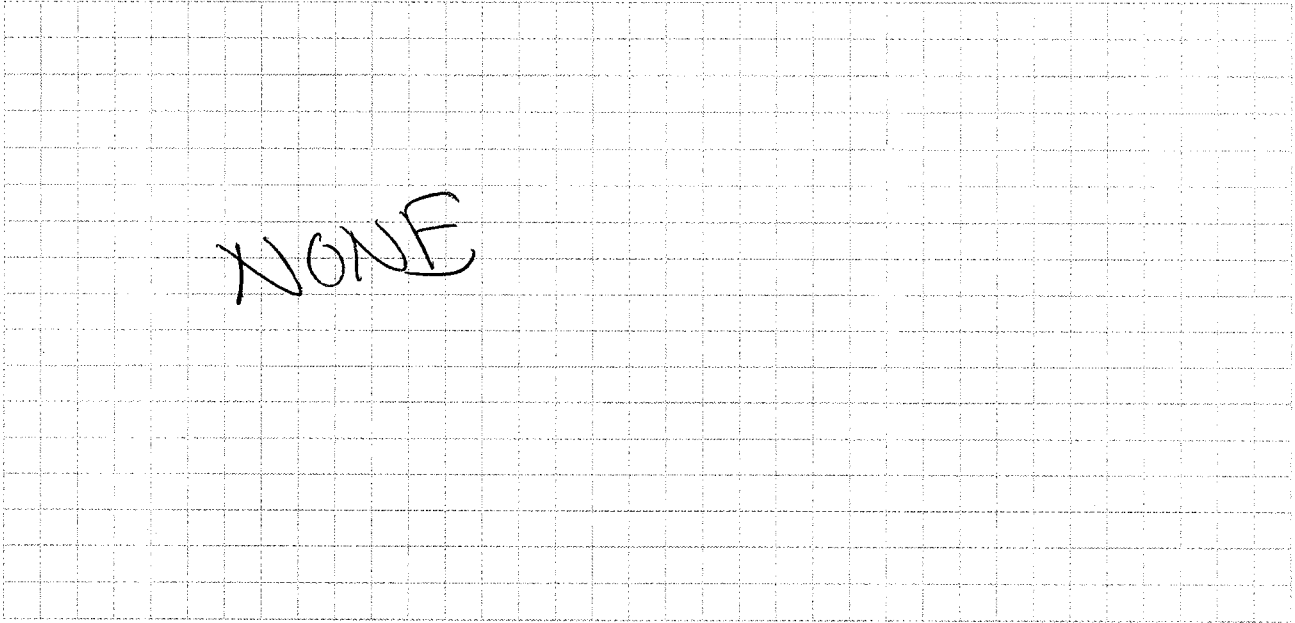
c. Responsibility for costs associated with reimbursement explained? Y / N

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

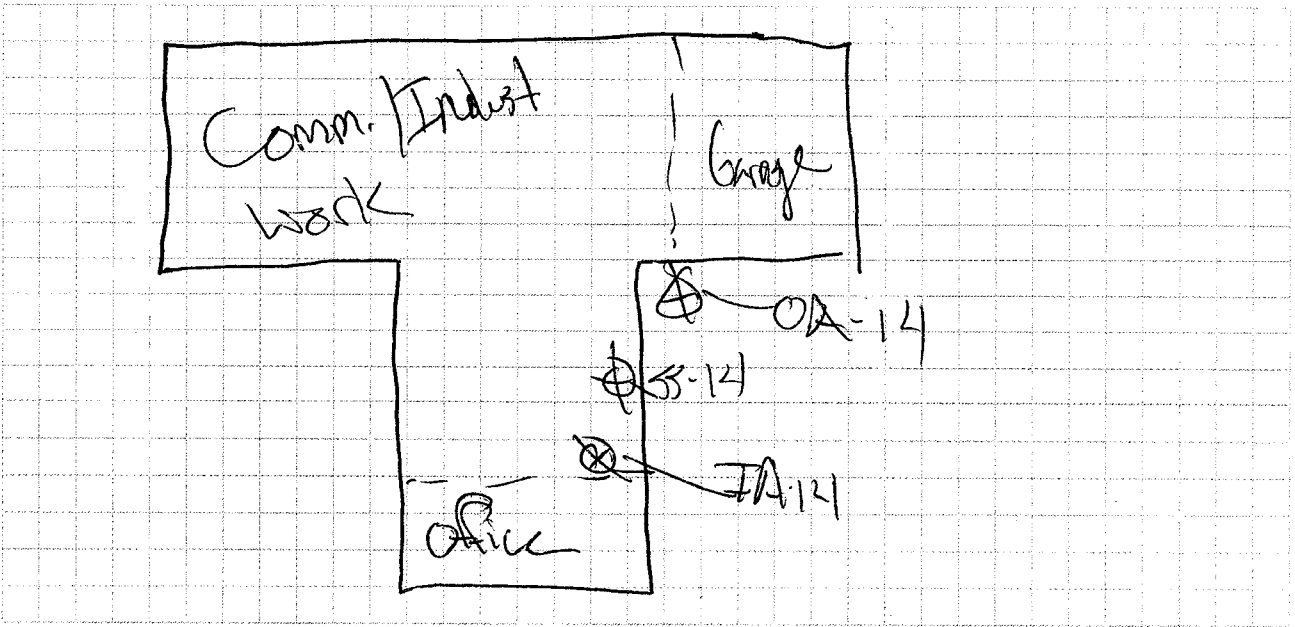
11. FLOOR PLANS

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

Basement:



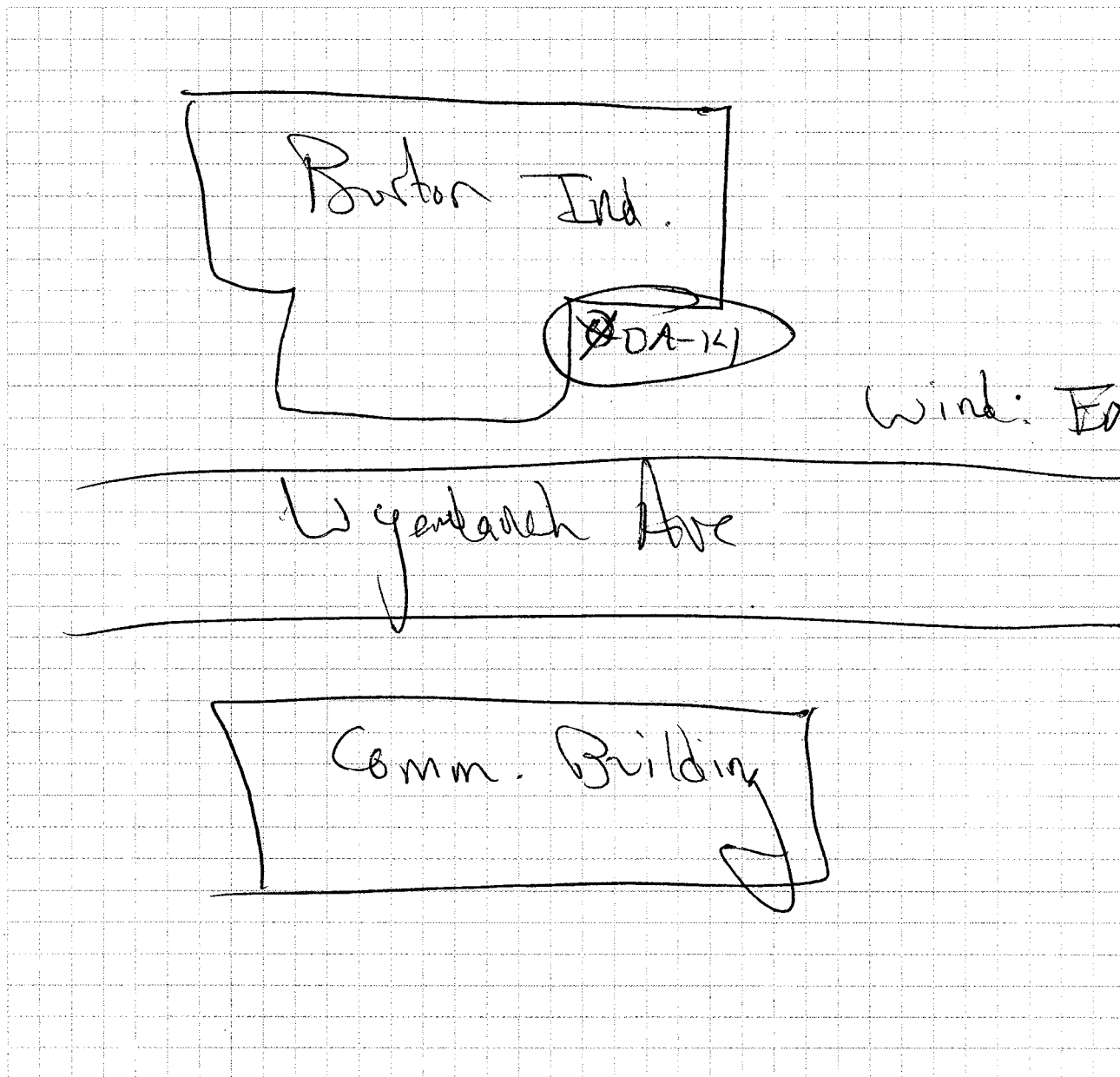
First Floor:



12. OUTDOOR PLOT

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

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



Attachment-A
DEC SVE Shutdown Approval

New York State Department of Environmental Conservation
Division of Environmental Remediation, Region One
Stony Brook University
50 Circle Road, Stony Brook, New York 11790-3409
Phone: (631) 444-0240 • Fax: (631) 444-0248
Website: www.dec.ny.gov



November 13, 2014

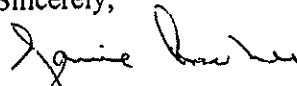
Mr. Stanley Yoel
27010 Grand Central Parkway
Apartment 28E
Floral Park, NY 11005

Re: Burton Industries, Inc. Site #V00239
Voluntary Cleanup Agreement Index #D1-0001-02-05
Soil Vapor Extraction System Dismantling/Monitoring Well Decommissioning

Dear Mr. Yoel,

As previously noted in the Department's July 31, 2014 correspondence, termination sampling conducted at the referenced site has demonstrated that the soil vapor extraction system in conjunction with excavation of the contaminant source area has been successful in attaining the remedial objectives for the site. Therefore, the Department informed you that the soil vapor extraction system could be dismantled and the vapor extraction well and groundwater monitoring wells could be properly abandoned. A letter report dated October 13, 2014, from WRS Environmental Services, Inc., has documented that those tasks have been successfully completed. Therefore, your responsibilities under the Voluntary Cleanup Agreement have been satisfied. Future certifications of compliance with the institutional control placed on the property are the responsibility of the current property owner, Burton Realty Group, LLC. If you should have any questions, please feel free to contact me at (631) 444-0246.

Sincerely,



Jamie Ascher
Engineering Geologist 2

ec: J. Harrington, DEC
W. Parish, DEC
R. Rusinko, DEC
J. Nealon, NYSDOH
W. Berninger, WRS Environmental, Inc.

cc: D. Ward, Burton Realty Group, LLC