PERIODIC REVIEW REPORT
JANUARY 2021 – DECEMBER 2021

KLIEGMAN BROTHERS SITE
GLENDALE, QUEENS, NEW YORK 11385

NYSDEC Site No. 241031
Work Assignment No. D009812-04

Prepared for:

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation

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TRC Project No. 386554

TABLE OF CONTENTS

TABLE OF CONTENTS (CONT.)

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

Executive Summary

Category	Summary/Results
Engineering Control	• Cover system consisting of concrete sidewalks, asphalt, and concrete building slabs • Site fencing to minimalize the public's interaction with contamination • Soil vapor extraction (SVE) Systems
Institutional Control	• Site Management Plan (SMP) – OU-1 (2014) • SMP – OU-2 (2016) • Environmental Easement (EE) • Groundwater-Use Restriction
Site Classification	Class 2
Site Management Plan	SMP OU-1 – May 2014 SMP OU-2 – October 2016
Certification/Reporting Period	The Certification Period is defined as one year in the SMP. The SMP requires a Periodic Review Report (PRR) to be completed every year.
Inspection	**Frequency**
1. Site Inspection 2. SVE System Inspection	Annually Every other month
Monitoring	**Frequency**
1. SVE System 2. Groundwater	Every other month Every other year
Prior PRR Recommendations	1. Reduce SVE system monitoring frequency to once every two months. 2. Reduce sample collection and analysis from SVE wells to annual basis. 3. Reduce groundwater monitoring to once every two years. 4. Perform an indoor air quality (IAQ) investigation to determine if the SVE system is providing vapor intrusion control.
Site Management Activities	Eleven operation, maintenance, and monitoring (OM&M) inspections, two site inspections, one IAQ investigation • 1/14/21 – OM&M inspection performed • 2/4/21 – OM&M inspection performed • 3/3/21 – OM&M inspection performed • 3/31/21 – Perform IAQ investigation • 4/6/21 – OM&M inspection performed • 5/11/21 – OM&M inspection performed • 6/11/21 – OM&M inspection performed • 8/5 and 6/21 – OM&M inspections performed • 8/31/21 – OM&M inspection performed • 9/8/21 – OM&M inspection performed • 9/9/21 – Post-storm Site inspection • 11/10/21 – OM&M inspection performed • 12/13/21 – Annual Site inspection
Significant Findings or Concerns	1. The SVE system continues to remove significant PCE mass from the subsurface.

Category	Summary/Results
Recommendations	1. Perform an additional IAQ investigation to determine if the SVE system is providing vapor intrusion control.
Cost Evaluation	The total cost of site management activities this reporting period was $35,501. This cost includes engineering (e.g., labor and expense) costs. It should be noted that this total does not include any direct costs incurred by the NYSDEC.
Green Remediation Metrics	Presented in **Appendix A**.

1.0 Introduction

This PRR has been prepared for the Kliegman Brothers Site, located at 76-01 77th Avenue, Glendale, Queens County, NY (the Site), and covers the period between January 2021 through December 2021. This PRR was prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Department of Environmental Remediation (DER) Work Assignment (WA) No. D009812-04 Notice to Proceed dated February 27, 2020, the NYSDEC-approved amended Scope of Work dated July 20, 2020 (WA No. D009812-04.30) and NYSDEC DER-10, Technical Guidance for Site Investigation and Remediation (NYSDEC DER-10). This PRR discusses the site management activities performed by TRC and others during the referenced reporting period. A Site summary and applicable remedial program information are summarized below.

Site Information			
Site Name:	Kliegman Brothers	**NYSDEC Site No:**	241031
Site Location:	76-01 77th Avenue, Glendale, Queens County, NY	**Remedial Program:**	Inactive Hazardous Waste Disposal
Site Type:	Dry Cleaning Supply	**Classification:**	02
Parcel Identification(s):	Block 3803 and Lot 91 and 92 on the Queens Tax Map	**Parcel Acreage / EE Acreage:**	0.85
Selected Remedy:	Excavation and cover system, Soil vapor extraction system, groundwater monitoring	**Site COC(s):**	• VOCs (primarily tetrachloroethene)
Current Remedial Program Phase:	Post Remedial Action Site Monitoring; Site Management	**Institutional Controls:**	• EE (2012) • SMP – OU-1 (2014) • SMP – OU-2 (2016) • Groundwater use restriction
Post-Remediation Monitoring and Sampling Frequency:	Site inspection (annual), groundwater monitoring (every other year), SVE system (every other month)	**Engineering Controls:**	Low permeability Site cover, site access controls, SVE system monitoring wells
Monitoring Locations:	13 Monitoring Wells	**Required Reporting:**	PRR – Annual

Notes:
VOCs - Volatile organic compounds

1.1 Site Location, Ownership, and Description

The Site is located at 76-01 77th Avenue in Glendale, Queens County, New York and is 0.85 acres in size. The Site is recognized as Block 3803 and Lot 91 and 92 on the Queens Tax Map. The Site is currently owned and operated by Arimax Realty LLC. The Site features include a building that is currently being used as a bakery and a brewery, and an asphalt parking lot.

The Site is bounded by 77th Avenue to the south, 76th Street to the west, commercial properties to the east, and Long Island Rail Road property to the north. A Site Location Map and Site Plan are shown on **Figure 1** and **Figure 2**, respectively.

1.2 Investigation/Remedial History

The Kliegman Brothers Site, operated by Kliegman Brothers, Inc., was utilized as a supply and distribution center for dry cleaning supplies and related chemicals between the 1950s and 1999. The operations utilized two 6,000 gallon above ground storage tanks (ASTs) on Site to store tetrachloroethene (PCE). It has been historically documented that releases from the ASTs were the sources of PCE impacts at the Site. Kliegman Brothers, Inc. ceased operations in 1999 and the ASTs were removed from the property. The property was purchased by The Gourmet Factory in 2000 and utilized as a food storage warehouse.

The first Site investigations were performed between 1997 and 2002, by Tradewinds Environmental Restoration, Inc., Advanced Cleanup Technologies (ACT), and URS. A soil gas investigation of the area where the ASTs were located was performed 1997 and 1998. These investigations, and an additional soil gas sampling event performed after the Site was purchased by the Gourmet Factory in 2000, confirmed the presence of PCE in concentrations of significant concern. This led to the addition of the Site to the Registry of Inactive Hazardous Waste Disposal Sites in New York (the Registry) as a Class 2a site in June 2000, as insufficient data was present for further classification. The Site was reclassified as a Class 2 site in November 2000 after additional investigation confirmed PCE contamination in soil, soil vapor, and groundwater.

The Gourmet Factory entered into a Voluntary Cleanup Program with NYSDEC and performed an investigation as part of a Focused Remedial Investigation/ Interim Remedial Measure (FRI/IRM) study. The FRI/IRM study included soil and groundwater sampling to further delineate the on-Site soil contamination and support the design of an SVE system to address soil contamination. The FRI/IRM study included the completion of nine soil borings and the collection of 26 soil samples collected from under the sub slab of the building. Results of the investigation were documented in the November 2001 Focused Remedial Investigation/Preliminary Remedial Measures Report and indicated elevated levels of PCE, benzene, toluene, ethylbenzene, xylene (BTEX), and 1,2-dichloroethene present on-Site. Indoor air sampling of nearby residences was completed additionally by the New York Department of Health (NYSDOH) from October 2000 to August 2001. PCE was detected in sixteen of the seventeen homes sampled.

Gourmet Factory discontinued their participation with the VCP in September 2002. Therefore, NYSDEC assumed responsibility for remediation of the Site. Due to detected concentrations of PCE in indoor air NYSDEC implemented an on-Site IRM consisting of an SVE system, which began operating in 2004. As documented in the OU-1 SMP, sub-slab depressurization systems (SSDSs) have been installed at all residences above the off-Site groundwater plume whose residents consented to indoor air sampling and accepted SSDSs when contaminant concentrations in vapor exceeded applicable criteria in NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH Guidance). Additionally, the OU-1 SMP indicates these SSDSs are managed under NYSDEC's state-wide operation and maintenance program. Site management activities regarding the off-Site vapor intrusion control program are not addressed by either the OU-1 or OU-2 SMP. Therefore, details regarding the vapor intrusion control program are not addressed in this PRR.

The initial phase of the Remedial Investigation (RI) was completed between April 2002 and April 2003 and included a geophysical survey, soil boring installation, indoor air sampling, monitoring well installation, and groundwater sampling. The second phase was completed between February 2003 and April 2003 and included

additional soil boring installation, monitoring well installation, and sampling. The RI Report was completed in February 2004 and identified PCE as the primary contaminant of concern (COC), although other VOCs were detected on-Site as well. Eight additional monitoring wells were installed and sampled to delineate the off-Site groundwater plume and an RI Report Addendum was issued in 2005.

In March 2006 the NYSDEC approved the Record of Decision (ROD) for OU-1. The primary elements of the selected remedy included an expanded SVE system, continued operation of the IRM SVE system, an Environmental Easement, and development and implementation of an SMP. In 2007, installation of the full-scale SVE system, that included six new SVE wells, and additional blower and vapor treatment [via granular activated carbon GAC)] was completed, and operation began. In 2013, an air quality impact analysis concluded that vapor treatment could be removed by raising the SVE discharge stack to approximately 26 feet above ground surface. The SVE system was modified accordingly and VGAC vessels were removed from the Site in January 2014. Aboveground components of the IRM SVE system that was installed in 2004 were demolished in 2017 and the IRM SVE wells were connected to the blower installed as part of implementing the ROD. A process flow diagram depicting the current SVE system configuration is presented in **Appendix B**.

In March 2008 the ROD for OU-2 was approved. The primary elements of the selected remedy included in-situ chemical oxidation (ISCO), groundwater extraction and treatment, and development and implementation of a SMP. A total of three ISCO injections via permanent injection wells were performed in July 2014, November 2015, and June 2015. An Explanation of Significant Difference was issued in 2015 eliminating groundwater extraction and treatment from the selected remedy.

A Site history, including the dates and descriptions of significant events and a Custodial Record detailing known and available Site reports, are included in **Appendix C.** Additional details are presented in the OU-1 and OU-2 SMPs as well as historic Site documents.

1.3 Remaining Contamination

Remedial actions for OU-1 and OU-2 are complete but chlorinated VOCs (primarily PCE) remain on-Site in soil and groundwater at concentrations greater than cleanup goals. As such, Site management activities consisting of inspections, OM&M of the SVE system, and groundwater monitoring are ongoing. A membrane interface probe (MIP) survey performed in 2009 identified VOCs in vadose zone soils between 20 and 35 feet bgs on-Site near the loading dock. Impacted soils continue to act as a source of soil vapor impacts. Chlorinated VOCs in groundwater at concentrations greater than cleanup goals extend from the northern boundary of the Site approximately 1,000 feet to the south. Residual contamination in soil is managed under the Kliegman Brothers OU-1 SMP and residual groundwater contamination is managed under the Kliegman Brothers OU-2 SMP.

1.4 Regulatory Requirements/Cleanup Goals

The remediation goals included in the OU-1 and OU-2 RODs are as follows:

- To eliminate or reduce to the extent practicable:
  - Exposures of persons at or around the Site to PCE and its degradation products [trichloroethene (TCE), 1,2-dichloroethene (DCE), and vinyl chloride] in contaminated soils;
  - The release of contaminants from soil into groundwater that may create exceedances of groundwater quality standards;

- The release of contaminants from soil vapor into indoor air through vapor intrusion;
- Exposures of persons around the Site to PCE and its degradation products TCE, DCE, and vinyl chloride in contaminated groundwater;

Furthermore, the cleanup goals for the Site include attaining to the extent practicable the following standards, criteria, and guidance (SCGs):

- 6 NYCRR Subpart 375-6 Remedial Program Soil Cleanup Objectives (SCOs); and
- NYSDEC "Ambient Water Quality Standards and Guidance Values" (Class GA Values) and Part 5 of the New York State Sanitary Code.

2.0 Institutional and Engineering Control Plan Compliance

2.1 Institutional Controls

Site Institutional Controls include an Environmental Easement and the SMPs.

The 2014 SMP OU-1 and 2016 SMP OU-2 require the following ICs for the Site:

- Compliance with the Environmental Easement and the SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in the SMP;
- All Engineering Controls on the Controlled Property must be inspected and certified at a frequency and in a manner defined in the SMP;
- Soil vapor and other environmental or public health monitoring must be performed as defined in this SMP;
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP; and
- On and off-Site environmental monitoring devices, including but not limited to groundwater monitoring wells, will be protected, and replaced and necessary by the NYSDEC to ensure the devices function in the manner specified in the SMP.

The Site has a series of Institutional Controls in the form of Site use restrictions. Adherence to the Institutional Controls is required by the Environmental Easement. Applicable Site restrictions to the Controlled Property are:

- Vegetable gardens and farming, including cattle and dairy farming, on the property are prohibited
- The use of groundwater underlying the property is prohibited without treatment rendering it safe for intended purpose
- All future activities on the property that will encounter remaining contaminated groundwater are prohibited unless they are conducted in accordance with the SMP, because the remedy results in contamination remaining at the Site that does not allow for unrestricted use, the SM included a monitoring plan to assess the performance and effectiveness of the remedy
- The potential for vapor intrusion must be evaluated for any buildings developed on the Site, and any potential impacts that are identified must be mitigated
- The property may only be used for commercial or industrial uses provided that the long-term ECs and ICs included in the SMP are employed
- The property may not be used for a less restrictive use, such as unrestricted residential, without additional remediation and amendment of the Environmental Easement by the Commissioner of the NYSDEC
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has

occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

Institutional controls may not be discontinued without an amendment or extinguishment of the Environmental Easement.

2.2 Engineering Controls

Since remaining contaminated soil, groundwater, and soil vapor exists beneath the Site, Engineering Controls are required to protect human health and the environment. The Engineering Controls for the Site include the asphalt and concrete cover systems, which consists of a two to four-inch cover placed over the Site and the SVE system. The SVE system consists of nine SVE wells, underground piping, two regenerative blowers, blower effluent discharge piping, and five VMPs. A Site Plan is presented as **Figure 2**.

As discussed above, SSDSs were installed at all residences above the off-Site groundwater plume whose residents consented to indoor air sampling and accepted SSDSs when contaminant concentrations in vapor exceeded applicable criteria. However, these SSDSs are managed under NYSDEC's state-wide operation and maintenance program and Site management activities regarding the off-Site vapor intrusion control program are not addressed by either the OU-1 or OU-2 SMP. Therefore, details regarding the vapor intrusion control program are not addressed in this PRR.

2.2.1 Criteria for Completion of Remediation/Termination of Engineering Controls

In accordance with the OU-1 SMP, the composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity. Additionally, the SVE systems operation will not be discontinued unless prior written approval is granted by the NYSDEC. In the event that monitoring data indicates that the SVE systems are no longer required, a proposal to discontinue the system will be submitted to NYSDEC. Conditions that warrant discontinuing the SVE system include contaminant concentrations in soils that: (1) reach levels that are consistently below SCGs, (2) have become asymptotic to a low level over an extended period of time as accepted by the NYSDEC, or (3) the NYSDEC has determined that the SVE system has reached the limit of its effectiveness. This assessment will be based in part on post-remediation contaminant levels in subsurface soil samples collected from throughout the Site. Systems will remain in place and operational until permission to discontinue their use is granted in writing by the NYSDEC.

3.0 Monitoring and Sampling Plan Compliance

The OU-1 and OU-2 SMPs were prepared to manage remaining on-Site contamination and ensure that the remedy remains effective by restricting Site use, Site development and soil movement on the property. The table below shows the SMP-specified monitoring and sampling activities for the Site and the dates those activities were completed:

Summary of SMPs Site Monitoring and Sampling Plan				
Site Management Activity	**Frequency**	**Location**	**Analytical Method**	**Completion Date(s)**
Site Inspection	Annual (and post-storm)	Site properties	Not Applicable	9/9/21 and 12/13/21
SVE System Effluent Sampling	Every other month[1]	SVE System	USEPA Method TO-15	1/14/21, 2/4/21, 3/3/21, 4/6/21, 5/11/21, 6/11/21, 9/8/21, and 11/10/21
SVE System Monitoring including SVE wells	Annually[2]	• SVE-1 • SVE-6D • SVE-6S • SVE-7D • SVE-8D • SVE-8S • SVE-9S • SVE-10S	USEPA Method TO-15	2/4/21
System Monitoring, SVE well and VMP monitoring	Every other month[1]	SVE System	Field Instrumentation for VOC, Vacuum, and Air Flow	1/14/21, 2/4/21, 3/3/21, 4/6/21, 5/11/21, 6/11/21, 8/5/21, 8/6/21, 8/31/21, 9/8/21, and 11/10/21
Groundwater Sampling	Every other year	• MW-03D • MW-04D • MW-05D • MW-10H[3] • MW-10D[3] • MW-12H • MW-14DR • MW-14H • MW-23D • MW-24D • MW-24H • MW-30M • MW-31D • MW-32D • MW-33D	USEPA Method 8260C for VOCs	Groundwater sampling was not performed in 2021, and is scheduled to be performed in 2022. However, historical groundwater sampling results are presented in **Appendix D**.
PRR	Annual	Not Applicable	Not Applicable	March 2022

Notes:
[1] The frequency of sampling and analysis of the SVE system effluent was modified from monthly to every other month as recommended in the July 2021 Periodic Review Report. SVE effluent sampling was not performed in August 2021. Additional OM&M events were performed to repair the SVE system.
[2] The frequency of monitoring the SVE system was modified from semi-annually to annually as recommended in the July 2021 Periodic Review Report.
[3] Monitoring wells MW-10D and MW-10H were added to the monitoring well network in consultation with NYSDEC.
USEPA – United States Environmental Protection Agency

3.1 Site Inspection

TRC and Environmental Assessments and Remediation, Inc. (EAR) conducted Site inspections during 2021 in accordance with the SMP and recommendations included in the 2020 PRR. The Site inspections were conducted to document the status of the SVE System components, condition of the monitoring wells, and overall Site conditions.

A summary of the Site inspection is presented below:

Summary of Site Activities and Site Monitoring and Sampling

January 2021 to December 2021

Site Management Activity	Summary of Results	Maintenance/Corrective Measure
Site and Monitoring Well Network Inspection	The annual Site inspection was performed on December 13, 2021. A post-storm inspection was performed on September 9, 2021. The SVE system was operating during these inspections. The integrity of the Site cover system was found to be acceptable. Fencing, around the SVE system was in good condition. Vapor monitoring point VMP-7 could not be accessed due to bakery material staged over the location.	Access to VMP-7 is blocked by Site operations.. Results of indoor air monitoring, described below, indicate the SVE system is controlling VI. However, TRC and EAR will attempt to coordinate access with the Site tenant.
OM&M Inspections	OM&M inspections were performed January 14, February 4, March 3, April 6, May 11, June 11, August 5, August 6, August 31, September 8, and November 10, 2021.	
Groundwater gauging and sampling	Groundwater gauging and sampling was not performed during this reporting period.	No routine maintenance or corrective measures needed at this time.

3.2 Operation, Maintenance, and Monitoring Plan Compliance

The SVE system operated continuously from January 1 to August 5, 2021. EAR performed monthly OM&M inspections from January to June 2021 and inspections every other month beginning in August 2021. Due to a power supply issue the SVE system did not operate between August 5 and September 8, 2021. EAR restarted the SVE system on September 8, 2021 and performed one additional OM&M inspection in November 2021. OM&M inspection reports, including performance data collected by EAR, are presented in **Appendix E**.

The table below summarizes compliance with respect to performance objectives and standards established in the OU-1 SMP and SVE system OM&M manual, with modifications described above (i.e., removal of SVE blower treatment).

Summary of Operation, Maintenance, and Monitoring Plan Compliance		
Performance Objective/Standard	**Compliance Summary**	**Comments**
Extract soil gas containing VOC vapors	The SVE system has operated with 90.69% uptime from January 1 to December 31, 2021. A total of 533 pounds of PCE and 541 pounds of total VOCs were removed between January and December 2021.	The system did not operate between August 5 and September 8 due to a suspected phase failure of the incoming power service. The phase issue was resolved by the utility provider on 8/31/21, and further repairs to the system disconnect switch were performed by EAR on September 7.
Process and maintain a minimum of 260 standard cubic feet per meter (SCFM) of soil gas	An average extraction rate of 212 SCFM was achieved during the reporting period.	It is not likely that a consistent flow rate of 260 SCFM can be achieved without substantial system modifications.
Produce and maintain a minimum vacuum of 10 inches of water column at each extraction well head	During this reporting period, SVE well vacuums have ranged from 4.0 to 17.5 inches of water column. Trunk line 1, comprised of SVE-7S and SVE-7D, achieved an average vacuum of 13.96 inches of water column. Trunk line 2, comprised of SVE-8S and SVE-8D, achieved an average vacuum of 13.29 inches of water column. Trunk line 3, comprised of SVE-9S and SVE-10S, achieved an average vacuum of 13.36 inches of water column. SVE-1 achieved an average vacuum of 10.19 inches of water column. SVE-6D achieved an average vacuum of 9.06 inches of water column. SVE-6S achieved an average vacuum of 10 inches of water column.	The well valve for SVE-6D was 100% open throughout the reporting period. Therefore, it is not likely that average vacuum of 10 inches of water column can be achieved at this location without substantial system modifications.
Emit less than 0.5 pounds of total VOCs per hour	Emission rates of total VOCs have not exceeded the limit of 0.5 pounds of total VOCs per hour.	
Water (condensate) generated by the SVE system shall be properly disposed of in accordance with the Waste Disposal Plan (included in the SMP).	No condensate was transported off-Site for disposal during the reporting month.	

3.3 SVE System Performance Summary

The SVE system operated for 216 days, beginning on January 1, 2021 until it was shut down at 7:20 AM on August 5, 2021 for scheduled maintenance, but could not be restarted due to a blown fuse caused by a suspected

phase failure of the incoming power service. The phase failure was repaired by the utility provider, Consolidated Edison, Inc. (ConEd), on August 31, 2021. EAR completed additional repairs to the system disconnect switch on September 7, 2021 and restarted the SVE system on September 8, 2021. The SVE system subsequently operated without downtime for the remainder of the reporting period. Concentrations of PCE detected in extracted soil vapor ranged from 45,000 micrograms per cubic meter (µg/m^3) (March 2021) to 130,000 µg/m^3 (September 2021). An estimated 533 pounds of PCE was removed from soil vapor between January 2021 and December 2021. A chart presenting PCE recovery trends is presented in **Appendix F**. Historic PCE recovery data is presented in **Appendix G**.

While the SVE system was successfully operated to achieve vacuum at each SVE well head, vacuum was not consistently measured at VMP locations. In consultation with NYSDEC and NYSDOH it was determined that an additional IAQ investigation, beyond that described below, should be performed to evaluate whether the SVE system is effectively controlling vapor intrusion into the Site building.

3.4 Indoor Air Quality Investigation

Since vacuum could not be routinely measured at VMPs associated with the SVE system it was determined, in consultation with NYSDEC and NYSDOH, that IAQ sampling of the Site building should be performed to determine if the SVE system is effectively controlling vapor intrusion. Sampling activities and results are described in detail in a memorandum dated June 8, 2021, and summarized below.

3.4.1 Building Inspection and Chemical Inventory

On March 31, 2021 TRC conducted a building inspection and pre-sampling chemical inventory of the Site building to determine if any materials with the potential to affect the indoor air quality were present (e.g., equipment, cleaning supplies, etc.). A copy of the building inspection and pre-sampling chemical inventory form is provided as **Appendix H**.

The Kliegman Brothers building was inspected for cracks, penetrations, and other preferential pathways for soil vapor intrusion such as floor drains and sumps. In the basement of Northside Bakery (western portion of the Site building), two floor drains, two sump pits, one floor vault, and five drilled holes were identified as potential pathways for soil vapor intrusion. The floor vault is approximately 2 feet wide, 2 feet long, and 2 feet deep. Drilled holes are approximately 4 inches wide, and 1 foot deep. In Finback Brewery (eastern portion of the Site building), five floor drains were identified.

An investigation of the drilled holes performed by the Site tenant confirmed that the holes are floor drains connected to the sewer via underground piping. Since the results of indoor air sampling, described below, indicate the SVE system is controlling vapor intrusion into the Site building no further investigation is necessary.

During the inspection, a part per billion (ppb)-range photoionization detector (PID) capable of detecting VOCs was used to screen accessible areas of the Site (including the proposed sampling locations). Elevated PID readings ranging between 187 and 3,664 ppb were recorded throughout the Site building. Interfering conditions were identified in the storage room located in the southwestern portion of the Northside Bakery basement, and listed in the chemical inventory provided in **Appendix H**.

3.4.2 Vacuum Monitoring

During the inspection, TRC located VMP-6 in the basement of Northside Bakery and measured 0.1 inches of water column (W.C.). VMP-7, however, could not be located at the time of this inspection. Historical figures indicate VMP-7 is located on the eastern side of the Northside Bakery basement. It was presumed that VMP-7 is covered by materials staged by the tenant.

3.4.3 Indoor and Ambient Air Sampling

Indoor air and ambient air sampling activities were performed on March 31, 2021 in general accordance with the applicable procedures described in the NYSDOH Guidance. Four (4) indoor air samples and one (1) ambient air sample were collected concurrently and submitted for laboratory analysis. During sampling, the building was ventilated consistent with normal conditions when the facility is occupied.

Figure 3 shows the sampling locations. The samples were collected from the following locations:

- KB-BAKERY-AI-1 – located in the storefront of Northside Bakery;
- KB-BAKERY-AI-2 – located in the basement of Northside Bakery, primarily used for storage of goods and production equipment;
- KB-BAKERY-AI-3 – located in the production area of Northside Bakery;
- KB-BREWERY-AI-1 – located in the production area of Finback Brewery;
- KB-AO-1 – located outside the southwest corner of the Kliegman Brothers building.

The four (4) indoor air and one (1) ambient air samples were collected utilizing batch certified-clean 6-liter SUMMA® canisters. The samples were collected for approximately eight (8) hours. A fifth indoor air sample was to be collected, but a malfunction in the SUMMA® canister regulator resulted in an immediate equalization of pressure. Therefore, the sample did not accurately represent eight (8) hour exposure and was not analyzed by the laboratory.

The indoor and ambient air samples were collected at a height of approximately 3 to 5 feet to simulate a typical breathing zone. Immediately after opening each SUMMA® canister, the initial vacuum (inches of mercury) in each canister was recorded as shown in the table below. After approximately eight hours, final vacuum readings (inches of mercury) were recorded and the SUMMA® canisters were closed. The table below summarizes canister vacuum at the start and completion of sampling activities.

Summary of SUMMA® Canister Vacuum

Sample ID	Canister Vacuum at Start (Inches Hg)	Canister Vacuum at Completion (Inches Hg)
KB-BAKERY-AI-1-20210331	-30	-4
KB-BAKERY-AI-2-20210331	-30	-3

Summary of SUMMA® Canister Vacuum		
Sample ID	**Canister Vacuum at Start (Inches Hg)**	**Canister Vacuum at Completion (Inches Hg)**
KB-BAKERY-AI-3-20210331	-30	-3
KB-BREWERY-AI-1-20210331	-30	-2
KB-AO-1-20210331	-30	-4

Notes:
Hg - Mercury

The SUMMA® canisters were properly labeled and shipped to Eurofins of Knoxville, Tennessee for analysis. Eurofins is a NYSDOH Environmental Laboratory Approval Program (ELAP)-certified analytical laboratory. The indoor and ambient air samples were analyzed for Target Compound List (TCL) VOCs via USEPA Method TO-15.

3.4.4 Indoor Air Quality Investigation Results

Indoor air and ambient air analytical data for VOCs are presented in **Table 1**. The Data Usability Summary Reports (DUSR) can be found in **Appendix I.** One VOC, ethanol, was detected in all indoor air samples. No other VOCs were detected in indoor air samples. Eight VOCs were detected in the ambient air sample. No VOCs were detected at concentrations above corresponding NYSDOH Air Guideline Values. Tetrachloroethene was not detected in any indoor air sample. Reporting limits for tetrachloroethene, and other VOCs, were elevated due to the presence of high concentrations of ethanol in indoor air samples. However, reporting limits for PCE were below the applicable AGV in three of the four indoor air samples collected.

4.0 Cost Summary

The total estimated cost of TRC's management activities for 2021 (January 2021 through December 2021) is approximately $35,501. Site management activities during the reporting period included two site inspections, one IAQ investigation, and eleven OM&M inspections by EAR (beginning in January 2021). The total includes TRC labor and expenses associated with the project. It should be noted that the total does not include costs incurred by NYSDEC for site management activities performed by others laboratory analysis performed by NYSDEC's call-out laboratory, electricity, OM&M of the SVE system, or project support. A summary of TRC's 2021 site management costs is presented below:

Summary of TRC's Site Management Costs
January 1, 2021 through December 31, 2021

Cost Item	Amount Expended (January 1, 2021 through December 31, 2021)	Percent of Total Cost
Engineering Support		
TRC	$35,372	99.6%
Expenses		
TRC	$129	0.4%
Total Cost	**$35,501**	----

The following provides a review of each cost item:

- Engineering support includes labor costs associated with project management (e.g., monthly invoicing, project scheduling and coordination, etc.), Site inspections, IAQ investigation, and reporting (i.e., PRR, Site inspection report and DUSR).
- Expense costs include travel, equipment, and supplies in support of the Site inspection and routine Site maintenance activities.

Since the SVE system removed approximately 533 pounds of PCE during the reporting month the estimated cost per pound removed (excluding direct costs to NYSDEC) is approximately $66.61.

5.0 Conclusions and Recommendations

5.1 Conclusions

- The integrity of the Site cover system is acceptable.
- The SVE system is being operated in accordance with the SMP. The SVE system operated without downtime from January 1, 2021 to August 5, 2021, when the system could not be restarted by EAR after a planned shut down due to a suspected phase failure of the incoming power service. Following repairs performed by Consolidated Edison, Inc. and EAR, the system was restarted and returned to regular operation on September 8, 2021. The system operated without downtime for the remainder of the reporting period. An estimated 533 pounds of PCE was removed between January 2021 and December 2021. The estimated cost (excluding direct costs to NYSDEC) to remove a pound of PCE from soil vapor was $66.60. A cost summary of SVE system PCE recovery is presented in **Appendix J**.
- Indoor air sampling was performed on March 31, 2021 to evaluate the effectiveness of SVE systems to control vapor intrusion. PCE was not detected in indoor air samples. Reporting limits for PCE, although elevated, were below the corresponding AGV in three of the four indoor air samples collected. Additionally, approximately 0.1 inches of W.C. were measured at VMP-6. As such, it can be concluded that SVE system is controlling vapor intrusion at the Site.
- Site and groundwater use are consistent with the restrictions set forth in the ROD, the SMPs and EE. Groundwater monitoring activities were not completed during this reporting period. Site inspections and Site inspection reports were completed and submitted to NYSDEC. The ICs operated as intended this reporting period.
- The remedy continued to be protective of human health and the environment this reporting period. Vapor intrusion evaluation and control at off-Site properties is being managed under a separate administrative program.

5.2 Recommendations

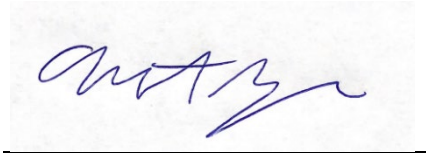
- Annual Site inspections should continue to verify the ICs and ECs are in-place and effective and to observe any future development of the Site. One Site inspection report should also be completed following the inspection event.
- The SVE system should continue to be operated on a continuous full-time basis. SVE system O&M inspection and reporting frequency should remain at once every two months.
- Frequency of sample collection and analysis from individual SVE wells should remain at an annual basis.
- The Certification Period should remain at one year with a PRR frequency of one report every year. The certification period should begin January 2022 and end December 31st, 2022, with the next PRR covering the reporting period beginning January 1st 2022 and end December 31st 2022.
- An additional round of IAQ sampling should be performed.
- Water level measurements should continue to be collected at 15 Site monitoring wells sampled during groundwater sampling events.

6.0 Certification of Engineering and Institutional Controls

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

- The inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- 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 the Department;
- Nothing has occurred that would impair the ability of the control to protect the publichealth and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- 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;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- 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 in this report is accurate and complete.

I certify that all information and statements in this certification form 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, Anthony Raposo, of TRC Engineers, Inc., am certifying as Owner's/Remedial Party's Designated Site Representative for the site.



Signature

105387

NYS Professional Engineer No.

June 3, 2022

Date

7.0 Future Site Activities

Based on the recommendations in Section 4, the following site management activities will be completed during the next PRR reporting period (January 2022 to December 2022):

- OM&M Inspections – Every other month
- Site Inspections – Annual (next scheduled: Q4 2022)
- IAQ Investigation – Q1 2022 (Completed)
- Groundwater – Every other year (next scheduled: Q4 2022)
- PRR – Every year (next scheduled: Q1 2023)

Figures

SCALE: 1:2400

1 0.5 0 KILOMETERS 1 2

1000 500 0 METERS 1000 2000

1 0.5 0 MILES 1

1000 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000 FEET

QUADRANGLE LOCATION

MAP INCLUDES INFORMATION FROM THE FOLLOWING MAP SHEET(S):
TP, JAMAICA, NY, 7.5 MINUTE DATED 2019,
W, BROOKLYN, NY, 7.5 MINUTE DATED 2019.

MAP OBTAINED THROUGH USE OF TOPOVIEW WITH THE INTERFACE CREATED BY THE NATIONAL GEOLOGIC MAP DATABASE PROJECT (NGMDB), IN SUPPORT OF THE TOPOGRAPHIC MAPPING PROGRAM, MANAGED BY THE USGS NATIONAL GEOSPATIAL PROGRAM (NGP).

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PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE MANAGEMENT PORTFOLIO B
TASK NO. 19 - KLIEGMAN BROTHERS - SITE NO. 241031
76-01 77TH AVENUE, GLENDALE, QUEENS COUNTY, NEW YORK

TITLE:

SITE LOCATION MAP

DRAWN BY:	H. DELGADO
CHECKED BY:	S. PEREIRA
APPROVED BY:	D. WARREN
DATE:	MARCH 2022
PROJ. NO.:	386554.0000.0000
FILE:	Fig 1 - Site Location Map (KB).dwg

FIGURE 1

8.5x11 --- ATTACHED XREF'S: --- ATTACHED IMAGES: NY_Brooklyn_20190925_TM; NY_Jamaica_20190919_TM;
DRAWING NAME: B:\NYSDEC\D009812\Work Assignments\D009812-04 Site Management Portfolio B\19_Kliegman Brothers 241031\Figures\CAD\TRC Working Drawings\ Fig 1 - Site Location Map (KB).dwg --- PLOT DATE: March 06, 2022 - 11:54PM --- LAYOUT: 8.5x11P

LEGEND

- MONITORING WELL LOCATION
- SOIL VAPOR EXTRACTION WELL LOCATION
- VAPOR MONITORING POINT LOCATION

NOTES:

1. BASE MAP IMAGERY RETREIVED FROM ESRI AND NEW YORK STATE GIS CLEARING HOUSE.

2. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES ARE APPROXIMATE, UNLESS STATED OTHERWISE.

3. MONITORING LOCATIONS TAKEN FROM THE OCTOBER 2016 SITE MANAGEMENT PLAN, PREPARED BY URS CORPORATION.

N

1:1,675
1" = 140'

0 140 280 FEET

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE MANAGEMENT PORTFOLIO B
TASK NO. 19 - KLEIGMAN BROTHERS - SITE NO. 241031
76-01 77TH AVENUE, GLENDALE, QUEENS COUNTY, NEW YORK

TITLE:
SITE PLAN

DRAWN BY:	L. LILL	PROJ. NO.:	386554.0000.0000
CHECKED BY:	D. WARREN		
APPROVED BY:	C. GUDER		**FIGURE 2**
DATE:	MARCH 2022		

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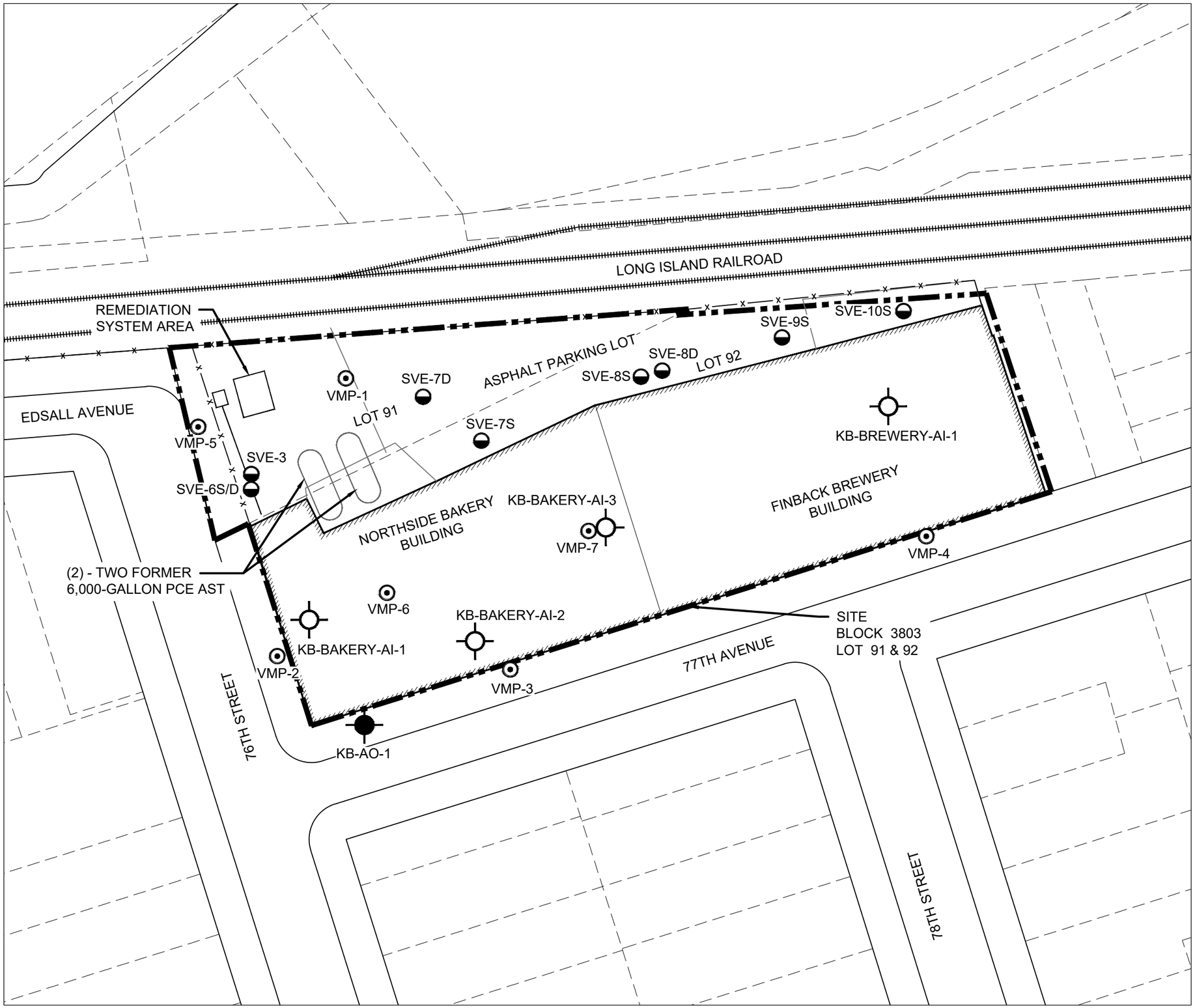
New York, NY 10018
Phone: 212-221-7822

FILE: 2-APRX.aprx

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet Map Rotation: 0
Saved By: LEGCHRIS on 3/7/2022 11:10:52 AM File Path: T:\1_PROJECTS\NYSDEC\386554_0_KliegmanBrothers\3-4\APRX\3-4APRX.aprx Layout Name: Figure 2 - Kliegman Brothers Site Plan



LEGEND (SYMBOLS NOT TO SCALE):

- SITE BOUNDARY
- BUILDING FOOTPRINT
- LOT BOUNDARY
- FENCE
- RAIL ROAD TRACKS
- KB-XXXX-AI-# — INDOOR AIR SAMPLE LOCATION AND IDENTIFICATION NUMBER
- KB-AO-1 — AMBIENT AIR SAMPLE LOCATION AND IDENTIFICATION NUMBER
- SVE-# — EXISTING SOIL VAPOR EXTRACTION POINT LOCATION AND IDENTIFICATION NUMBER
- VMP-# — EXISTING VACUUM MONITORING POINT LOCATION AND IDENTIFICATION NUMBER

N

NOTES:

1. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES AND BOUNDARIES ARE APPROXIMATE..
2. BASEMAP SOURCE FROM NYC DEPARTMENT OF FINANCE TAX MAP.
3. ALL SAMPLE LOCATIONS ARE APPROXIMATE.
4. SAMPLES COLLECTED FROM KB-BAKERY-AI-1 AND KB-BAKERY-AI-3 WERE COLLECTED ON THE FIRST FLOOR OF THE NORTHSIDE BAKERY BUILDING. THE SAMPLE COLLECTED FROM KB-BAKERY-AI-2 WAS COLLECTED IN THE BASEMENT OF THE NORTHSIDE BAKERY BUILDING. THE SAMPLE COLLECTED FROM KB-BREWERY-AI-1 WAS COLLECTED ON THE FIRST FLOOR OF FINBACK BREWERY BUILDING.
5. PCE - TETRACHLOROETHENE

0 40' 80'

SCALE: 1" = 40'
SHEET SIZE: 11" BY 17"

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE MANAGEMENT PORTFOLIO B
KLIEGMAN BROTHERS - SITE NO. 241031
76-01 77TH AVENUE, GLENDALE, QUEENS COUNTY, NEW YORK

TITLE:
INDOOR AIR AND AMBIENT AIR SAMPLE LOCATIONS

DRAWN BY:	H. DELGADO	PROJ NO.:	386554.0000.0000
CHECKED BY:	S. PEREIRA		
APPROVED BY:	D. WARREN		**FIGURE 3**
DATE:	MARCH 2022		

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FILE NO.: Fig 3 - IA & AA Sample Locs. (KB).dwg

Tables

Table 1
New York State Department of Environmental Conservation
Site Management Portfolio B - Kliegman Brothers
Queens, New York
Summary of VOCs in Indoor Air - March 2021

			Sample Location:	KB-BAKERY-AI-01		KB-BAKERY-AI-02		KB-BAKERY-AI-03		KB-BREWERY-AI-01		KB-AO-01	
			Sample Name:	BAKERY-AI-1_20210331		BAKERY-AI-2_20210331		BAKERY-AI-3_20210331		BREWERY-AI-1_20210331		AO-1_20210331	
			Lab Sample ID:	140-22610-1		140-22610-2		140-22610-3		140-22610-4		140-22610-5	
			Sample Date:	3/31/2021		3/31/2021		3/31/2021		3/31/2021		3/31/2021	
Analysis	Analyte	Unit	Guideline Value*										
TO-15													
	1,1,1-Trichloroethane	ug/m3	NC	11	U	20	U	76	U	20	U	0.44	U
	1,1,2,2-Tetrachloroethane	ug/m3	NC	14	U	25	U	95	U	25	U	0.55	U
	1,1,2-Trichloro- 1,2,2-trifluoroethane	ug/m3	NC	15	U	28	U	110	U	28	U	0.61	U
	1,1,2-Trichloroethane	ug/m3	NC	11	U	20	U	76	U	20	U	0.44	U
	1,1-Dichloroethane	ug/m3	NC	8.1	U	15	U	56	U	15	U	0.32	U
	1,1-Dichloroethene	ug/m3	NC	4.0	U	7.2	U	28	U	7.2	U	0.16	U
	1,2,4-Trichlorobenzene	ug/m3	NC	15	U	27	U	100	U	27	U	0.59	U
	1,2,4-Trimethylbenzene	ug/m3	NC	9.8	U	18	U	68	U	18	U	0.39	U
	1,2-Dibromoethane	ug/m3	NC	15	U	28	U	110	U	28	U	0.61	U
	1,2-Dichlorobenzene	ug/m3	NC	12	UJ	22	UJ	83	UJ	22	UJ	0.48	U
	1,2-Dichloroethane	ug/m3	NC	8.1	UJ	15	UJ	56	UJ	15	UJ	0.32	U
	1,2-Dichloropropane	ug/m3	NC	9.2	U	17	U	64	U	17	U	0.37	U
	1,2-Dichlorotetrafluoroethane	ug/m3	NC	14	UJ	25	UJ	97	UJ	25	UJ	0.56	U
	1,3,5-Trimethylbenzene	ug/m3	NC	9.8	U	18	U	68	U	18	U	0.39	U
	1,3-Dichlorobenzene	ug/m3	NC	12	U	22	U	83	U	22	U	0.48	U
	1,4-Dichlorobenzene	ug/m3	NC	12	U	22	U	83	U	22	U	0.48	U
	1,4-Dioxane	ug/m3	NC	18	U	33	U	130	U	33	U	0.72	U
	2,2,4-Trimethylpentane	ug/m3	NC	23	U	42	U	160	U	42	U	0.93	U
	2-Butanone (MEK)	ug/m3	NC	24	U	43	U	160	U	43	U	**1.1**	
	4-Methyl-2-pentanone	ug/m3	NC	20	U	37	U	140	U	37	U	0.82	U
	Benzene	ug/m3	NC	6.4	U	12	U	44	U	12	U	**0.26**	
	Benzyl Chloride	ug/m3	NC	21	UJ	38	UJ	140	UJ	38	UJ	0.83	U
	Bromodichloromethane	ug/m3	NC	13	U	24	U	93	U	24	U	0.54	U
	Bromoform	ug/m3	NC	21	UJ	38	UJ	140	UJ	38	UJ	0.83	U
	Bromomethane	ug/m3	NC	7.8	U	14	U	54	U	14	U	0.31	U
	Carbon tetrachloride	ug/m3	NC	5.0	UJ	9.2	UJ	35	UJ	9.2	UJ	**0.32**	
	Chlorobenzene	ug/m3	NC	9.2	U	17	U	64	U	17	U	0.37	U
	Chloroethane	ug/m3	NC	5.3	U	9.6	U	37	U	9.6	U	0.21	U
	Chloroform	ug/m3	NC	9.8	U	18	U	68	U	18	U	0.39	U
	Chloromethane	ug/m3	NC	10	UJ	19	UJ	72	UJ	19	UJ	**0.90**	
	cis-1,2-Dichloroethene	ug/m3	NC	4.0	U	7.2	U	28	U	7.2	U	0.16	U
	cis-1,3-Dichloropropene	ug/m3	NC	9.1	U	17	U	63	U	17	U	0.36	U
	Cyclohexane	ug/m3	NC	17	U	31	U	120	U	31	U	0.69	U
	Dibromochloromethane	ug/m3	NC	17	UJ	31	UJ	120	UJ	31	UJ	0.68	U
	Dichlorodifluoromethane	ug/m3	NC	9.9	UJ	18	UJ	69	UJ	18	UJ	**1.2**	
	Ethanol	ug/m3	NC	**1,000**	**J**	**4,500**	**J**	**21,000**	**J**	**4,500**	**J**	**30**	
	Ethylbenzene	ug/m3	NC	8.7	U	16	U	60	U	16	U	0.35	U
	Hexachlorobutadiene	ug/m3	NC	21	UJ	39	UJ	150	UJ	39	UJ	0.85	U
	n-Hexane	ug/m3	NC	18	U	32	U	120	U	32	U	0.70	U
	Methyl tert-butyl ether	ug/m3	NC	14	U	26	U	100	U	26	U	0.58	U
	Methylene chloride	ug/m3	60	35	U	63	U	240	U	63	U	1.4	U
	m,p-Xylene	ug/m3	NC	8.7	U	16	U	60	U	16	U	0.35	U
	Naphthalene	ug/m3	NC	26	U	48	U	180	U	48	U	1.0	U
	o-Xylene	ug/m3	NC	8.7	U	16	U	60	U	16	U	0.35	U
	Styrene	ug/m3	NC	8.5	U	15	U	59	U	15	U	0.34	U
	tert-Butyl alcohol	ug/m3	NC	24	U	44	U	170	U	44	U	0.97	U
	Tetrachloroethene	ug/m3	30	14	U	25	U	94	U	25	U	0.54	U
	Toluene	ug/m3	NC	11	U	21	U	78	U	21	U	**0.62**	
	trans-1,2-Dichloroethene	ug/m3	NC	7.9	U	14	U	55	U	14	U	0.32	U
	trans-1,3-Dichloropropene	ug/m3	NC	9.1	U	17	U	63	U	17	U	0.36	U
	Trichloroethene	ug/m3	2	4.8	U	8.8	U	34	U	8.8	U	0.19	U
	Trichlorofluoromethane	ug/m3	NC	11	UJ	20	UJ	78	UJ	20	UJ	**0.71**	
	Vinyl chloride	ug/m3	NC	2.6	U	4.6	U	18	U	4.6	U	0.10	U

Notes:

ug/m³ - micrograms per cubic meter.

J - Estimated value.

U - Compound was not detected at specified quantitation limit.

UJ - Estimated non-detect.

NC - No standard exists for this analyte.

Values in **bold** indicate the compound was detected.

* - NYSDOH Air Guideline Value, updated August 2015.

Appendix A

Form A
Summary of Green Remediation Metrics

Site Name: Kliegman Brothers Site Code: 241031 Operable Unit: 1 and 2
Address: 76-01 77th Avenue City: New York
State: NY Zip: 11385 County: Queens

Reporting Period
Contract Period From: _____ To: _____
Reporting Period From: 1/1/2021 To: 12/31/2021 Is this a Final Report? Yes ☐ No ☐

Contact Information
Preparer's Name: Daniel Warren Phone No.: 917-232-9837
Preparer's Affiliation: TRC Engineers, Inc. Company Code: _____

Waste Generation: Quantify the management of waste generated on-site.

	Current Reporting Period (Tons)	Total to Date (Tons)
Total waste generated on-site		
• Remedy generated waste	0	0
• Contractor generated waste	0	0
Of that total amount, provide quantity:	0	0
• Transported off-site to landfills	0	0
• Transported off-site to other disposal facilities	0	0
• Transported off-site for recycling/reuse	0	0
• Reused on-site	0	0

Provide a description of any implemented waste reduction programs appropriate for this project in the space provided on Page 3.

Energy Usage: Quantify the amount of energy used on-site and portion of that voluntarily derived from renewable energy sources.

	Current Reporting Period (KWh)	Total to Date (KWh)
Total electricity usage	Not available	Not available
Of that total amount, provide quantity:		
• Derived from renewable source (i.e. solar, wind)	Not available	Not available

Provide a description in the space provided on Page 3 of all reported energy usage reduction programs appropriate to this project, including usage of electricity derived from renewable sources.

Emissions: Quantify the distance traveled for delivery of supplies and removal of waste.

	Current Reporting Period (Miles)	Total to Date (Miles)
Off-site mobile fuel combustion	1,690	1,690

Provide a description in the space provided on Page 3 of practices such as use of local vendors within 150 miles of the site and on-site stationary fuel usage reduction programs.

Quantify the number of hours that diesel and other equipment with the potential to emit hazardous air pollutants (HAPs) or greenhouse gas (GHG) emissions was operated on-site.

	Current Reporting Period (Hours)	Total to Date (Hours)
On-site diesel excavation/construction equipment usage	0	0
Other on-site processes potentially generating emissions	7,945	7,945

Provide a description in the space provided on Page 3 of the type of excavation/construction equipment used, rating, emission control devices used and other means to reduce emissions, such as use of biodiesel. Also, include a description of other onsite processes that may result in emissions of HAPs or GHG emissions and any emission control devices that are utilized to reduce emissions.

Water Usage: Quantify the volume of water used on-site from difference sources

	Current Reporting Period (Gallons)	Total to Date (Gallons)
Total quantity of water used on-site	0	0
Of that total amount, provide the quantity obtained from:		
• Public potable water supply usage	0	0
• Surface water usage	0	0
• On-site groundwater usage	0	0
• Reclaimed water usage	0	0
• Collected or diverted storm water usage	0	0

Provide a description in the space provided on Page 3 of any reported water usage reduction programs appropriate for this project.

Land and Ecosystem: Provide a description of the amount of land and/or ecosystems disturbed construction and the area of land and/or ecosystems restored to a natural condition.

	Current Reporting Period (Acres)	Total to Date (Acres)
Land Disturbed	Not applicable	Not applicable
Land Restored	Not applicable	Not applicable

Provide a description of the amount of land and/or ecosystems remediated.

	Current Reporting Period (Acres)	Total to Date (Acres)
Total area of land impacted by contamination	Approximately 8	Approximately 8
Of the total acres provide the:		
Area of Land Remediated	0	0

Other: *Provide a description in the space provided on page 3 of any other green remediation practices performed during the project.*

Description of green remediation programs reported above (Attach additional sheet if needed)

Waste Generation:

Not applicable.

Energy Usage:

Site electricity usage is limited to full-time operation of a soil vapor extraction system designed to remediate contaminated soil and provide vapor intrusion control. Since full-time operation of the system is necessary to protect the health of Site occupants no energy reduction program has been implemented.

Emissions:

Site emissions are limited to volatile organic compounds, primarily tetrachloroethene, from the soil vapor extraction system, which is operated without vapor treatment. Emission rates are calculated monthly and are significantly below the established limit of 0.5 pounds per hour. Therefore no emission reduction program has been implemented.

Water Usage:

Not applicable.

Land and Ecosystem:

Not applicable.

Other:

Generally, local staff are utilized to perform work at the site. Staff primarily utilized at the site are located between 10 and 60 miles from the site.

CERTIFICATION BY CONTRACTOR

I, _____ (**Name**) do hereby certify that I am _____ (**Title**) of the Company/Corporation herein referenced and contractor for the work described in the foregoing application for payment. According to my knowledge and belief, all items and amounts shown on the face of this application for payment are correct, all work has been performed and/or materials supplied, the foregoing is a true and correct statement of the contract account up to and including the last day of the period covered by this application.

_____ _____

Date **Contractor**

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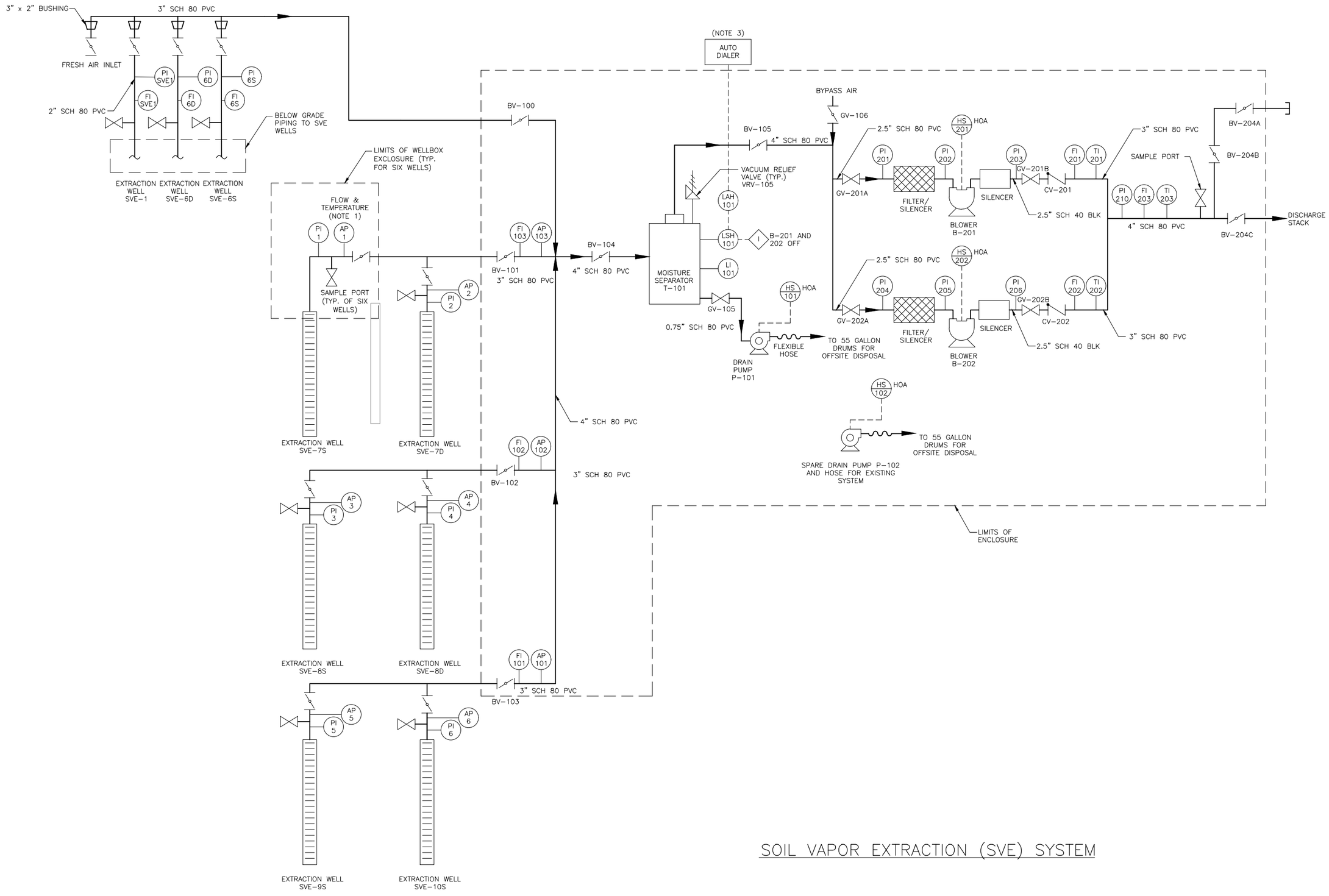
Appendix B



SOIL VAPOR EXTRACTION (SVE) SYSTEM

CDM Smith
Camp Dresser McKee & Smith

Figure No. 1-2
Kliegman Bros. Site OU1, No. 241031
Process Flow Diagram
NOVEMBER 2017

Appendix C

SITE HISTORY

KLIEGMAN BROTHERS SITE (NYSDEC SITE NO. 241031)

Date	Description
1950s – 1999	A laundry and dry-cleaning supply business was operated by Kliegman Brothers, Inc, in Glendale, New York. The business functioned as a warehouse and distribution center for cleaning chemicals and related supplies. Tetrachloroethene (PCE) was stored in two 6,000 gallon above ground storage tanks (ASTs) on Site. It is presumed that the tanks were the source of the on-Site contamination, although the exact means of the PCE contamination is unknown. The Site ceased operations in 1999 (Camp Dresser & Mckee 2014).
1997 – 2002	Initial on-Site investigations included soil vapor sample collection and analysis in the area where the ASTs were located. Ultimately six investigations were completed during this time, all of which confirming high concentrations of PCE on Site by Tradewinds Environmental Restoration, Inc., Advanced Cleanup Technologies (ACT), and URS (URS 2016).
2000	The site was purchased by Arimax Realty, LLC and became utilized as a commercial food warehouse by The Gourmet Factory in 2000. Additional soil vapor sampling was conducted and by June 2000 the Site was added to the Registry of Inactive Hazardous Waste Disposal Sites in New York (the Registry) as a Class 2a site. In November 2000 the site was reclassified as a Class 2 site as the hazardous waste present posed a significant threat to public and environmental health (Camp Dresser & Mckee 2014).
October 2000 – August 2001	The NYSDOH conducted ambient air sampling at residences located east, west, and south of the facility. PCE was detected in indoor air samples collected from 16 of the 17 homes sampled (Camp Dresser & Mckee 2014).
2001	An investigation was conducted, as part of the voluntary cleanup program (VCP) agreement with the NYSDEC, in 2001 by Environscience Consultants, Inc. Soil and groundwater sampling was performed as part of a Focused Remedial Investigation and Interim Remedial Measure (FRI/IRM). The purpose of the FRI/IRM was to delineate on-site soil contamination to support implementation of soil vapor extraction (SVE) to remediate soil. The investigation included the advancement of nine soil borings and collection of 26 soil samples from the building sub-floor. The results indicated elevated levels of PCE, benzene, toluene, ethylbenzene, xylene (BTEX), and1,2-dichloroethene (DCE), with the PCE detected most frequently and at the highest concentration (Camp Dresser & Mckee 2014; URS 2016).
November 2001	The Focused Remedial Investigation/Preliminary Remedial Measures Report was finalized (Camp Dresser & Mckee 2014; URS 2016).

September 2002	The owner of the Site chose to discontinue the VCP agreement. Due to the urgency of concern regarding the continued PCE vapor exposures to neighboring structures the NYSDEC hired URS to design and construct an SVE-system on-Site. This was completed as part of an IRM and the system became operable in 2004 (Camp Dresser & Mckee 2014).
April 2002 – April 2003	The initial phase of the remedial investigation was performed on site. Remedial activities included a geophysical survey, installation of nine soil borings and four monitoring wells, and the collection of 35 indoor air samples form 17 neighboring residences (Camp Dresser & Mckee 2014).
February 2003 – April 2003	The second phase of the remedial investigation was completed. This comprised of installing five soil borings, five monitoring wells, and sampling the nine wells.
February 2004	The Remedial Investigation Report was completed in February 2004. The RI determined that VOCs were one of the main categories of contamination that exceeded standards, criteria, and guidance (SCGs). Other than PCE, the primary VOC contaminant of concern, additional on-site contaminates were degradation products of PCE: trichloroethene (TCE), cis-l,2 dichloroethane (DCE), and vinyl chloride, and additional compounds such as carbon tetrachloride, 1,1,1 -trichloroethane (1,1,1- TCA) and chloroform (Camp Dresser & Mckee 2014).
August 2004	Operation of the SVE system design by the URS corporation and installed by Envirotrac Environmental Services (Envirotrac) begins.
September 2005	URS issued an RI Addendum Report after installing eight monitoring wells and sampling 16 of the 18 previously existing wells (URS 2016).
March 2006	NYSDEC issues the ROD for OU-1 (on-site soil). The selected remedy consisted of SVE; components of which were the inclusion of a remedial design program, continuation of the existing operable URS SVE system, construction of an additional SVE system, imposition of an Environmental Easement, and development of an SMP (Camp Dresser & Mckee 2014).
2006	URS presents their findings from the residential air sampling program, conducted as part of the RI, in the Soil Vapor Intrusion Investigation Report.
April 2007	NYSDEC approves the remedial design for Kliegman Brothers OU1.
January 2008	Remedial construction activities completed for OU-1 (Camp Dresser & Mckee 2014).
March 2008	The NYSDEC approves the ROD for OU-2. Remedial Action Objectives (RAOs) for the site included limiting exposures of PCE and degradation products to persons and reduce to the extent possible the release of contaminants from soil vapor to indoor air (URS 2016).
December 2009	CDM Smith performed a subsurface investigation utilizing membrane interface probe (MIP) technology to determine if an additional PCE source was located in soil. The

	investigation focused on the areas near extraction wells SVE-7S and SVE-7D and the loading dock area, and the areas closest to these locations inside the building. The investigation confirmed the primary source of on-site PCE impacts is located near the loading dock (Camp Dresser & Mckee 2014; Camp Dresser Mckee & Smith 2020).
May 2014	The Site Management Plan for Operable Unit No.1 was prepared for the NYSDEC by Camp Dresser & Mckee.
July 2014 – June 2015	After the installation of 12 injection wells, three rounds of permanganate injection occurred on site in July 2014, November 2014, and June 2015.
October 2016	The Site Management Plan for Operable Unit No.2 was prepared for the NYSDEC by the URS Corporation.
February 2017	Due to the level of deterioration and equipment operation failures, the URS SVE system was demolished. SVE wells installed as part of the IRM were connected to the blowers installed in 2008 (Camp Dresser Mckee & Smith 2020).

CUSTODIAL RECORD

KLIEGMAN BROTHERS SITE (NYSDEC SITE NO. 241031)

URS Corporate Group Consultants, *"Remedial Investigation/Feasibility Study Work Plan"*, February 2003

URS Corporation, "*Final Remedial Investigation Report, Kliegman Brothers Site*," February 2004

URS Corporation, *"Remedial Investigation Report Addendum, Kliegman Brothers Site"*, September 2005

URS Corporation, *"Remedial Investigation/Feasibility Study Project*" October 2005

NYSDEC, *Proposed Remedial Action Plan for the Kliegman Brothers site, Operable Unit No. 1*, February 2006

NYSDEC, *"Record of Decision: Kliegman Brothers Site Operable Unit No. 1"*, March 2006

URS Corporation, *Soil Vapor Intrusion Investigation Report, Kliegman Brothers Site*, July 2006

URS Corporation, *Feasibility Study, Kliegman Brothers Site*, November 2006

URS Corporation, *"Design Engineering Report OU1"*, April 2007

Camp, Dresser & McKee, "*Construction Completion Report, Kliegman Brothers OU1, Site #2-41-031, Remedial Construction Contract No. D006547"*, 2008

NYSDEC, *"Record of Decision: Kliegman Brothers Site Operable Unit No. 2"*, March 2008

URS Corporation, "*Feasibility Study OU2"* February 2008

URS Corporation, *"Operable Unit NO. 2 Design Analysis Report"* November 2012

Camp, Dresser & McKee, "*Site Management Plan OU1",* May 2014

URS Corporation,*" Kliegman Brothers Site Final Engineering Report OU2"*, March 2016

URS Corporation, *"Site Management Plan OU2",* October 2016

TRC Engineers, Inc., "*Periodic Review Report, January 2020 – December 2020*", May 2021

New York State Department of Environmental Conservation
Kliegam Brothers Site - Site No. 241031
Glendale, Queens County, New York
Monitoring Well Construction Summary

Monitoring Well	Installation Date	Well Diameter (inches)	Well Material	Total Depth (feet bgs)	Screened Formation	Screen			Elevation (feet AMSL)			Location (STD UTM)	
						Top (feet bgs)	Bottom (feet bgs)	Length (feet)	PVC Casing Top	Screen Top	Screen Bottom	Northing	Easting
MW-03D	8/24/2002	2	PVC	76.5	Overburden	66.50	76.50	10.00	80.98	14.48	4.48	196749.41	1019146.31
MW-04D	8/26/2002	2	PVC	75.0	Overburden	65.00	75.00	10.00	80.56	15.56	5.56	196622.72	1019197.44
MW-05D	8/27/2002	2	PVC	75.0	Overburden	65.00	75.00	10.00	80.61	15.61	5.61	196677.45	1019126.68
MW-10H	4/16/2003	2	PVC	125.0	Overburden	115.00	125.00	10.00	N/A	N/A	N/A	N/A	N/A
MW-10D	4/18/2003	2	PVC	62.0	Overburden	52.00	62.00	10.00	N/A	N/A	N/A	N/A	N/A
MW-12H	4/4/2003	2	PVC	118.0	Overburden	95.00	105.00	10.00	80.43	-14.57	-24.57	196625.89	1019204.53
MW-14DR	3/26/2003	2	PVC	75.0	Overburden	64.50	74.50	10.00	81.29	16.79	6.79	196483.57	1019189.37
MW-14H	12/17/2009	2	PVC	111.0	Overburden	96.00	111.00	15.00	80.90	-15.10	-30.10	196486.72	1019188.60
MW-23D	6/1/2005	2	PVC	74.0	Overburden	64.00	74.00	10.00	83.57	19.57	9.57	196031.94	1019331.28
MW-24D	6/2/2005	2	PVC	69.0	Overburden	59.00	69.00	10.00	81.91	22.91	12.91	196382.81	1019218.34
MW-24H	12/9/2009	2	PVC	80.0	Overburden	70.00	80.00	10.00	81.44	11.44	1.44	196378.93	1019223.11
MW-30M	11/20/2009	2	PVC	88.0	Overburden	78.00	88.00	10.00	86.53	8.53	-1.47	195764.51	1019414.54
MW-31D	8/22/2013	2	PVC	80.0	Overburden	65.00	80.00	15.00	N/A	N/A	N/A	196158.39	1019289.26
MW-32D	9/24/2013	2	PVC	80.0	Overburden	65.00	80.00	15.00	N/A	N/A	N/A	196265.90	1019300.76
MW-33D	9/25/2019	2	PVC	80.0	Overburden	65.00	80.00	15.00	N/A	N/A	N/A	196134.19	1019342.66

Notes

AMSL : Above Mean Sea Level
feet bgs : Feet Below Ground Surface
PVC : Polyvinyl Chloride
N/A : Not Avaliable

Appendix D

MW-03D

10/17/2002 -	25,000
4/30/2003 -	22,000
6/16/2005 -	43,000
2/2009 -	490
3/2009 -	580
3/2010 -	290
2/16/2011 -	200
2/8/2012 -	48
6/28/2012 -	54
6/24/2014 -	47
10/7/2014 -	37
2/2/2015 -	53
9/9/2015 -	31
6/12/2018 -	38
11/16/2020 -	20

MW-10H

4/30/2003 -	24,800
2/1/2009 -	14
3/1/2010 -	69
2/16/2011 -	5
2/08/2012 -	8.6
11/16/2020 -	48

MW-10D

4/30/2003 -	55,000
12/1/2003 -	NS
6/1/2005 -	NS
2/2009 -	170
3/2009 -	150
3/2010 -	130
2/16/2011 -	51
2/8/2012 -	44
11/16/2020 -	11

MW-12H

4/29/2003 -	51,200
2/1/2009 -	13
3/1/2009 -	17
3/2010 -	5
2/16/2011 -	9.8
2/08/2012 -	21
6/28/2012 -	ND
6/25/2014 -	5.9
10/7/2014 -	5.4
2/4/2015 -	7.6
9/9/2015 -	5.2
6/12/2018 -	10
11/16/2020 -	7.0

MW-05D

10/15/2002 -	17,000
4/30/2003 -	15,000
12/16/2003 -	15,000
6/16/2005 -	31,000
2/2009 -	270
3/2009 -	360
3/2010 -	140
2/16/2011 -	44
2/8/2012 -	7.3
6/28/2012 -	4.1
6/25/2014 -	53
10/7/2014 -	45
2/2/2015 -	60
9/9/2015 -	40
6/13/2018 -	34
11/16/2020 -	18

MW-14H

3/1/2010 -	12
2/16/2011 -	46
2/16/2011 -	54
6/23/2014 -	22
10/07/2014 -	22
3/30/2015 -	16
9/10/2015 -	12
6/13/2018 -	24
11/16/2020 -	15

MW-14DR

6/28/2012 -	5,300
6/23/2014 -	6,500
10/7/2014 -	52,000
3/30/2015 -	9,200
9/10/2015 -	8,900
6/13/2018 -	8,200
11/16/2020 -	7,000

MW-04D

10/15/2002 -	49,000
4/29/2003 -	69,000
12/16/2003 -	45,000
6/16/2005 -	75,000
2/2009 -	680
3/2009 -	700
3/2010 -	370
2/16/2011 -	8,200
2/8/2012 -	14,000
6/28/2012 -	460
6/24/2014 -	82
10/7/2014 -	77
2/3/2015 -	95
9/9/2015 -	78
6/12/2018 -	9,000
11/16/2020 -	46

MW-24D

6/16/2005 -	21,000
3/1/2009 -	6,600
3/1/2010 -	1,400
2/16/2011 -	15,000
2/08/2012 -	340
6/28/2012 -	890
6/25/2014 -	20,000
10/8/2014 -	14,000
2/11/2015 -	12,000
9/10/2015 -	1,600
6/14/2018 -	540
11/16/2020 -	320

MW-24H

3/1/2010 -	1,400
2/16/2011 -	2,500
2/8/2012 -	86
6/28/2012 -	160
6/23/2014 -	9,600
10/08/2014 -	5,300
2/11/2015 -	1,600
9/10/2015 -	210
6/14/2018 -	110
11/16/2020 -	67

MW-32D

6/26/2014 -	36
10/8/2014 -	41
2/4/2015 -	37
9/11/2015 -	36
6/14/2018 -	42
11/16/2020 -	9.9

MW-31D

6/26/2014 -	74
10/8/2014 -	61
9/11/2015 -	67
6/13/2018 -	41
11/16/2020 -	35

MW-23D

6/15/2005 -	3,400
2/1/2009 -	2,400
3/1/2010 -	410
2/16/2011 -	380
2/08/2012 -	170
6/28/2012 -	48
6/26/2014 -	77
2/4/2015 -	77
9/11/2015 -	45
6/14/2018 -	56
11/16/2020 -	19

MW-33D

6/25/2014 -	120
10/8/2014 -	100
9/11/2015 -	72
6/13/2018 -	61
11/16/2020 -	12

MW-30M

3/1/2010 -	310
2/16/2011 -	570
2/8/2012 -	200
6/28/2012 -	140
6/26/2014 -	140
10/08/2014 -	120
2/03/2015 -	150
9/11/2015 -	74
11/16/2020 -	30

LEGEND

- MONITORING WELL LOCATION
- MONITORING WELL LOCATION NOT INCLUDED IN ANNUAL MONITORING NETWORK
- SOIL VAPOR EXTRACTION WELL LOCATION
- VAPOR MONITORING POINT LOCATION

NOTES:

1. BASE MAP IMAGERY RETRIEVED FROM ESRI AND NEW YORK STATE GIS CLEARING HOUSE.
2. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES ARE APPROXIMATE, UNLESS STATED OTHERWISE.
3. MONITORING LOCATIONS TAKEN FROM THE OCTOBER 2016 SITE MANAGEMENT PLAN, PREPARED BY URS CORPORATION.
4. HISTORIC PCE CONCENTRATIONS SHOWN ARE FROM FIGURE 1-1 OF THE EC FORM 1 PREPARED FOR THE SITE IN JANUARY 2019.
5. PCE: TETRACHLOROETHENE

N

1:1,675
1" = 140'
0 140 280 FEET

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE MANAGEMENT PORTFOLIO B
TASK NO. 19 - KLIEGMAN BROTHERS
76-01 77TH AVENUE, GLENDALE, QUEENS CO., NEW YORK

TITLE:
PCE IN GROUNDWAYER

DRAWN BY:	L. LILL	PROJ. NO.:	386554 PHASE 19
CHECKED BY:	D. WARREN		
APPROVED BY:	C. GUDER		
DATE:	MAY 2021		

FIGURE 4

TRC
1430 Broadway, 10th Floor
New York, NY 10018
Phone: 212-221-7822

FILE: pce_gw.aprx

Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet. Map Rotation: 0
Saved By: LILL on 5/5/2021, 1:41:57 PM. File Path: T:\PROJECTS\VOSCE\386554_19_KliegmanBrothers\2-APRX\pce_gw\pce_gw.aprx Layout Name: pcelngw

LEGEND

- MONITORING WELL LOCATION
- MONITORING WELL LOCATION NOT INCLUDED IN ANNUAL MONITORING NETWORK

PCE (ug/L)

- ND - 10
- 11 - 100
- 101 - 1,000
- 1,000 +

NOTES:

1. BASE MAP IMAGERY RETRIEVED FROM ESRI AND NEW YORK STATE GIS CLEARING HOUSE.
2. LOCATIONS AND DIMENSIONS OF PHYSICAL FEATURES ARE APPROXIMATE, UNLESS STATED OTHERWISE.
3. MONITORING LOCATIONS TAKEN FROM THE OCTOBER 2016 SITE MANAGEMENT PLAN, PREPARED BY URS CORPORATION.
4. PCE: TETRACHLOROETHENE
5. PCE CONCENTRATION CONTOURS WERE GENERATED USING CONCENTRATIONS FROM MW-03D, MW-04D, MW-10H, MW-14DR, MW-23D, MW-24D, MW-30M, MW-31D, MW-32D, AND MW-33D.

1:1,675
1" = 140'

0 140 280 FEET

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
SITE MANAGEMENT PORTFOLIO B
TASK NO. 19 - KLIEGMAN BROTHERS
76-01 77TH AVENUE, GLENDALE, QUEENS CO., NEW YORK

TITLE:
PCE IN GROUNDWATER CONCENTRATION CONTOURS

DRAWN BY:	L. LILL	PROJ. NO.:	386554 PHASE 19
CHECKED BY:	D. WARREN		FIGURE 5
APPROVED BY:	C. GUDER		
DATE:	JULY 2021		

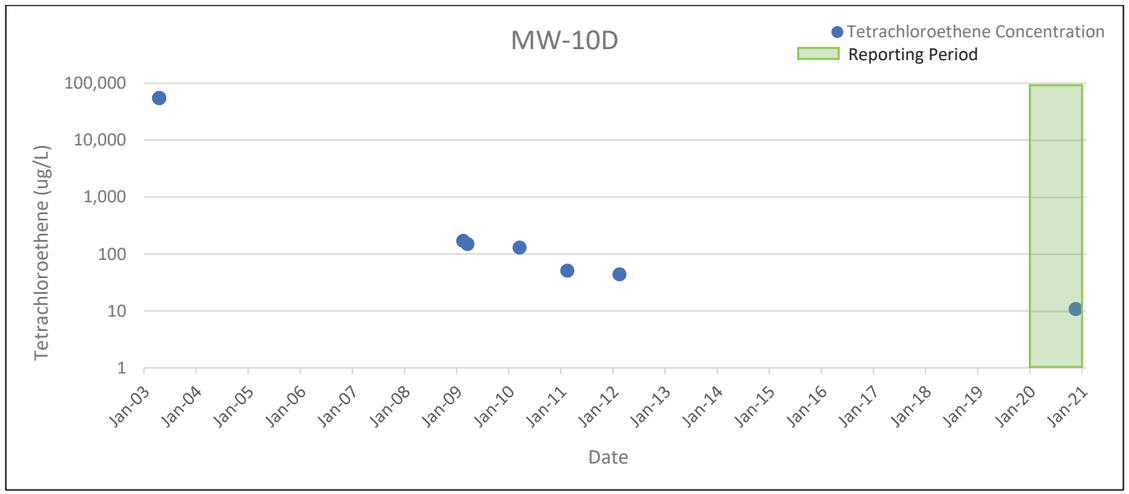
TRC
1430 Broadway, 10th Floor
New York, NY 10018
Phone: 212-221-7822

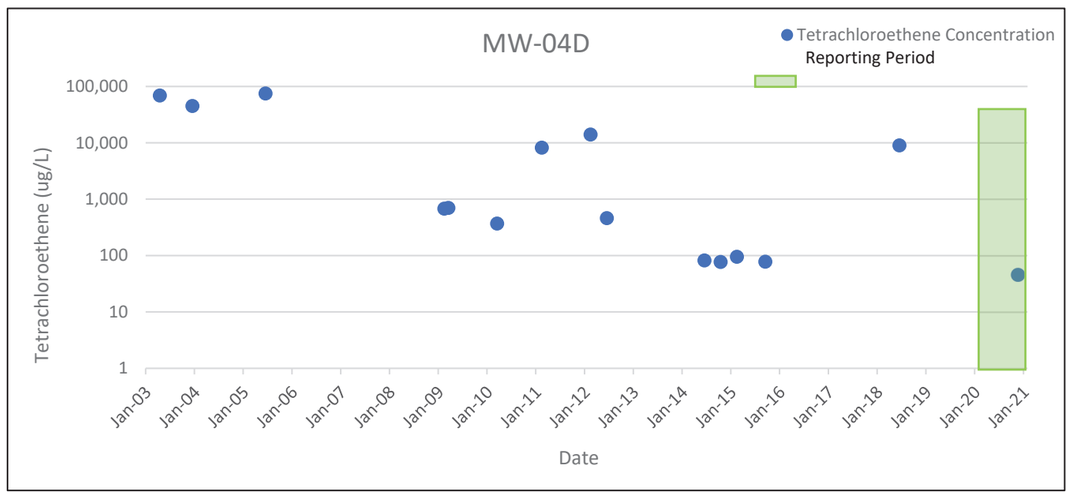
FILE: pce_gw.aprx

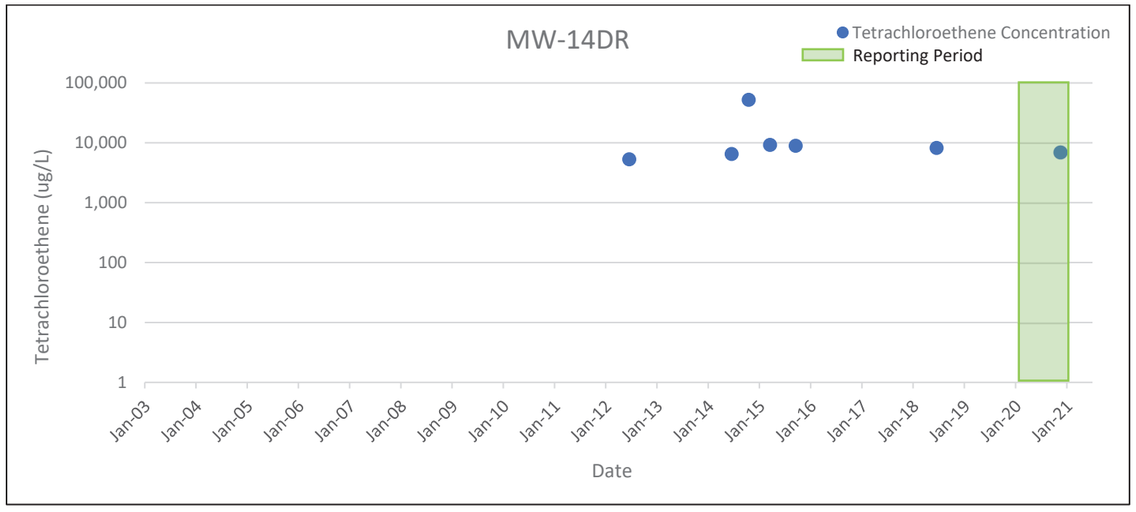
Coordinate System: NAD 1983 StatePlane New York Long Island FIPS 3104 Feet. Map Rotation: 0
Saved By: LLILL on 7/22/2021 - 15:13:19 PM - File Path: T:\PROJECTS\VOS\EC\386554_19_KliegmanBrothers\2-APRX\pce_gw\pce_gw.aprx Layout Name: Figure 5 - Kliegman Brothers PCE in GW Contours Map

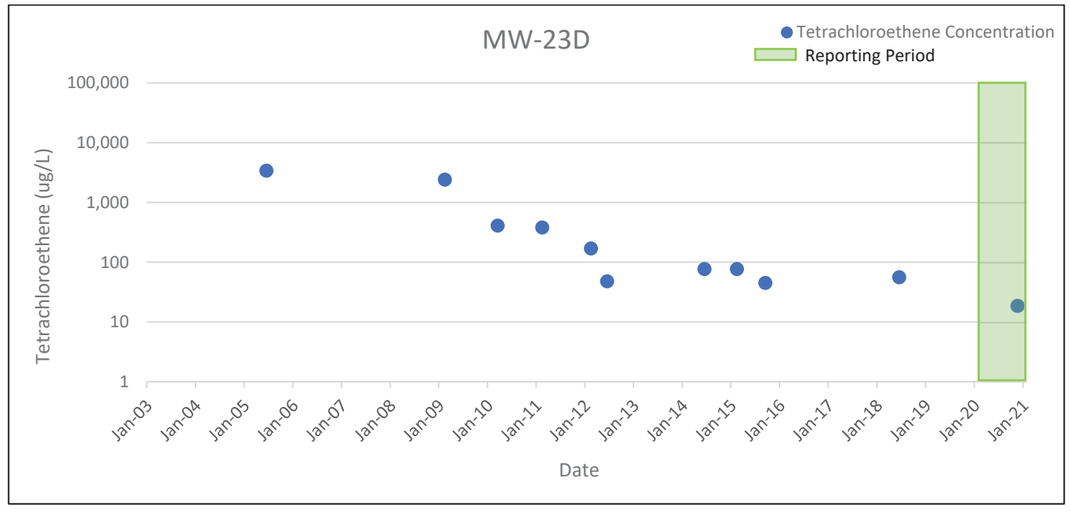
Figure 6

New York State Department of Environmental Conservation
SMP B - Kliegman Brothers - Site No. 241031
Periodic Review Report
Glendale, Queens, New York
PCE in Groundwater Trend Charts









Notes:
PCE – Tetrachloroethene
µg/L – Micrograms per Liter

Appendix E

MONTHLY PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the January 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map of the system location is provided as Figure 2 which was generated by Camp Dresser McKee & Smith (CDM Smith).

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recordings air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for January 2021 is estimated at 100%.

2.1.1 O&M ACTIVITIES

- January 11, 2021:
  - Final compound fence installation took place to secure system and components.
- January 14, 2021:
  - The system was operating upon arrival to and departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. No other adjustments were made to air flow rates at each of the extraction well locations. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed.
  - Vacuum/influence monitoring at VMP wells were conducted at VMP-2, 3, 4, 5, and 6. VMP-1 and 7 locations were not recorded during the January 2021 event due to wells being inaccessible.

3.0 SYSTEM AIR SAMPLING

During the monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On January 14, 2020, a monthly air sample for laboratory analysis was collected from the SVE effluent air stream. The SVE effluent air samples were submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021
SVE System Status on Arrival			on	on	on	on
SVE System Status on Departure			on	on	on	on
SVE Blower B-201 Status			on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00
Hours Since Last Site Visit			-	672.00	456.00	744.00
SVE Blower B-202 Status			off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF
In-Line Filter Status			ok	ok	ok	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty
Manifold Legs / Wells						
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4
		Airflow (SCFM)	140.0	145.0	85.0	80.0
		PID (PPM)	28.3	38.3	8.2	21.1
		Valve (% open)	50%	50%	50%	50%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6
		Airflow (SCFM)	100.0	152.0	140.0	140.0
		PID (PPM)	6.2	6.2	3.3	5.9
		Valve (% open)	50%	50%	50%	50%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7
		Airflow (SCFM)	90.0	100.0	105.0	95.0
		PID (PPM)	3.3	4.1	1.4	4.1
		Valve (% open)	100%	100%	100%	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1
		Airflow (SCFM)	43.0	84.0	56.0	11.0
		Temperature (°F)	64.0	66.0	-	62.0
		PID (PPM)	6.5	1.8	1.1	5.0
		Valve (% open)	100%	100%	100%	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5
		Airflow (SCFM)	14.0	38.0	68.0	97.0
		Temperature (°F)	64.0	57.0	-	57.0
		PID (PPM)	2.3	*	0.0	5.2
		Valve (% open)	100%	100%	100%	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6
		Airflow (SCFM)	64.0	81.0	*	24.0
		Temperature (°F)	65.0	61.0	-	56.0
		PID (PPM)	3.7	0.7	*	4.7
		Valve (% open)	50%	50%	50%	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1
Discharge						
SVE EFFLUENT		Airflow (SCFM)	115.0	225.0	225.0	220.0
		Temperature (°F)	126.0	122.0	116.0	115.0
		PID (PPM)	5.9	21.9	12.6	128.0
Vapor Monitoring Points (VMPs)						
VMP-1		Vacuum ("WC)	-	0.0	0.0	-
		PID (PPM)	-	4.6	0.0	-
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0
		PID (PPM)	0.9	1.2	0.0	0.8
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0
		PID (PPM)	1.7	0.8	0.3	0.4
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0
		PID (PPM)	0.2	1.8	0.0	0.4
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7
		PID (PPM)	0.0	0.7	0.4	1.4
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0
		PID (PPM)	-	1.1	0.2	0.2
VMP-7		Vacuum ("WC)	-	0.0	0.0	-
		PID (PPM)	-	0.8	1.4	-

Notes:
- Reading not collected
*Water detected in lines
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**1,055**	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	**320**	<860	<780	<950	<780	<1,800	<500	<400	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**183,900**	**190**	**350**	<280	<340	<280	<660	<180	<140	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<220	<610	<550	<670	<550	<1,300	<360	<280	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1 Dichloroethane
1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromodichloromethane
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Chloroform
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
MTBE
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

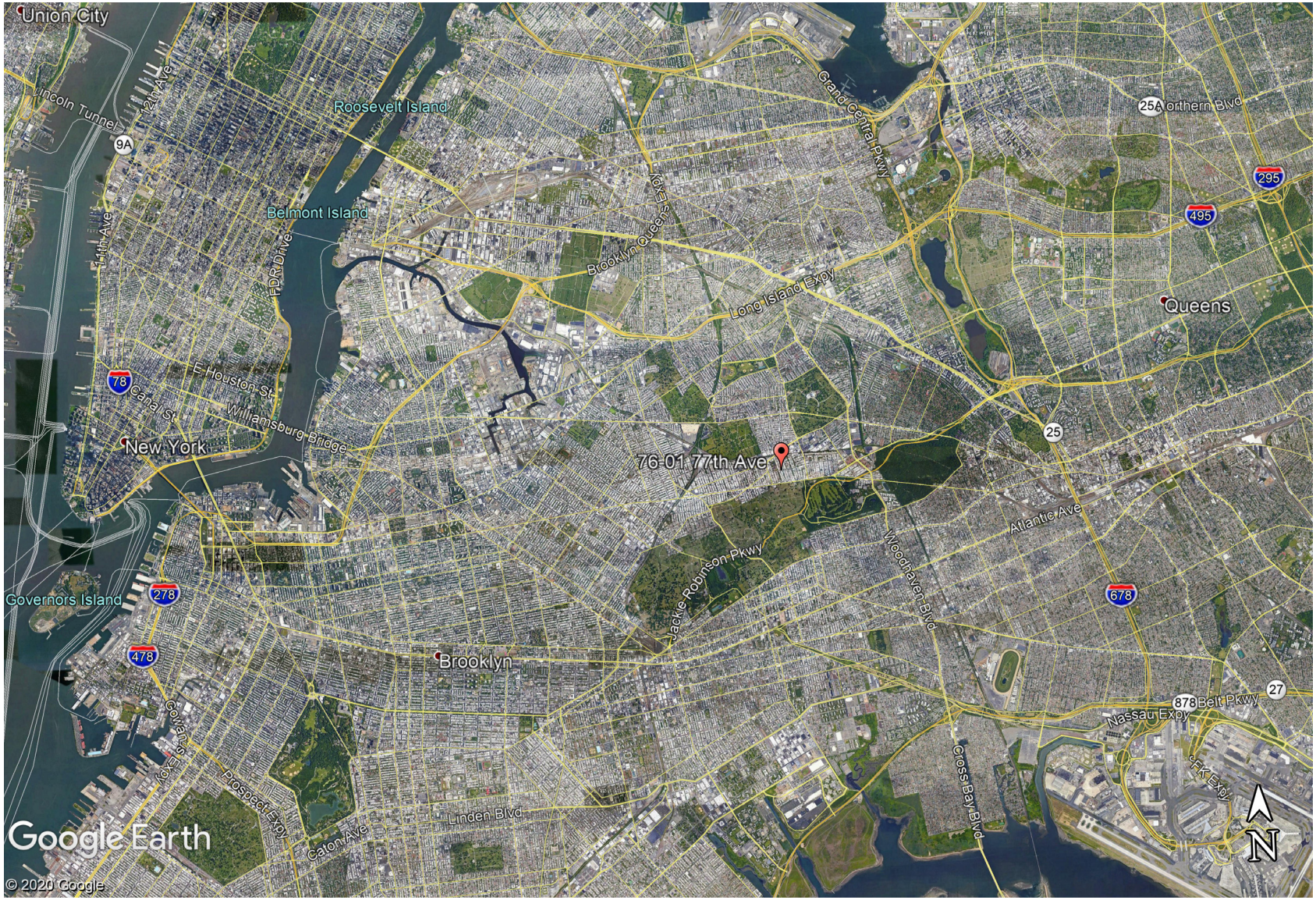
Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	1,055	4.55E-04	1.09E-02	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.008	142,320	0.120	2.9	0.295
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	183,900	0.155	3.7	55.0
1/14/21 9:50 AM	225.0	12.6	69,000	0.058	1.4	109.1	69,990	0.059	1.4	166.6
AVERAGE:	**198**									

FIGURES



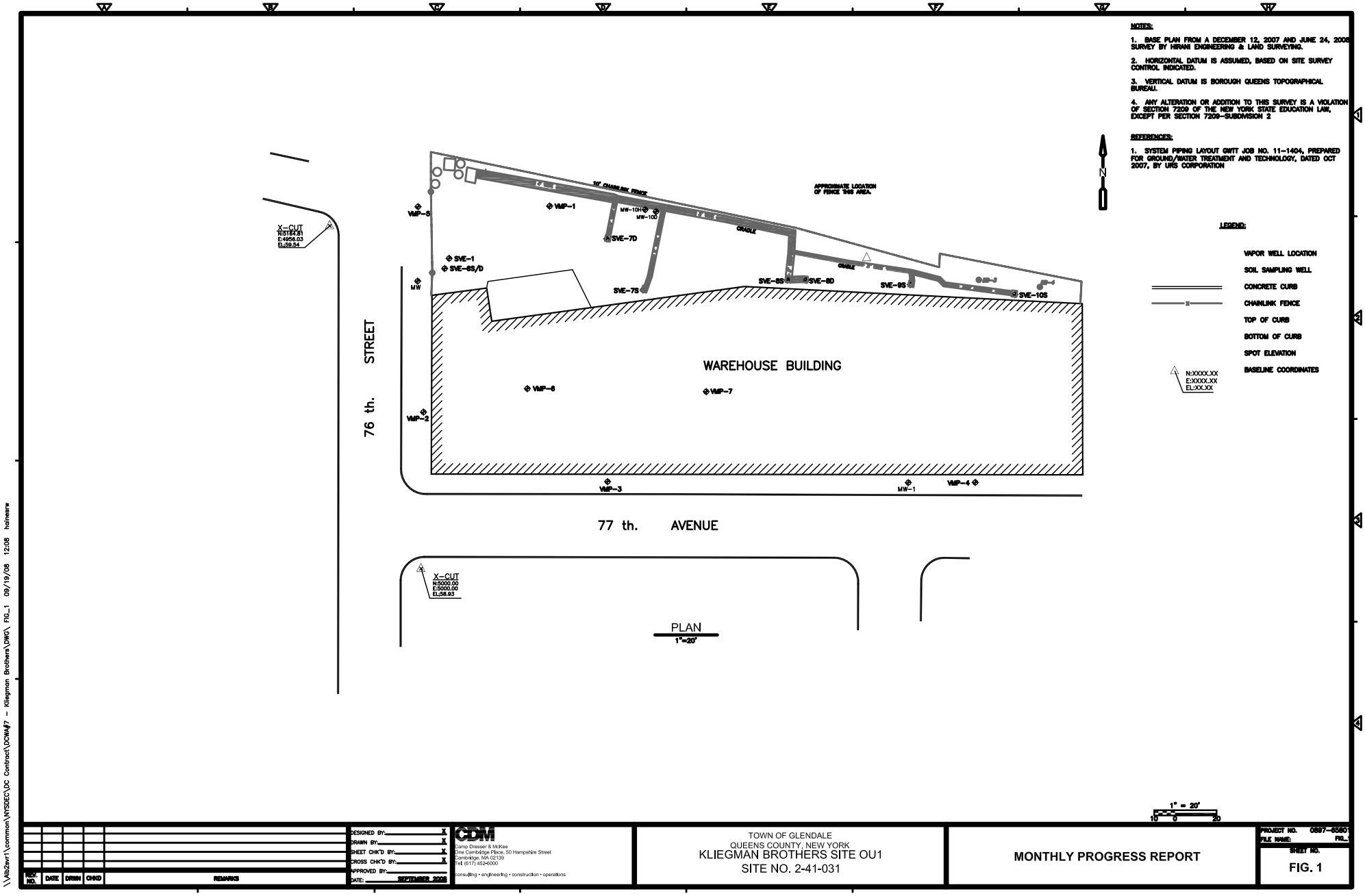
ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

Figure 2


NOTES:
1. BASE PLAN FROM A DECEMBER 12, 2007 AND JUNE 24, 2008 SURVEY BY HIRANI ENGINEERING & LAND SURVEYING.
2. HORIZONTAL DATUM IS ASSUMED, BASED ON SITE SURVEY CONTROL INDICATED.
3. VERTICAL DATUM IS BOROUGH QUEENS TOPOGRAPHICAL BUREAU.
4. ANY ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW, EXCEPT PER SECTION 7209—SUBDIVISION 2
REFERENCES:
1. SYSTEM PIPING LAYOUT GWTT JOB NO. 11-1404, PREPARED FOR GROUND/WATER TREATMENT AND TECHNOLOGY, DATED OCT 2007, BY URS CORPORATION
LEGEND:
VAPOR WELL LOCATION
SOIL SAMPLING WELL
CONCRETE CURB
CHAINLINK FENCE
TOP OF CURB
BOTTOM OF CURB
SPOT ELEVATION
BASELINE COORDINATES
N:XXXX.XX
E:XXXX.XX
EL:XX.XX
N
APPROXIMATE LOCATION OF FENCE THIS AREA.
10' CHAIN link FENCE
CRADLE
X-CUT
N:5164.81
E:4956.03
EL:59.54
VMP-5
VMP-1
MW-10H
MW-10D
SVE-7D
SVE-1
SVE-6S/D
MW
SVE-7S
SVE-8S
SVE-8D
SVE-9S
SVE-10S
WAREHOUSE BUILDING
VMP-6
VMP-7
VMP-2
VMP-3
MW-1
VMP-4
76 th. STREET
77 th. AVENUE
X-CUT
N:5000.00
E:5000.00
EL:58.93
PLAN
1"=20'
1" = 20'
10 0 20
DESIGNED BY:
DRAWN BY:
SHEET CHK'D BY:
CROSS CHK'D BY:
APPROVED BY:
DATE: SEPTEMBER 2008
REV. NO. DATE DRWN CHKD REMARKS
CDM
Camp Dresser & McKee
One Cambridge Place, 50 Hampshire Street
Cambridge, MA 02139
Tel (617) 452-6000
consulting • engineering • construction • operations
TOWN OF GLENDALE
QUEENS COUNTY, NEW YORK
KLIEGMAN BROTHERS SITE OU1
SITE NO. 2-41-031
MONTHLY PROGRESS REPORT
PROJECT NO. 0807-8560
FILE NAME: FIG_1
SHEET NO.
FIG. 1
\\Alb2wr1\common\NYSDEC\DC Contract\DCW#7 - Kliegman Brothers\DWG\ FIG_1 09/19/08 12:08 holnesrw

APPENDIX A

REVISIONS			
NO.	DATE	BY	COMMENTS
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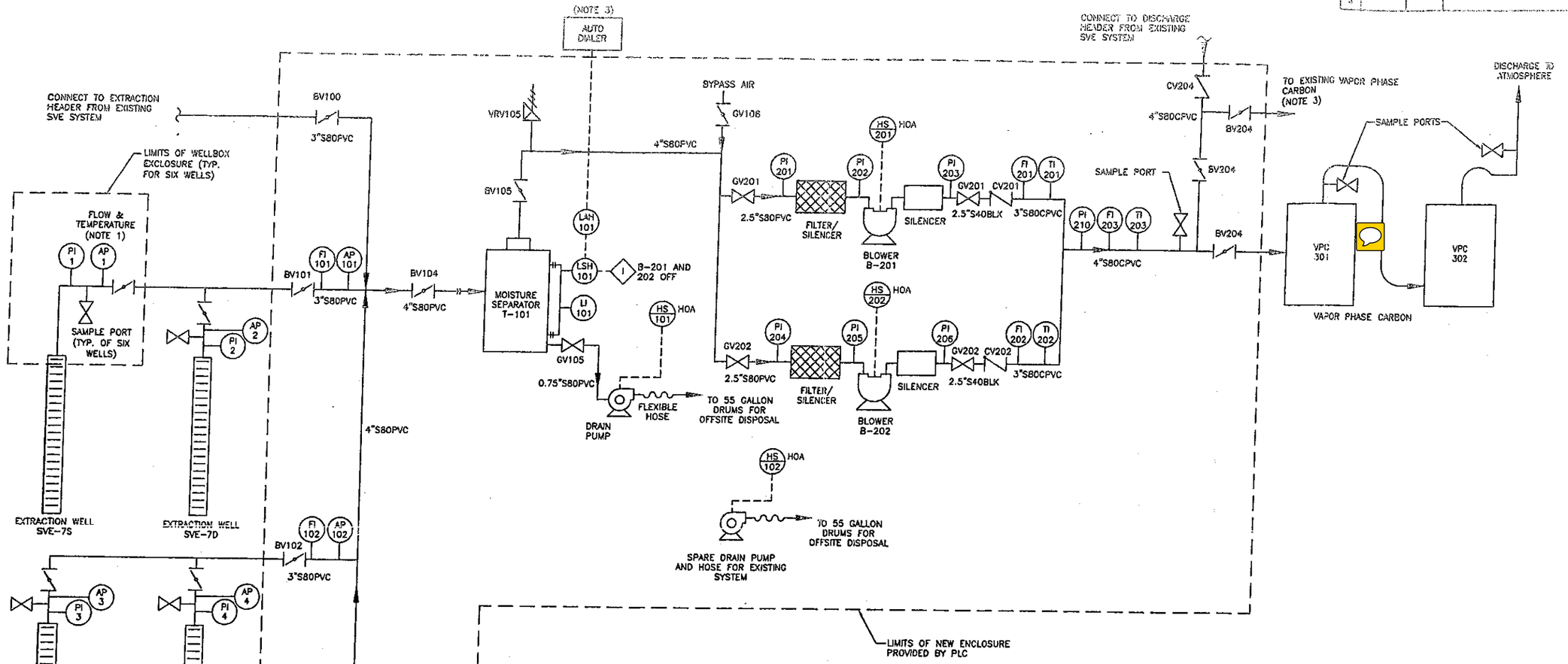
1			
2			
3			
4			



SOIL VAPOR EXTRACTION (SVE) SYSTEM

DESIGNED BY:	DMc
DRAWN BY:	RAL
CHECKED BY:	CWP
PROJ. ENGR.	DMc

URS Corporation
Group Consultants
77 Goodell Street, Buffalo, New York 14203
(716)856-5636 - (716)856-2545 fax

JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS

KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1

GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
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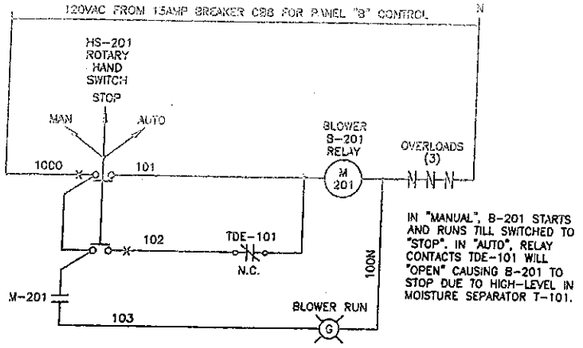
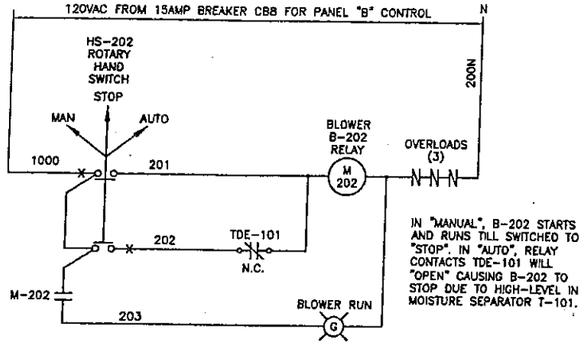
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



BLOWER B-201 CONTROL CIRCUITS

NOT TO SCALE



BLOWER B-202 CONTROL CIRCUITS

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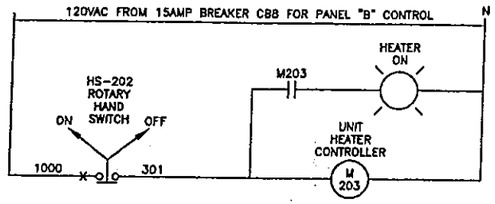
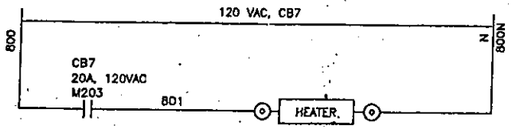
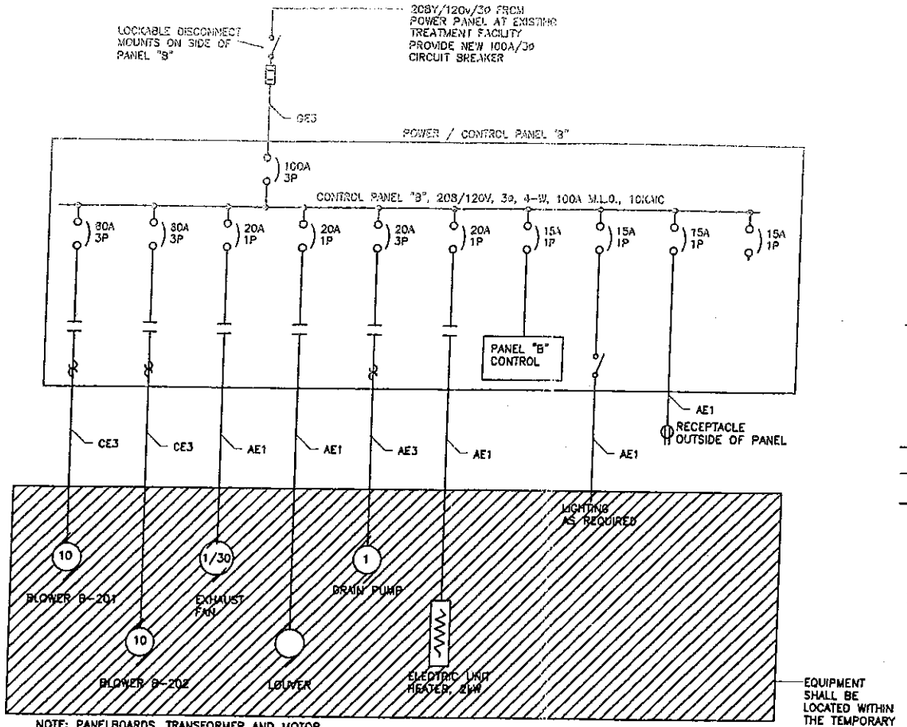


ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

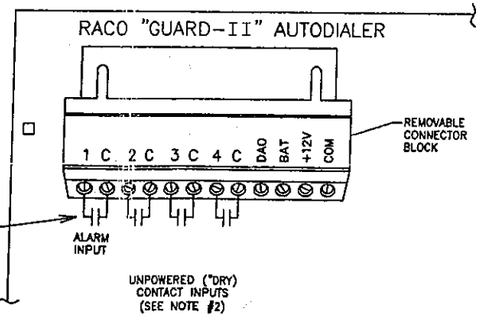
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

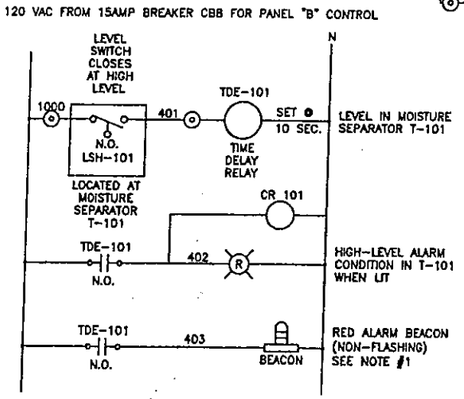
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



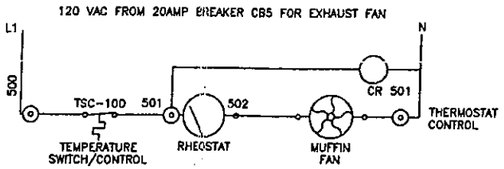
AUTODIALER DETAIL (EXISTING)

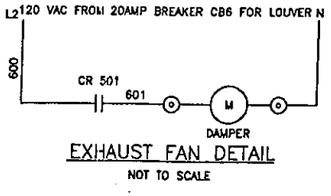
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

NOT TO SCALE





EXHAUST FAN DETAIL

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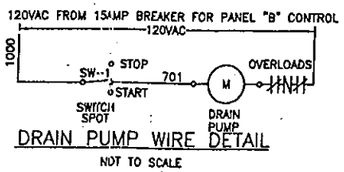

DRAIN PUMP WIRE DETAIL

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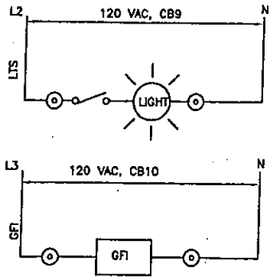


REVISIONS			
Rev	Date	By	Description
0			
1			
2			
3			
4			

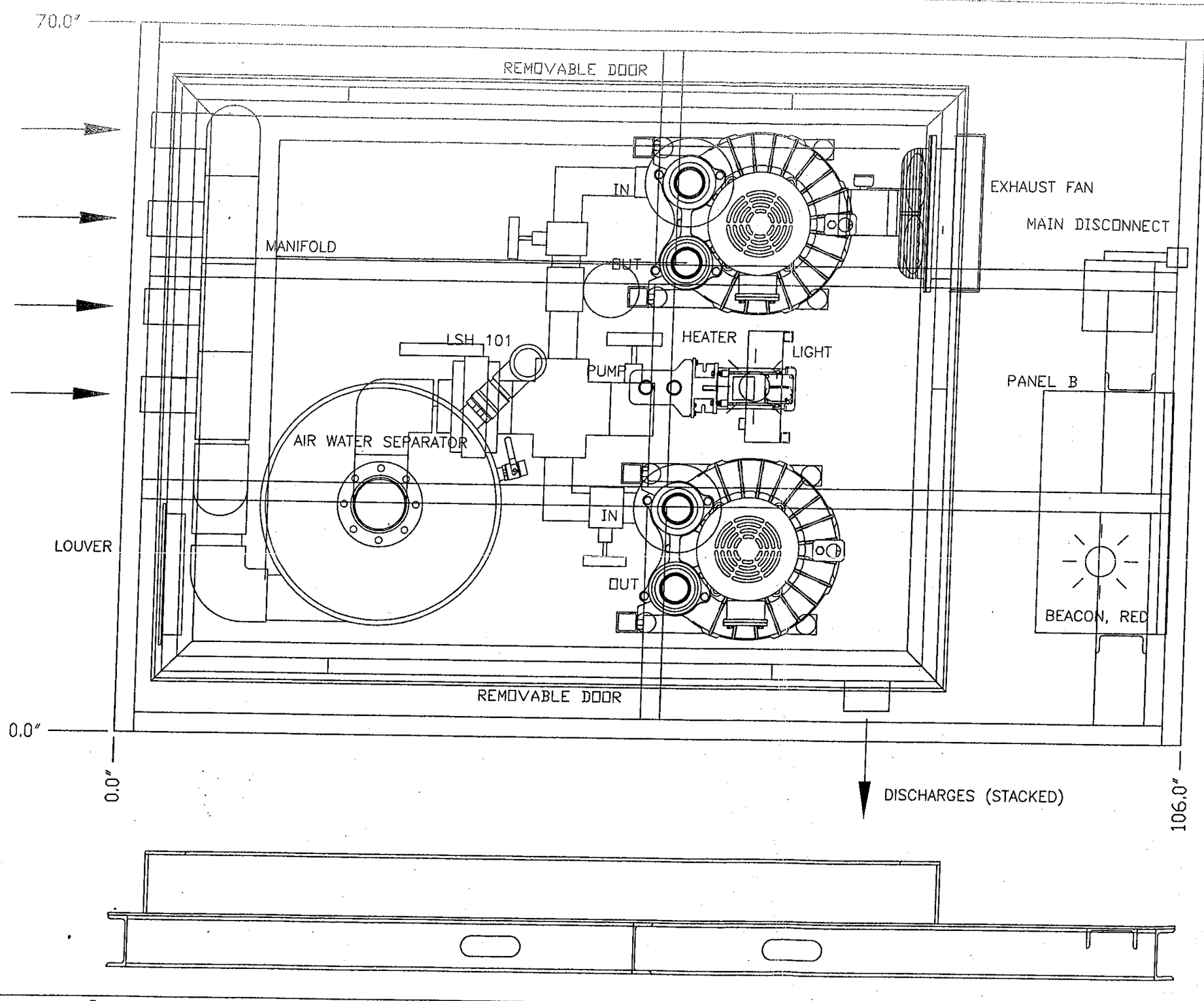
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

MONTHLY PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the February 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map including the equipment compound and system well locations is provided as Figure 2.

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recordings air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for February 2021 is estimated at 100%.

2.1.1 O&M ACTIVITIES

- February 4, 2021:
  - The system was operating upon arrival to and departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. No other adjustments were made to air flow rates at each of the extraction well locations. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed. Confirmed air flow gauges on URS manifold require replacement.
  - Vacuum/influence monitoring at VMP wells were conducted at VMP-1, 2, 3, 4, 6, and 7. VMP-5 location was not recorded during the February 2021 event due to being inaccessible.
- February 19, 2021:
  - Conducted site snow removal.

3.0 SYSTEM AIR SAMPLING

During the monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On February 4, 2021, air samples for laboratory analysis were collected from the SVE effluent air stream (monthly routine sampling) and at individual SVE locations (semi-annual sampling). Individual SVE locations were collected directly from the manifold at URS SVE-1, URS SVE-6D, and URS SVE-6S locations. Well pairs were collected from SVE well head locations at SVE-7D, SVE-8D, SVE-8S, SVE-9S, and SVE-10S. SVE-7S was not collected due to being inaccessible. Air samples were submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Tetrachloroethene concentrations have been posted to a site map as Figure 3, field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021	2/4/2021
SVE System Status on Arrival			on	on	on	on	on
SVE System Status on Departure			on	on	on	on	on
SVE Blower B-201 Status			on	on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50	15444.40
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00	2/4/2021 9:00
Hours Since Last Site Visit			-	672.00	456.00	744.00	504.00
SVE Blower B-202 Status			off	off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF	MF
In-Line Filter Status			ok	ok	ok	ok	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty	3-4 gal
Manifold Legs / Wells							
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4	-17.1
		Airflow (SCFM)	140.0	145.0	85.0	80.0	55.0
		PID (PPM)	28.3	38.3	8.2	21.1	2.8
		Valve (% open)	50%	50%	50%	50%	50%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6	-16.6
		Airflow (SCFM)	100.0	152.0	140.0	140.0	120.0
		PID (PPM)	6.2	6.2	3.3	5.9	1.7
		Valve (% open)	50%	50%	50%	50%	50%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7	-16.4
		Airflow (SCFM)	90.0	100.0	105.0	95.0	58.0
		PID (PPM)	3.3	4.1	1.4	4.1	0.9
		Valve (% open)	100%	100%	100%	100%	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1	-13.6
		Airflow (SCFM)	43.0	84.0	56.0	11.0	18.0
		Temperature (°F)	64.0	66.0	-	62.0	56.0
		PID (PPM)	6.5	1.8	1.1	5.0	1.6
		Valve (% open)	100%	100%	100%	100%	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5	-11.4
		Airflow (SCFM)	14.0	38.0	68.0	97.0	77.0
		Temperature (°F)	64.0	57.0	-	57.0	51.0
		PID (PPM)	2.3	*	0.0	5.2	1.6
		Valve (% open)	100%	100%	100%	100%	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6	-11.7
		Airflow (SCFM)	64.0	81.0	*	24.0	28.0
		Temperature (°F)	65.0	61.0	-	56.0	50.0
		PID (PPM)	3.7	0.7	*	4.7	1.5
		Valve (% open)	50%	50%	50%	100%	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7	25.8
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1	26.5
Discharge							
SVE EFFLUENT		Airflow (SCFM)	115.0	225.0	225.0	220.0	225.0
		Temperature (°F)	126.0	122.0	116.0	115.0	106.0
		PID (PPM)	5.9	21.9	12.6	128.0	13.4
Vapor Monitoring Points (VMPs)							
VMP-1		Vacuum ("WC)	-	0.0	0.0	-	-0.09
		PID (PPM)	-	4.6	0.0	-	1.3
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.9	1.2	0.0	0.8	0.9
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	1.7	0.8	0.3	0.4	0.3
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.2	1.8	0.0	0.4	0.0
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7	-
		PID (PPM)	0.0	0.7	0.4	1.4	-
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0	0.0
		PID (PPM)	-	1.1	0.2	0.2	1.6
VMP-7		Vacuum ("WC)	-	0.0	0.0	-	0.0
		PID (PPM)	-	0.8	1.4	-	1.4

Notes:
- Reading not collected
*Water detected in lines
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
02/04/21	M	X	X	X		X	X	X	X	3-4	Ambient PID in building basement was 0.7-0.8 ppm.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethane	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	Total BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**1,055**	<0.32	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	<0.39	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	<640	**320**	<860	<780	<950	<780	<1,800	<500	<400	<770	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**183,900**	<230	**190**	**350**	<280	<340	<280	<660	<180	<140	<280	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<450	<220	<610	<550	<670	<550	<1,300	<360	<280	<550	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630
SVE_EFFLUENT	2/4/2021	**85,000**	**86,250**	<810	<400	<1,100	<980	<1,200	<980	<2,300	<640	<500	<980	<1,000	**440**	<1,700	<990	<9,400	<870	<870	<2,400	<870	<850	<1,100	<4,350	**810**	<1,100
SVE-7D	2/4/2021	**41,000**	**41,000**	<280	<140	<380	<340	<420	<340	<810	<220	<170	<340	<360	<140	<600	<340	<3,300	<300	<300	<820	<300	<300	<390	<1,510	<170	<390
SVE-8D	2/4/2021	**17,000**	**23,800**	**230**	**860**	**1500**	<150	<180	<150	<360	<97	**220**	**160**	<160	**960**	<260	<150	<1,400	<130	<130	<360	<130	<130	<170	<657	**2700**	**170**
SVE-8S	2/4/2021	**5,000**	**5,458**	<48	<23	<64	<58	<71	<58	<140	<38	<30	<58	<61	**370**	<100	<58	<560	<51	<51	<140	<51	<50	<67	<258	**88**	**<66**
SVE-9S	2/4/2021	**9,500**	**10,000**	<110	<52	<140	<130	<160	<130	<310	<84	<66	<130	<130	**320**	<220	<130	<1,200	<110	<110	<310	<110	<110	<150	<564	**180**	<150
SVE-10S	2/4/2021	**1,600**	**2,025**	<16	<7.90	<22	<20	<24	<20	<47	<13	<10	<20	<21	**46**	<34	<20	320	<17	<17	<47	<17	<17	<23	<87	**59**	<22
URS_SVE-1	2/4/2021	**17,000**	**17,000**	<170	<85	<230	<210	<260	<210	<500	<140	<110	<210	<220	<85	<370	<210	<2,000	<190	<190	<510	<190	<180	<240	<950	<100	<240
URS_SVE-6D	2/4/2021	**63,000**	**63,000**	<500	<240	<670	<610	<740	<610	<1,400	<390	<310	<600	<640	<240	<1,100	<610	<5,800	<540	<540	<1,500	<540	<530	<700	<2,710	<300	<690
URS_SVE-6S	2/4/2021	**97,000**	**97,000**	<640	<320	<870	<780	<960	<780	<1,900	<510	<400	<780	<820	<320	<1,400	<790	<7,500	<690	<690	<1,900	<690	<680	<900	<3,480	<380	<890

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

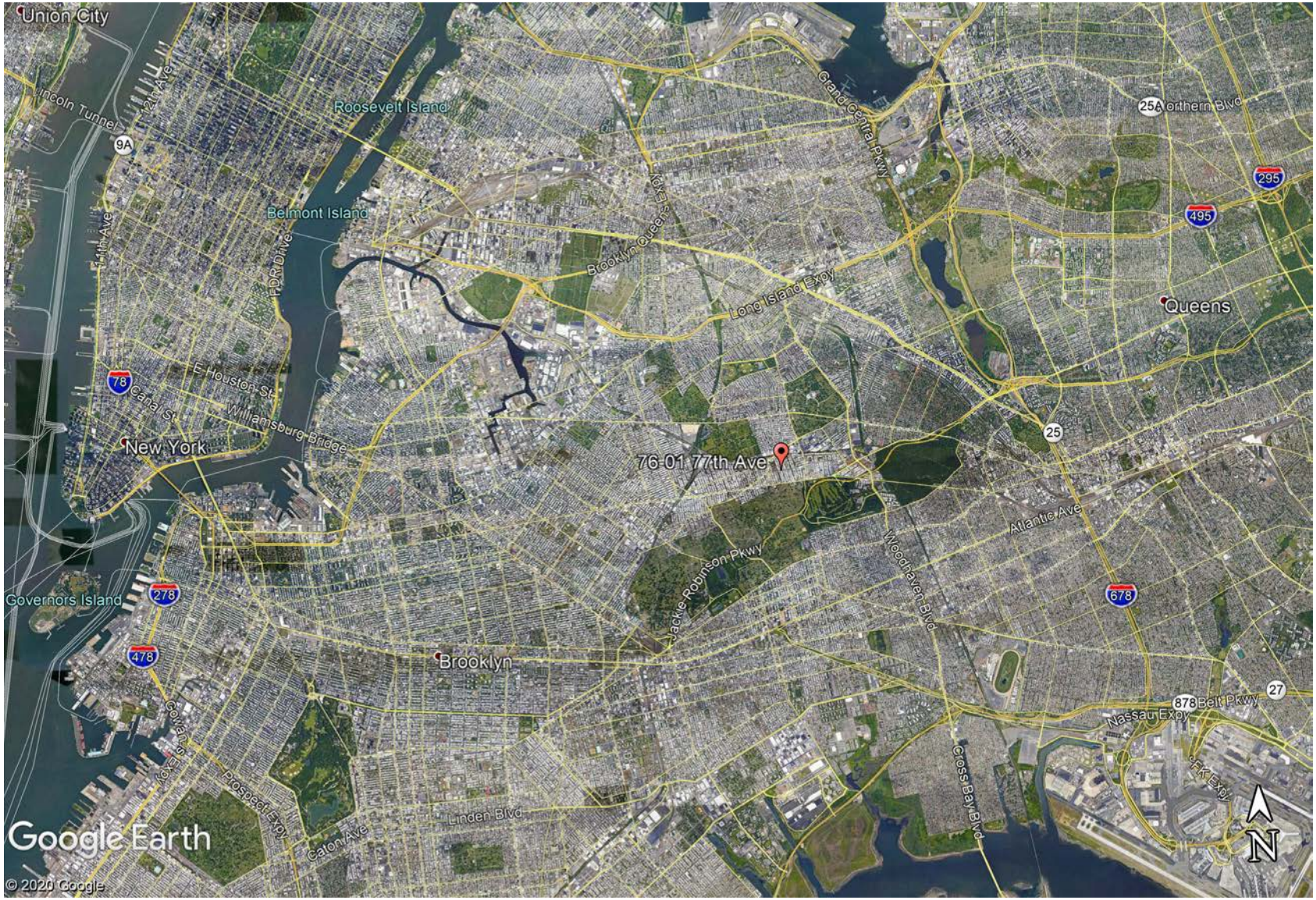
Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			($\mu g/m^3$)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	($\mu g/m^3$)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	1,055	4.55E-04	1.09E-02	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.009	142,320	0.120	2.9	0.304
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	183,900	0.155	3.7	55.0
1/14/21 9:50 AM	220.0	12.6	69,000	0.057	1.4	110.9	69,990	0.058	1.4	170.4
2/4/21 12:15 PM	225.0	13.4	85,000	0.072	1.7	139.7	86,250	0.073	1.7	199.6
AVERAGE:	**202**									

FIGURES



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

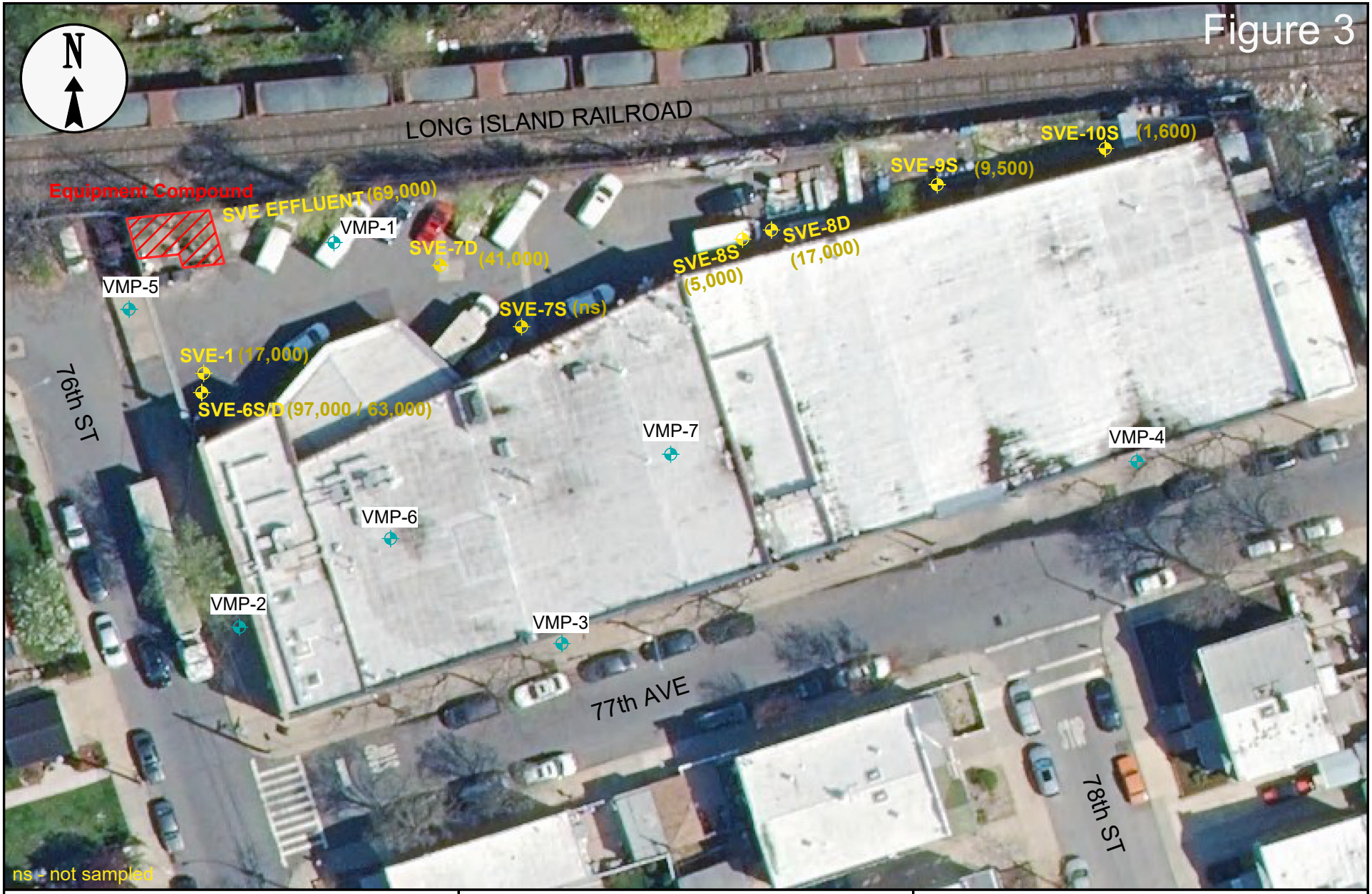
Figure 2

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Site Map

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

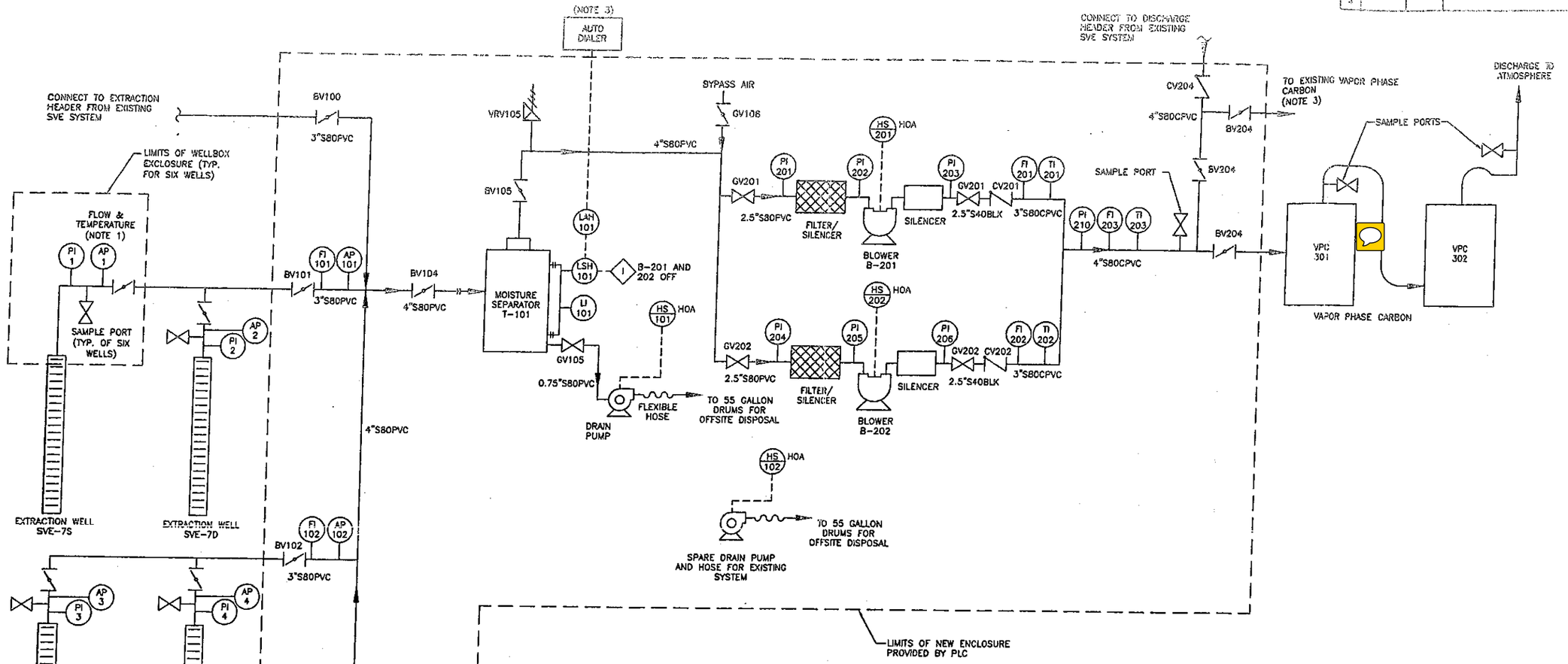
February 4, 2021 Tetrachloroethene
TO-15 Air Analtyical Results (µg/m^3)

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031

APPENDIX A

REVISIONS			
NO.	DATE	BY	COMMENTS
0			
1			
2			
3			
4			



SOIL VAPOR EXTRACTION (SVE) SYSTEM

DESIGNED BY:	DMc
DRAWN BY:	RAL
CHECKED BY:	CWP
PROJ. ENGR.	DMc

URS Corporation
Group Consultants
77 Goodell Street, Buffalo, New York 14203
(716)856-5636 - (716)856-2545 fax

JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS

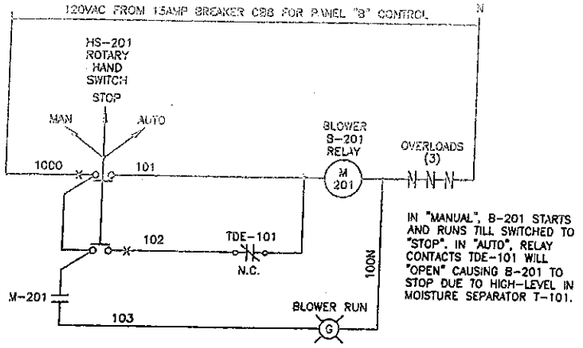
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1

GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

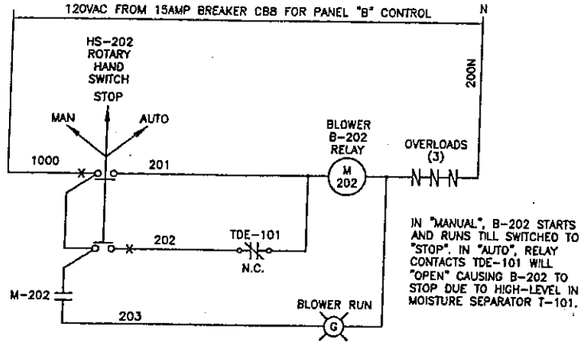
PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	PID
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



BLOWER B-201 CONTROL CIRCUITS

NOT TO SCALE



BLOWER B-202 CONTROL CIRCUITS

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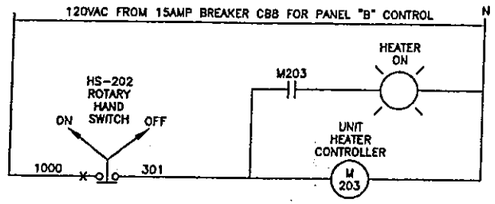
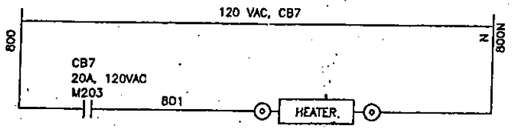
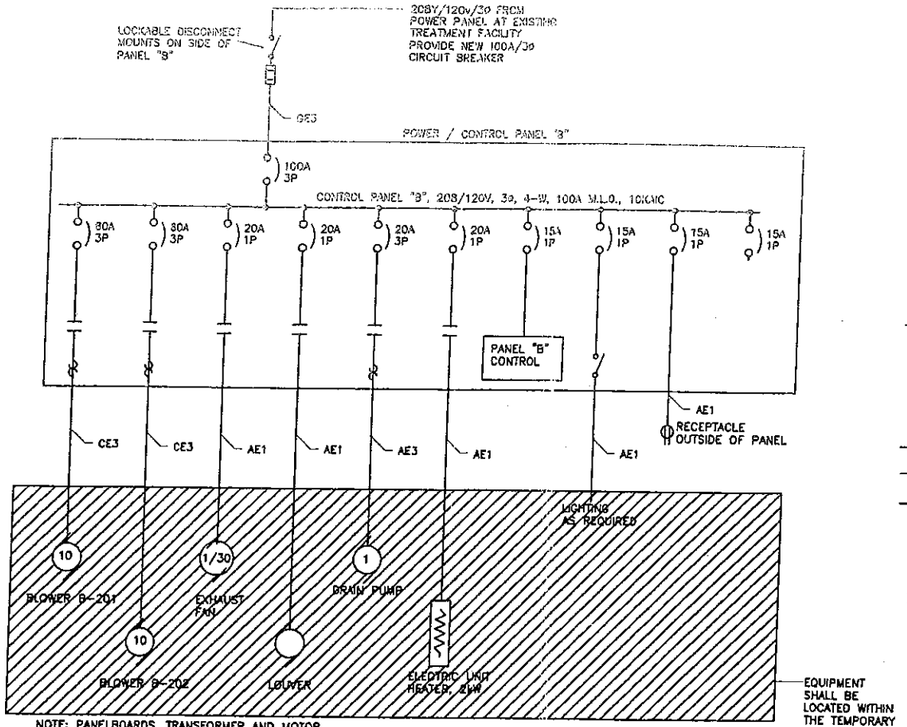


ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

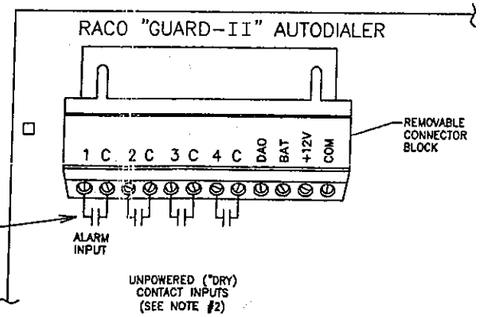
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

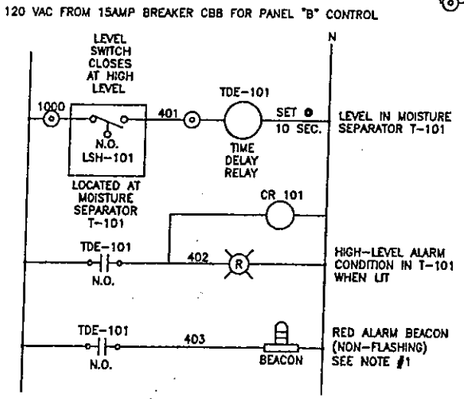
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



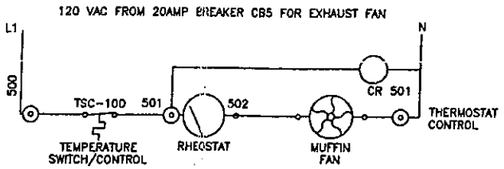
AUTODIALER DETAIL (EXISTING)

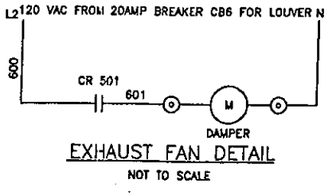
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

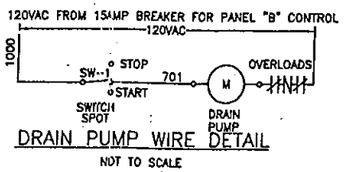
NOT TO SCALE





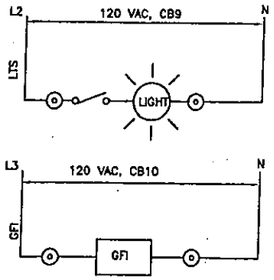
EXHAUST FAN DETAIL

NOT TO SCALE



DRAIN PUMP WIRE DETAIL

NOT TO SCALE



REVISIONS			
Rev	Date	By	Description
0			
1			
2			
3			
4			

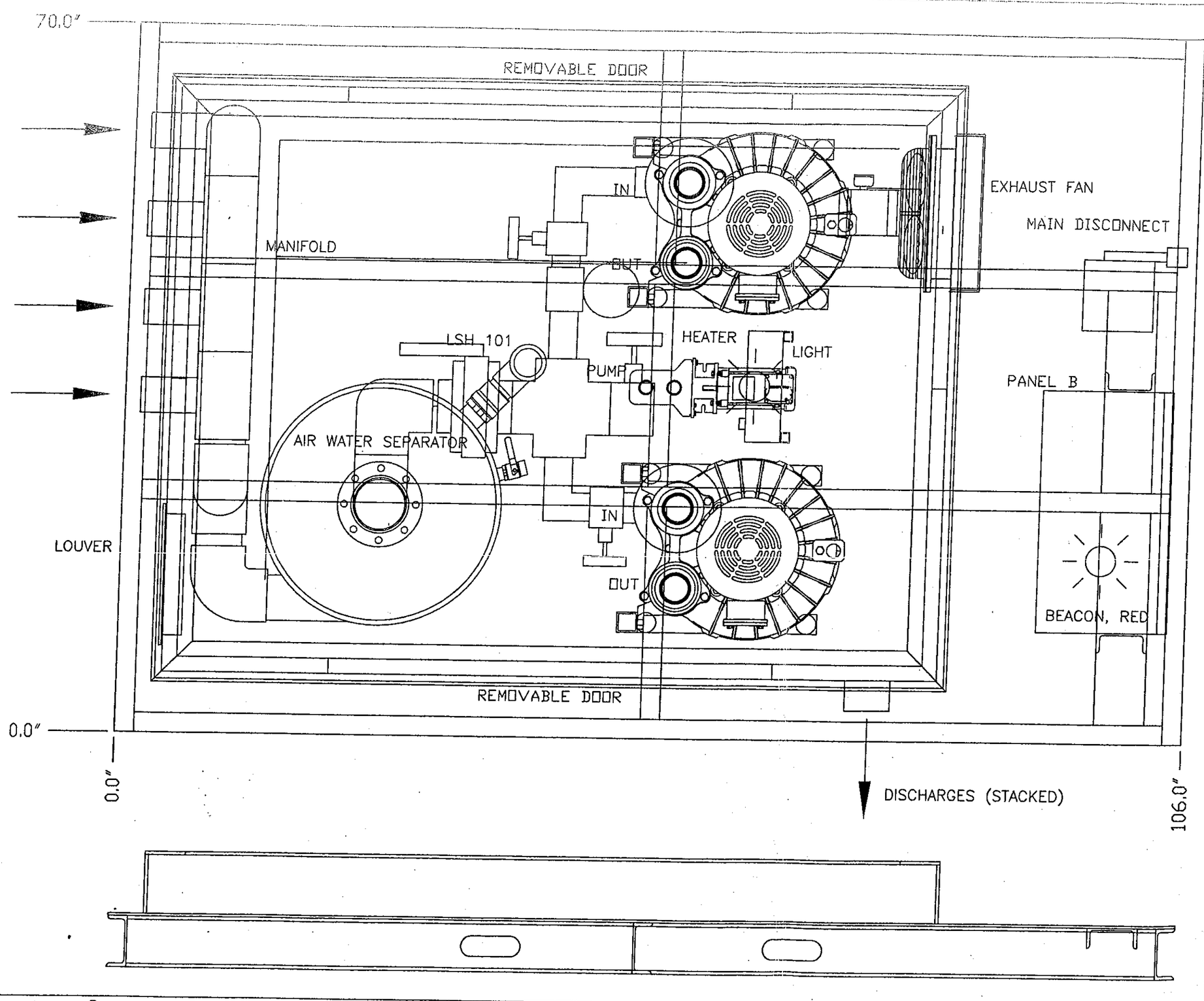
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
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Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

MONTHLY PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the March 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map including the equipment compound and system well locations is provided as Figure 2.

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recordings air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for March 2021 is estimated at 100%.

2.1.1 O&M ACTIVITIES

- March 3, 2021:
  - The system was operating upon arrival to and departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. No other adjustments were made to air flow rates at each of the extraction well locations. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format. Maintenance information is provided as Table 2.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed.
  - Vacuum/influence monitoring at VMP wells were conducted at VMP-1, 2, 3, 4, 5, 6, and 7.

3.0 SYSTEM AIR SAMPLING

During the monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On March 3, 2021, a monthly air sample for laboratory analysis was collected from the SVE effluent air stream. The sample was submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021	2/4/2021	3/3/2021
SVE System Status on Arrival			on	on	on	on	on	on
SVE System Status on Departure			on	on	on	on	on	on
SVE Blower B-201 Status			on	on	on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50	15444.40	16086.70
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00	2/4/2021 9:00	3/3/2021 6:52
Hours Since Last Site Visit			-	672.00	456.00	744.00	504.00	645.87
SVE Blower B-202 Status			off	off	off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF	MF	JB
In-Line Filter Status			ok	ok	ok	ok	ok	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty	3-4 gal	10 gal
Manifold Legs / Wells								
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4	-17.1	-17.5
		Airflow (SCFM)	140.0	145.0	85.0	80.0	55.0	100.0
		PID (PPM)	28.3	38.3	8.2	21.1	2.8	2.8
		Valve (% open)	50%	50%	50%	50%	50%	50%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6	-16.6	-16.1
		Airflow (SCFM)	100.0	152.0	140.0	140.0	120.0	115.0
		PID (PPM)	6.2	6.2	3.3	5.9	1.7	4.4
		Valve (% open)	50%	50%	50%	50%	50%	50%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7	-16.4	-15.8
		Airflow (SCFM)	90.0	100.0	105.0	95.0	58.0	60.0
		PID (PPM)	3.3	4.1	1.4	4.1	0.9	3.1
		Valve (% open)	100%	100%	100%	100%	100%	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1	-13.6	-11.8
		Airflow (SCFM)	43.0	84.0	56.0	11.0	18.0	22.0
		Temperature (°F)	64.0	66.0	-	62.0	56.0	51.0
		PID (PPM)	6.5	1.8	1.1	5.0	1.6	6.1
		Valve (% open)	100%	100%	100%	100%	100%	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5	-11.4	-13.6
		Airflow (SCFM)	14.0	38.0	68.0	97.0	77.0	104.0
		Temperature (°F)	64.0	57.0	-	57.0	51.0	52.0
		PID (PPM)	2.3	*	0.0	5.2	1.6	1.4
		Valve (% open)	100%	100%	100%	100%	100%	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6	-11.7	-11.0
		Airflow (SCFM)	64.0	81.0	*	24.0	28.0	29.0
		Temperature (°F)	65.0	61.0	-	56.0	50.0	51.0
		PID (PPM)	3.7	0.7	*	4.7	1.5	4.2
		Valve (% open)	50%	50%	50%	100%	100%	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7	25.8	-25.4
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1	26.5	-26.0
Discharge								
SVE EFFLUENT		Airflow (SCFM)	115.0	225.0	225.0	220.0	225.0	220.0
		Temperature (°F)	126.0	122.0	116.0	115.0	106.0	104.0
		PID (PPM)	5.9	21.9	12.6	128.0	13.4	11.2
Vapor Monitoring Points (VMPs)								
VMP-1		Vacuum ("WC)	-	0.0	0.0	-	-0.09	-0.01
		PID (PPM)	-	4.6	0.0	-	1.3	0.0
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.9	1.2	0.0	0.8	0.9	0.0
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	1.7	0.8	0.3	0.4	0.3	0.1
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.2	1.8	0.0	0.4	0.0	0.0
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7	-	-0.55
		PID (PPM)	0.0	0.7	0.4	1.4	-	0.1
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0	0.0	-0.02
		PID (PPM)	-	1.1	0.2	0.2	1.6	1.1
VMP-7		Vacuum ("WC)	-	0.0	0.0	-	0.0	0.0
		PID (PPM)	-	0.8	1.4	-	1.4	1.3

Notes:
- Reading not collected
*Water detected in lines
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
02/04/21	M	X	X	X		X	X	X	X	3-4	Ambient PID in building basement was 0.7-0.8 ppm.
03/03/21	M	X	X	X		X		X	X	10	Filter was clean upon inspection.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethane	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	Total BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**1,055**	<0.32	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	<0.39	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	<640	**320**	<860	<780	<950	<780	<1,800	<500	<400	<770	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**183,900**	<230	**190**	**350**	<280	<340	<280	<660	<180	<140	<280	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<450	<220	<610	<550	<670	<550	<1,300	<360	<280	<550	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630
SVE_EFFLUENT	2/4/2021	**85,000**	**86,250**	<810	<400	<1,100	<980	<1,200	<980	<2,300	<640	<500	<980	<1,000	**440**	<1,700	<990	<9,400	<870	<870	<2,400	<870	<850	<1,100	<4,350	**810**	<1,100
SVE-7D	2/4/2021	**41,000**	**41,000**	<280	<140	<380	<340	<420	<340	<810	<220	<170	<340	<360	<140	<600	<340	<3,300	<300	<300	<820	<300	<300	<390	<1,510	<170	<390
SVE-8D	2/4/2021	**17,000**	**23,800**	**230**	**860**	**1500**	<150	<180	<150	<360	<97	**220**	**160**	<160	**960**	<260	<150	<1,400	<130	<130	<360	<130	<130	<170	<657	**2700**	**170**
SVE-8S	2/4/2021	**5,000**	**5,458**	<48	<23	<64	<58	<71	<58	<140	<38	<30	<58	<61	**370**	<100	<58	<560	<51	<51	<140	<51	<50	<67	<258	**88**	**<66**
SVE-9S	2/4/2021	**9,500**	**10,000**	<110	<52	<140	<130	<160	<130	<310	<84	<66	<130	<130	**320**	<220	<130	<1,200	<110	<110	<310	<110	<110	<150	<564	**180**	<150
SVE-10S	2/4/2021	**1,600**	**2,025**	<16	<7.90	<22	<20	<24	<20	<47	<13	<10	<20	<21	**46**	<34	<20	320	<17	<17	<47	<17	<17	<23	<87	**59**	<22
URS_SVE-1	2/4/2021	**17,000**	**17,000**	<170	<85	<230	<210	<260	<210	<500	<140	<110	<210	<220	<85	<370	<210	<2,000	<190	<190	<510	<190	<180	<240	<950	<100	<240
URS_SVE-6D	2/4/2021	**63,000**	**63,000**	<500	<240	<670	<610	<740	<610	<1,400	<390	<310	<600	<640	<240	<1,100	<610	<5,800	<540	<540	<1,500	<540	<530	<700	<2,710	<300	<690
URS_SVE-6S	2/4/2021	**97,000**	**97,000**	<640	<320	<870	<780	<960	<780	<1,900	<510	<400	<780	<820	<320	<1,400	<790	<7,500	<690	<690	<1,900	<690	<680	<900	<3,480	<380	<890
SVE_EFFLUENT	3/3/2021	**45,000**	**45,520**	<650	<320	<880	<790	<970	<790	<1,900	<520	<410	<790	<830	<320	<1,400	<800	<7,600	<700	<700	<1,900	<700	<690	<910	<3,530	**520**	<910

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

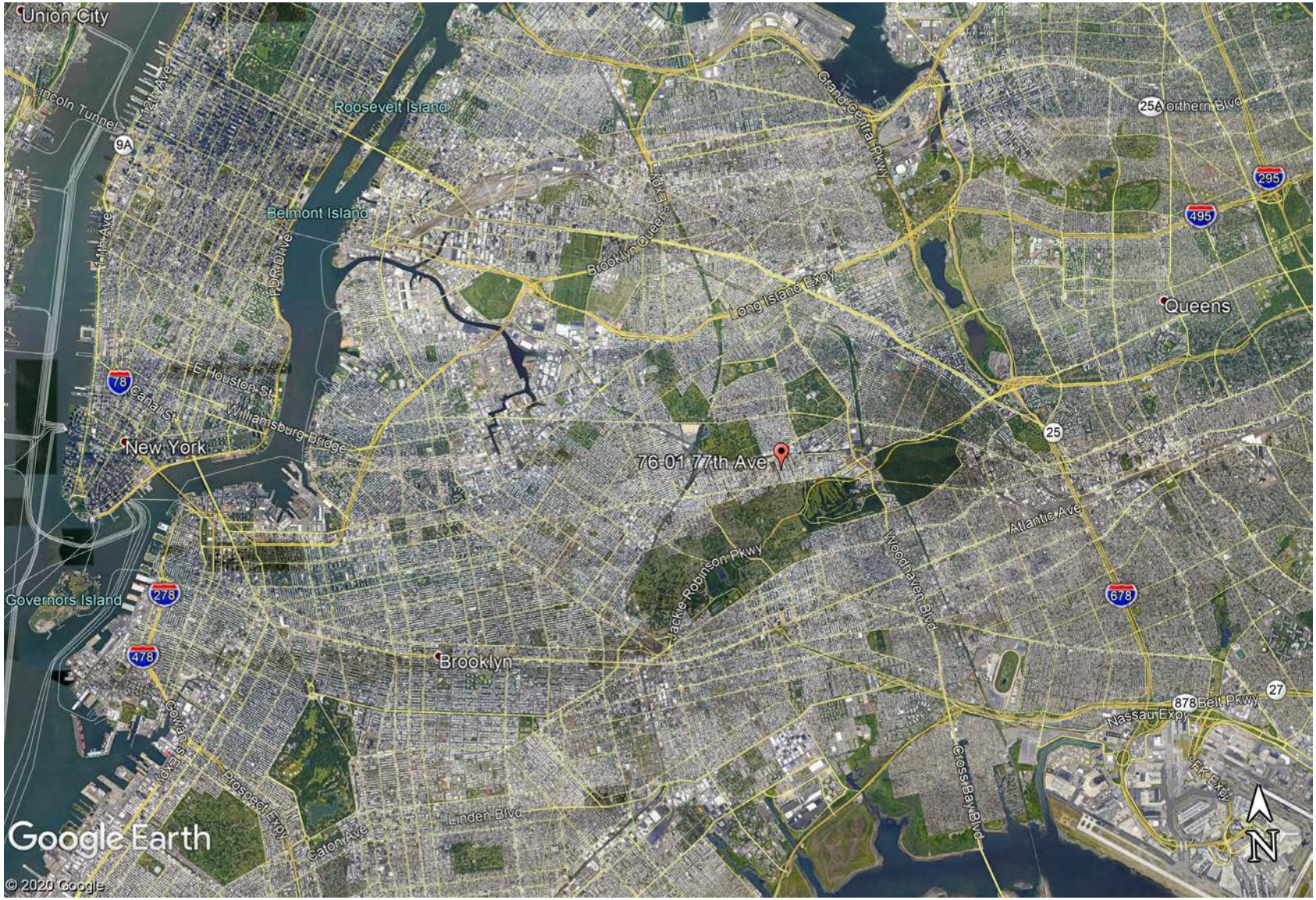
Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	1,055	4.55E-04	1.09E-02	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.009	142,320	0.120	2.9	0.304
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	183,900	0.155	3.7	55.0
1/14/21 9:50 AM	220.0	12.6	69,000	0.057	1.4	110.9	69,990	0.058	1.4	170.4
2/4/21 12:15 PM	225.0	13.4	85,000	0.072	1.7	139.7	86,250	0.073	1.7	199.6
3/3/21 9:30 AM	220.0	11.2	45,000	0.037	0.9	186.0	45,520	0.038	0.9	246.5
AVERAGE:	**205**									

FIGURES



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

Figure 2

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

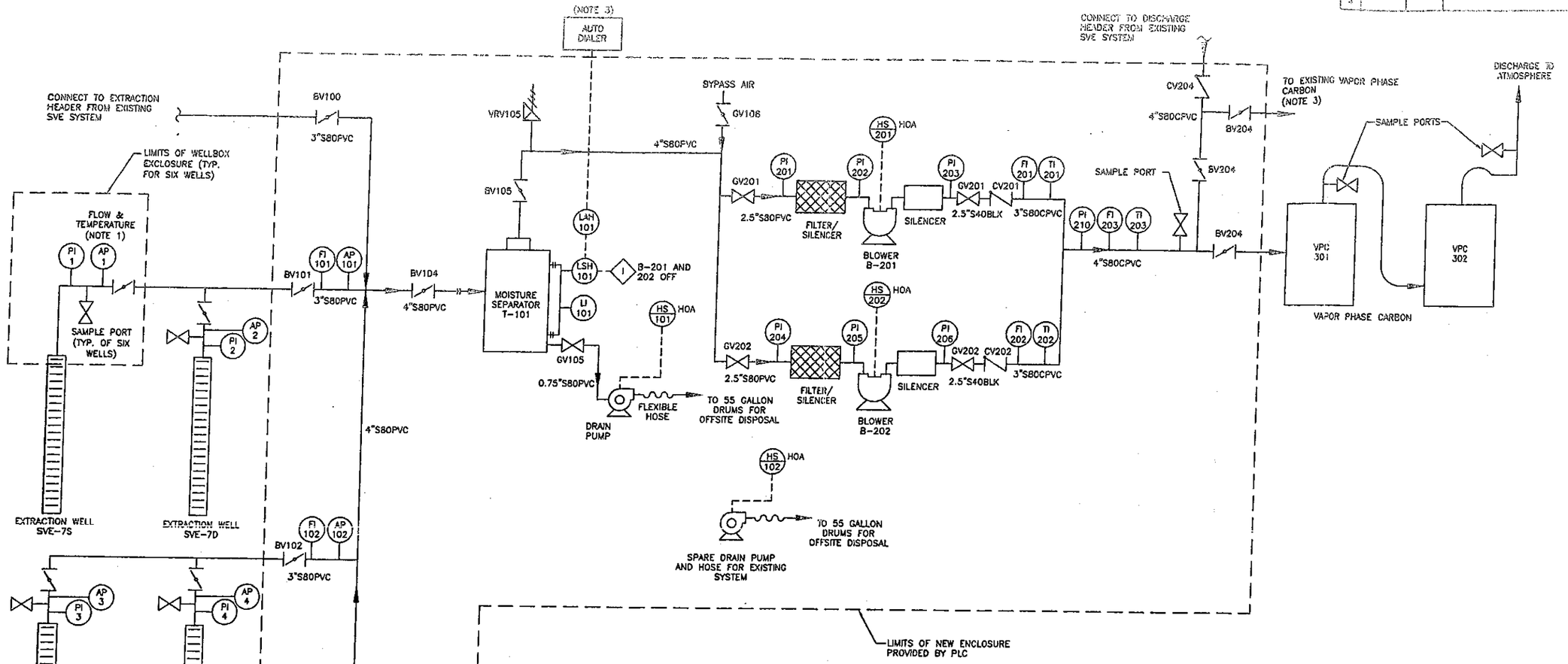
Site Map

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031

APPENDIX A

REVISIONS			
NO.	DATE	BY	COMMENTS
0			
1			
2			
3			
4			

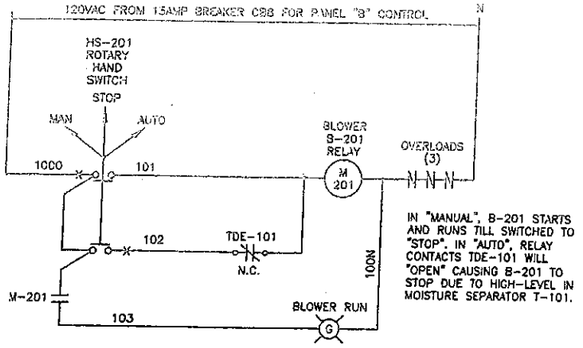


SOIL VAPOR EXTRACTION (SVE) SYSTEM

DESIGNED BY: DMc	URS Corporation	NYSDEC SITE 2-41-031 GLENDALE, QUEENS	CONTRACT D006547 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 BROADWAY, ALBANY, NEW YORK
DRAWN BY: RAL	Group Consultants	KLIEGMAN BROTHERS SITE OPERABLE UNIT NO. 1	
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax	GLENDALE, QUEENS NEW YORK	
PROJ. ENGR. DMc	JOB No. 11171964.00000		

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	PID
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



BLOWER B-201 CONTROL CIRCUITS

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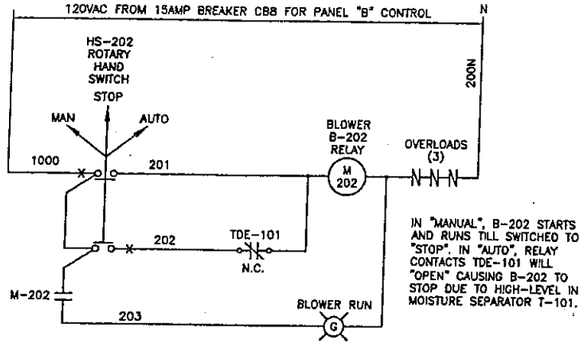

BLOWER B-202 CONTROL CIRCUITS

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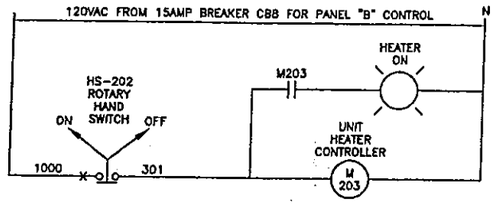
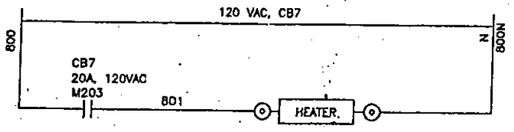
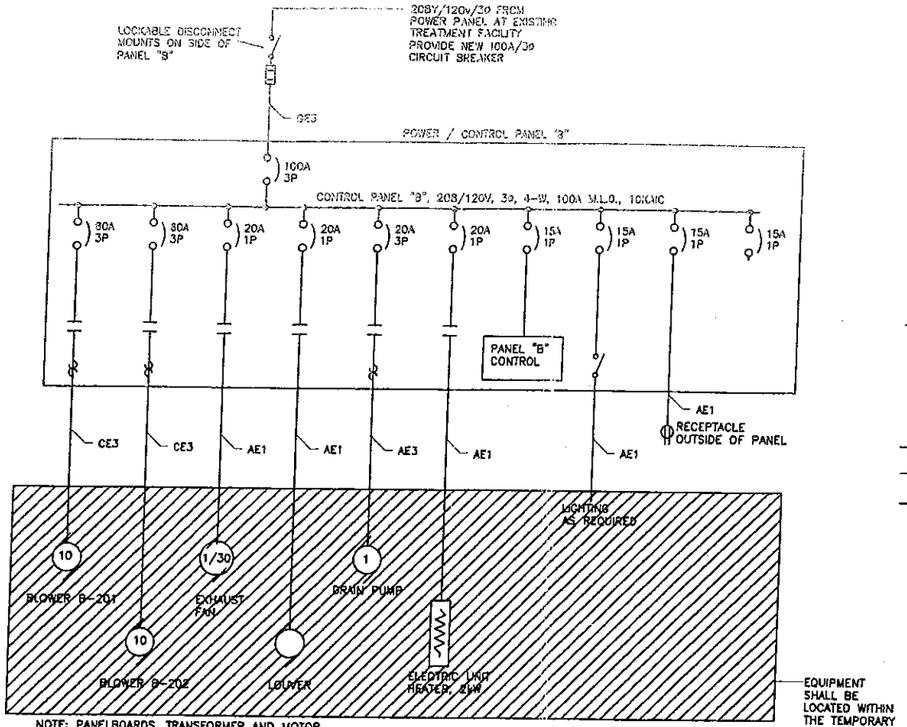


ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

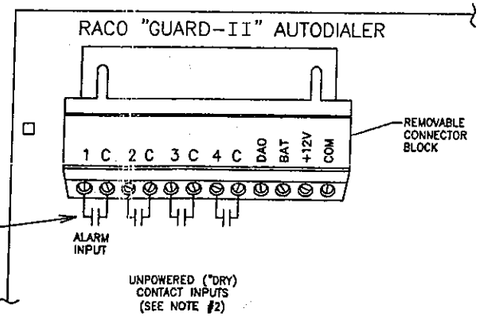
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

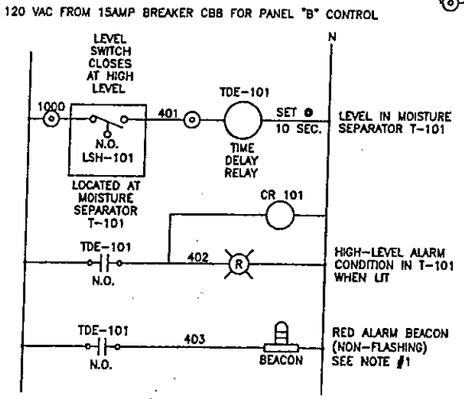
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



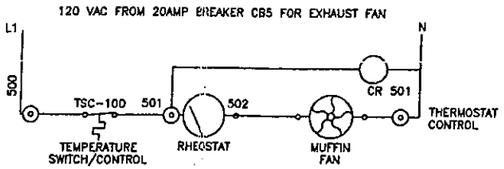
AUTODIALER DETAIL (EXISTING)

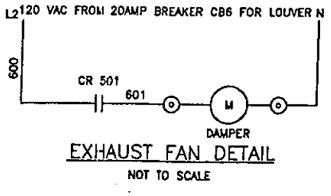
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

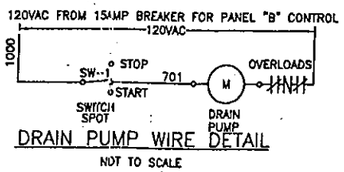
NOT TO SCALE





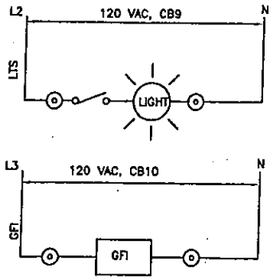
EXHAUST FAN DETAIL

NOT TO SCALE



DRAIN PUMP WIRE DETAIL

NOT TO SCALE



REVISIONS			
Rev	Date	By	Description
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1			
2			
3			
4			

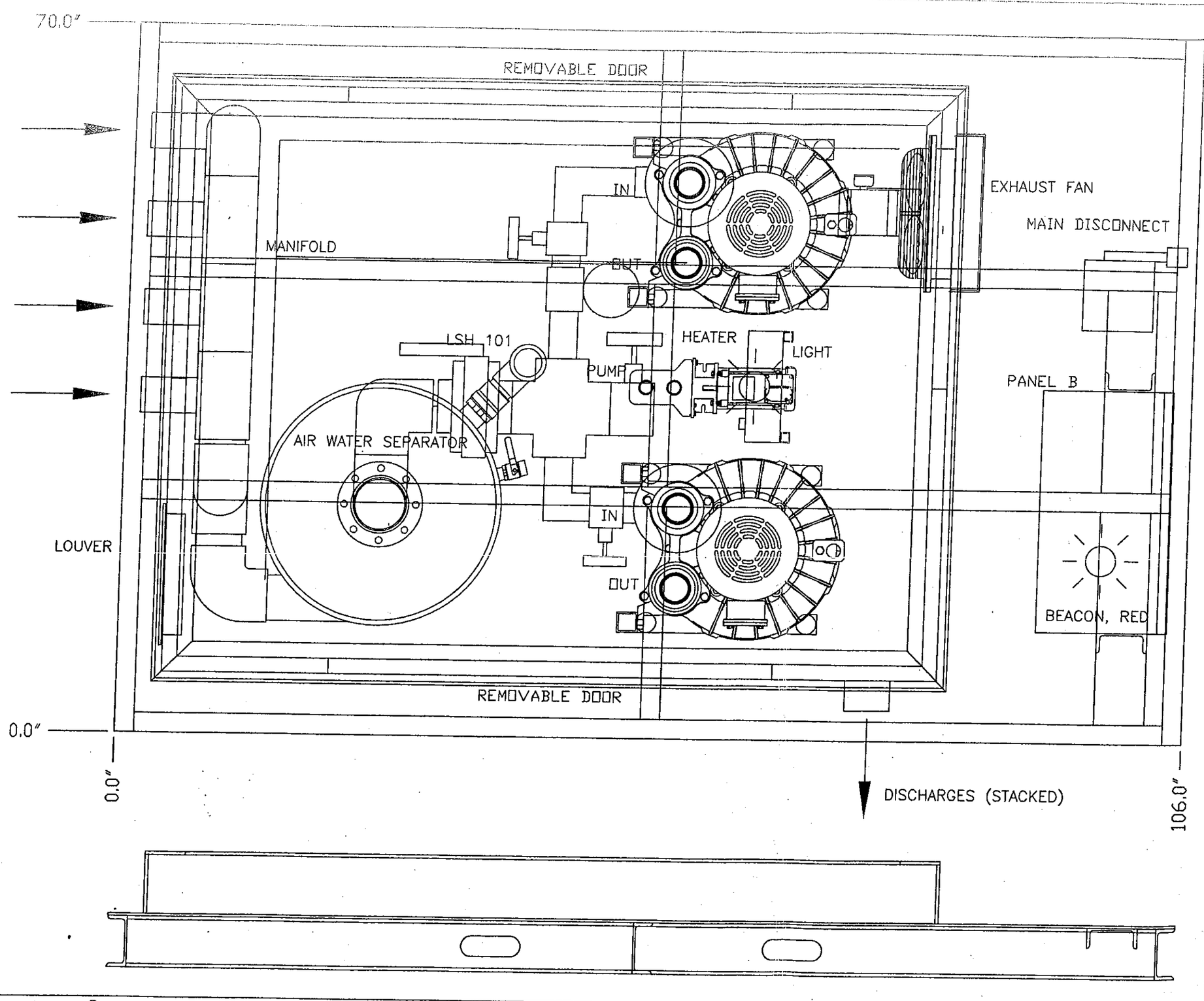
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

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ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

MONTHLY PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the April 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map including the equipment compound and system well locations is provided as Figure 2.

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recording air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for April 2021 is estimated at 100%.

2.1.1 O&M ACTIVITIES

- April 6, 2021:
  - The system was operating upon arrival to and departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. No other adjustments were made to air flow rates at each of the extraction well locations. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format. Maintenance information is provided as Table 2.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed. Additional notes:
    - Air flow gauges on URS manifold are not operational. Air flow collected via air velocity meter.
    - Met TRC for site inspection for potential well abandonment. Determined VMP-7 location is blocked.
  - Vacuum/influence monitoring at VMP wells were conducted at VMP-1 through VMP-6.

3.0 SYSTEM AIR SAMPLING

During the monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On April 6, 2021, a monthly air sample for laboratory analysis was collected from the SVE effluent air stream. The sample was submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021	2/4/2021	3/3/2021	4/6/2021
SVE System Status on Arrival			on	on	on	on	on	on	on
SVE System Status on Departure			on	on	on	on	on	on	on
SVE Blower B-201 Status			on	on	on	on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50	15444.40	16086.70	16905.20
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00	2/4/2021 9:00	3/3/2021 6:52	4/6/2021 10:23
Hours Since Last Site Visit			-	672.00	456.00	744.00	504.00	645.87	819.52
SVE Blower B-202 Status			off	off	off	off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF	MF	JB	JB
In-Line Filter Status			ok	ok	ok	ok	ok	ok	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty	3-4 gal	10 gal	empty
Manifold Legs / Wells									
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4	-17.1	-17.5	-13.8
		Airflow (SCFM)	140.0	145.0	85.0	80.0	55.0	100.0	50.0
		PID (PPM)	28.3	38.3	8.2	21.1	2.8	2.8	-
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6	-16.6	-16.1	-13.9
		Airflow (SCFM)	100.0	152.0	140.0	140.0	120.0	115.0	110.0
		PID (PPM)	6.2	6.2	3.3	5.9	1.7	4.4	-
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7	-16.4	-15.8	-13.8
		Airflow (SCFM)	90.0	100.0	105.0	95.0	58.0	60.0	60.0
		PID (PPM)	3.3	4.1	1.4	4.1	0.9	3.1	-
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1	-13.6	-11.8	-11.1
		Airflow (SCFM)	43.0	84.0	56.0	11.0	18.0	22.0	28.0
		Temperature (°F)	64.0	66.0	-	62.0	56.0	51.0	64.0
		PID (PPM)	6.5	1.8	1.1	5.0	1.6	6.1	-
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5	-11.4	-13.6	-8.7
		Airflow (SCFM)	14.0	38.0	68.0	97.0	77.0	104.0	89.0
		Temperature (°F)	64.0	57.0	-	57.0	51.0	52.0	63.0
		PID (PPM)	2.3	*	0.0	5.2	1.6	1.4	-
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6	-11.7	-11.0	-10.5
		Airflow (SCFM)	64.0	81.0	*	24.0	28.0	29.0	33.0
		Temperature (°F)	65.0	61.0	-	56.0	50.0	51.0	64.0
		PID (PPM)	3.7	0.7	*	4.7	1.5	4.2	-
		Valve (% open)	50%	50%	50%	100%	100%	100%	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7	25.8	-25.4	-29.6
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1	26.5	-26.0	-54.4
Discharge									
SVE EFFLUENT		Airflow (SCFM)	115.0	225.0	225.0	220.0	225.0	220.0	205.0
		Temperature (°F)	126.0	122.0	116.0	115.0	106.0	104.0	132.0
		PID (PPM)	5.9	21.9	12.6	128.0	13.4	11.2	24.7
Vapor Monitoring Points (VMPs)									
VMP-1		Vacuum ("WC)	-	0.0	0.0	-	-0.09	-0.01	0.0
		PID (PPM)	-	4.6	0.0	-	1.3	0.0	0.0
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.9	1.2	0.0	0.8	0.9	0.0	0.0
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	1.7	0.8	0.3	0.4	0.3	0.1	0.0
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.2	1.8	0.0	0.4	0.0	0.0	0.0
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7	-	-0.55	-1.20
		PID (PPM)	0.0	0.7	0.4	1.4	-	0.1	0.0
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0	0.0	-0.02	-0.93
		PID (PPM)	-	1.1	0.2	0.2	1.6	1.1	0.0
VMP-7		Vacuum ("WC)	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked
		PID (PPM)							

Notes:
- Reading not collected
*Water detected in lines
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
02/04/21	M	X	X	X		X	X	X	X	3-4	Ambient PID in building basement was 0.7-0.8 ppm.
03/03/21	M	X	X	X		X		X	X	10	Filter was clean upon inspection.
04/06/21	M	X	X	X		X		X		0	Met TRC for site inspection for potential well abandonment. Determined VMP-7 location is blocked.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethane	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	Total BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**1,055**	<0.32	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	<0.39	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	<640	**320**	<860	<780	<950	<780	<1,800	<500	<400	<770	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**183,900**	<230	**190**	**350**	<280	<340	<280	<660	<180	<140	<280	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<450	<220	<610	<550	<670	<550	<1,300	<360	<280	<550	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630
SVE_EFFLUENT	2/4/2021	**85,000**	**86,250**	<810	<400	<1,100	<980	<1,200	<980	<2,300	<640	<500	<980	<1,000	**440**	<1,700	<990	<9,400	<870	<870	<2,400	<870	<850	<1,100	<4,350	**810**	<1,100
SVE-7D	2/4/2021	**41,000**	**41,000**	<280	<140	<380	<340	<420	<340	<810	<220	<170	<340	<360	<140	<600	<340	<3,300	<300	<300	<820	<300	<300	<390	<1,510	<170	<390
SVE-8D	2/4/2021	**17,000**	**23,800**	**230**	**860**	**1500**	<150	<180	<150	<360	<97	**220**	**160**	<160	**960**	<260	<150	<1,400	<130	<130	<360	<130	<130	<170	<657	**2700**	**170**
SVE-8S	2/4/2021	**5,000**	**5,458**	<48	<23	<64	<58	<71	<58	<140	<38	<30	<58	<61	**370**	<100	<58	<560	<51	<51	<140	<51	<50	<67	<258	**88**	**<66**
SVE-9S	2/4/2021	**9,500**	**10,000**	<110	<52	<140	<130	<160	<130	<310	<84	<66	<130	<130	**320**	<220	<130	<1,200	<110	<110	<310	<110	<110	<150	<564	**180**	<150
SVE-10S	2/4/2021	**1,600**	**2,025**	<16	<7.90	<22	<20	<24	<20	<47	<13	<10	<20	<21	**46**	<34	<20	320	<17	<17	<47	<17	<17	<23	<87	**59**	<22
URS_SVE-1	2/4/2021	**17,000**	**17,000**	<170	<85	<230	<210	<260	<210	<500	<140	<110	<210	<220	<85	<370	<210	<2,000	<190	<190	<510	<190	<180	<240	<950	<100	<240
URS_SVE-6D	2/4/2021	**63,000**	**63,000**	<500	<240	<670	<610	<740	<610	<1,400	<390	<310	<600	<640	<240	<1,100	<610	<5,800	<540	<540	<1,500	<540	<530	<700	<2,710	<300	<690
URS_SVE-6S	2/4/2021	**97,000**	**97,000**	<640	<320	<870	<780	<960	<780	<1,900	<510	<400	<780	<820	<320	<1,400	<790	<7,500	<690	<690	<1,900	<690	<680	<900	<3,480	<380	<890
SVE_EFFLUENT	3/3/2021	**45,000**	**45,520**	<650	<320	<880	<790	<970	<790	<1,900	<520	<410	<790	<830	<320	<1,400	<800	<7,600	<700	<700	<1,900	<700	<690	<910	<3,530	**520**	<910
SVE_EFFLUENT	4/6/2021	**72,000**	**73,370**	<530	**280**	<710	<640	<780	<640	<1,500	<410	<330	<630	<670	**340**	<1,100	<640	<6,100	<560	<560	<1,500	<560	<550	<730	<2,820	**750**	<730

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

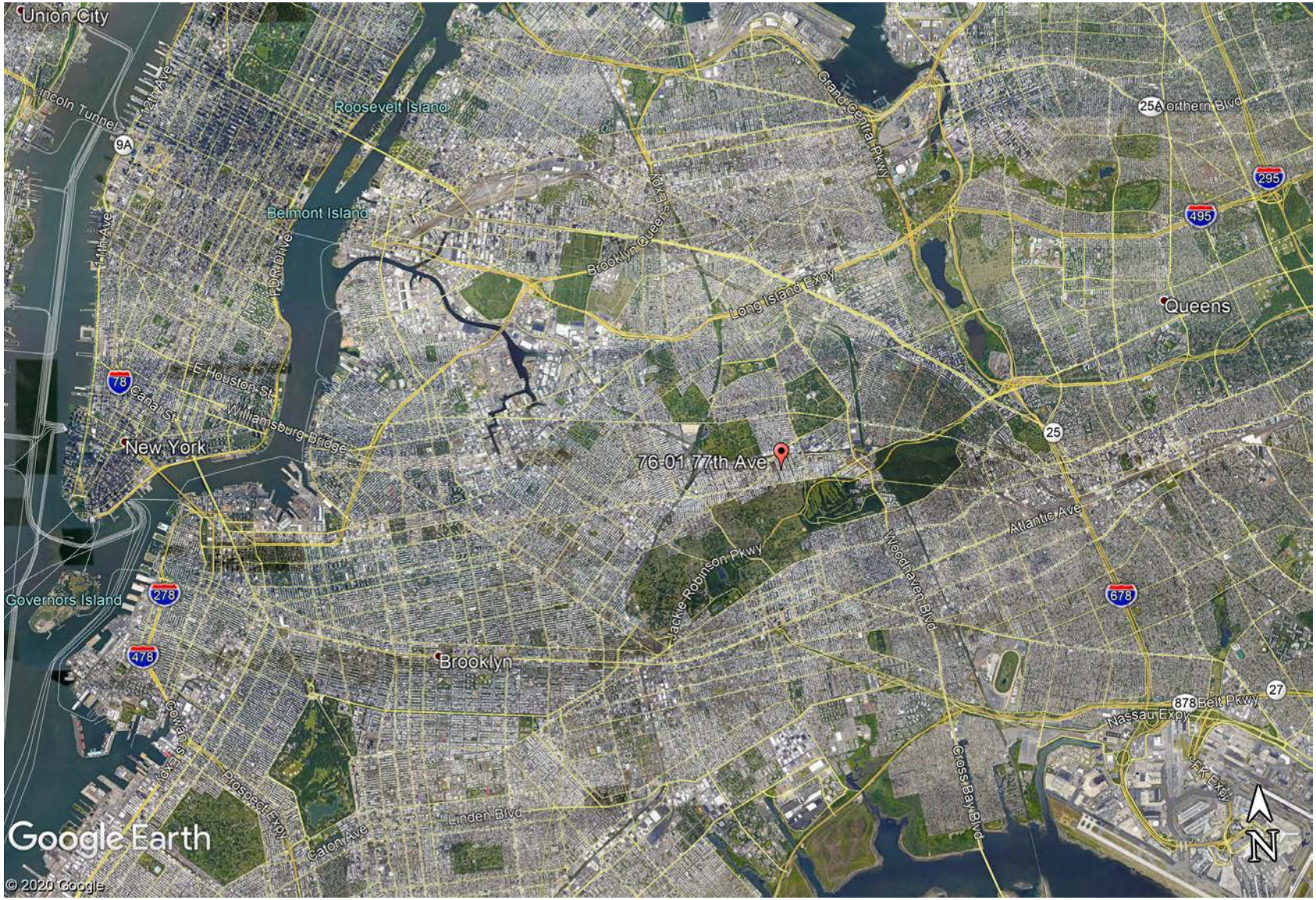
Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	1,055	4.55E-04	1.09E-02	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.009	142,320	0.120	2.9	0.304
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	183,900	0.155	3.7	55.0
1/14/21 9:50 AM	220.0	12.6	69,000	0.057	1.4	110.9	69,990	0.058	1.4	170.4
2/4/21 12:15 PM	225.0	13.4	85,000	0.072	1.7	139.7	86,250	0.073	1.7	199.6
3/3/21 9:30 AM	220.0	11.2	45,000	0.037	0.9	186.0	45,520	0.038	0.9	246.5
4/6/21 11:50 AM	205.0	24.7	72,000	0.055	1.3	216.3	73,370	0.056	1.4	277.2
AVERAGE:	**205**									

FIGURES



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

Figure 2

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

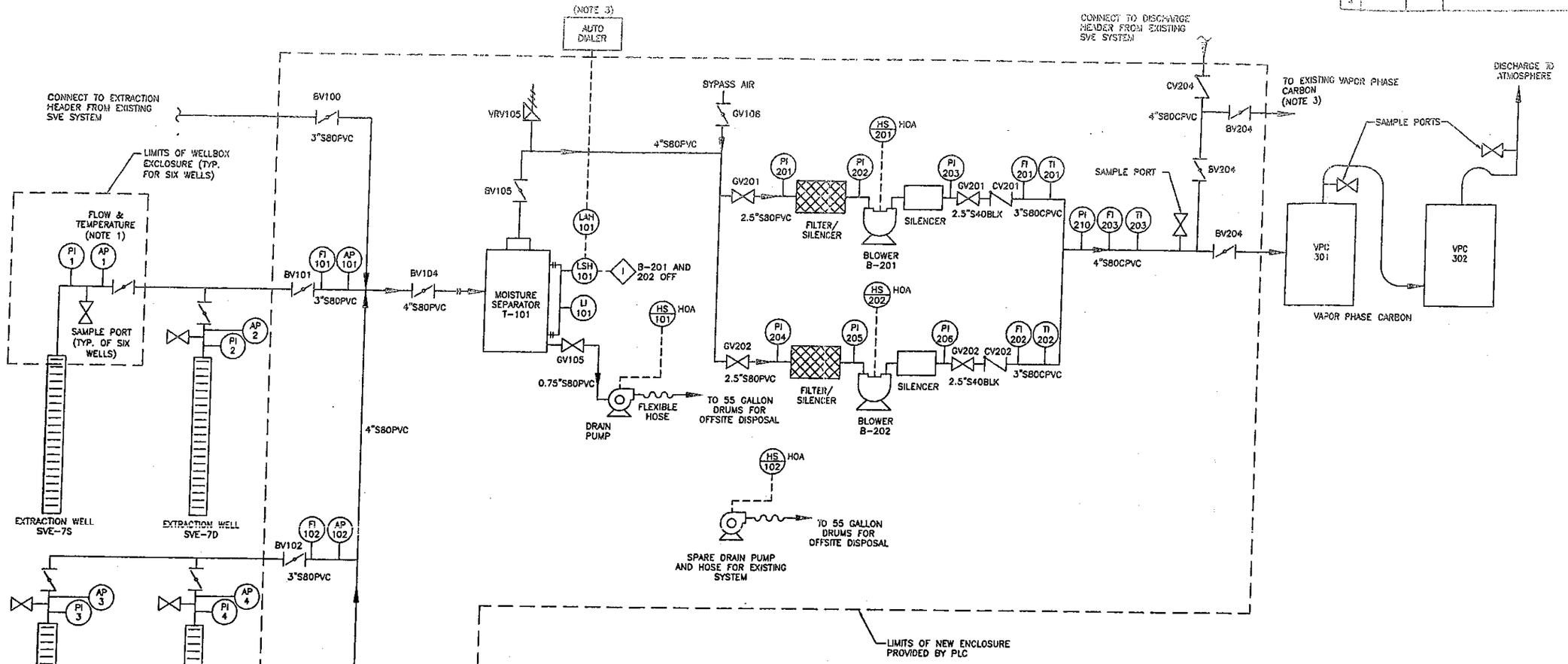
Site Map

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031

APPENDIX A

REVISIONS			
NO.	DATE	BY	COMMENTS
0			
1			
2			
3			
4			

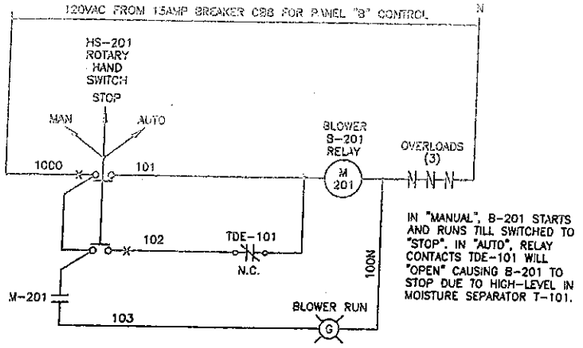


SOIL VAPOR EXTRACTION (SVE) SYSTEM

DESIGNED BY: DMc	URS Corporation	NYSDEC SITE 2-41-031 GLENDALE, QUEENS	CONTRACT D006547 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 BROADWAY, ALBANY, NEW YORK
DRAWN BY: RAL	Group Consultants	KLIEGMAN BROTHERS SITE OPERABLE UNIT NO. 1	
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax	GLENDALE, QUEENS NEW YORK	
PROJ. ENGR. DMc	JOB No. 11171964.00000		

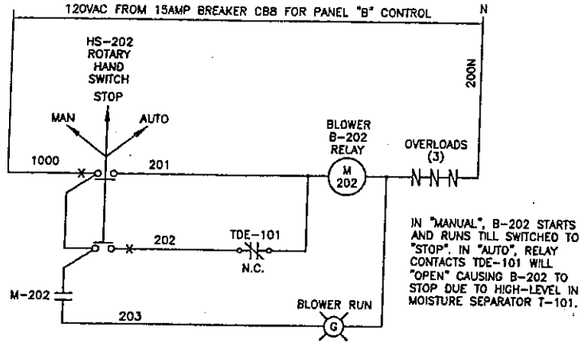
PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	PID
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



BLOWER B-201 CONTROL CIRCUITS

NOT TO SCALE



BLOWER B-202 CONTROL CIRCUITS

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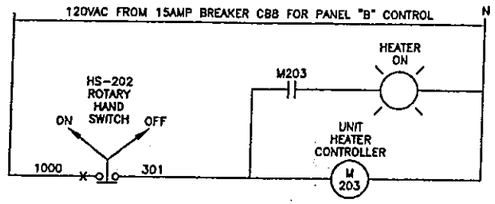
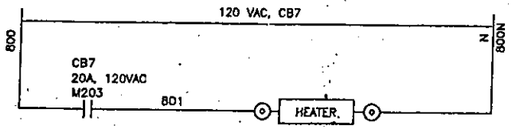
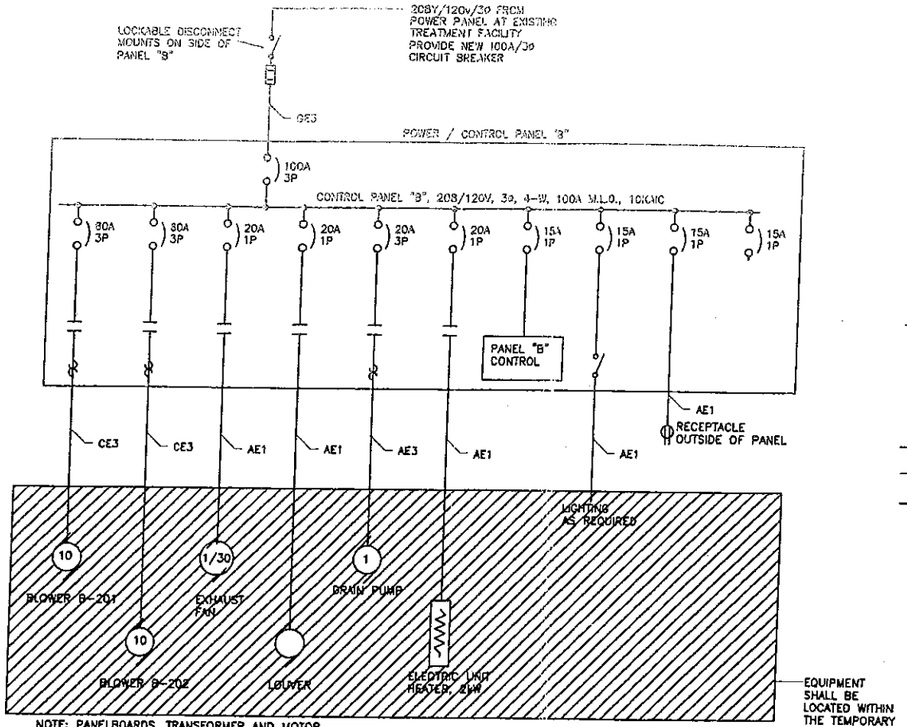


ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

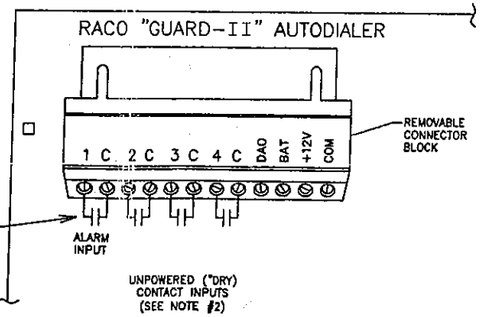
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

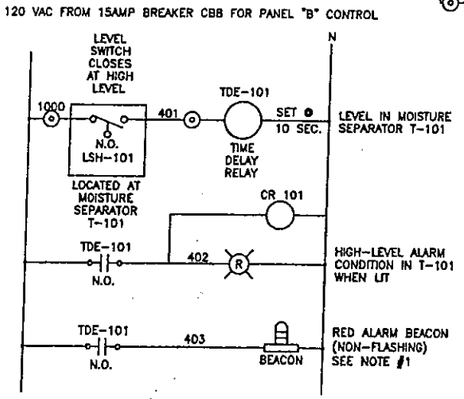
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



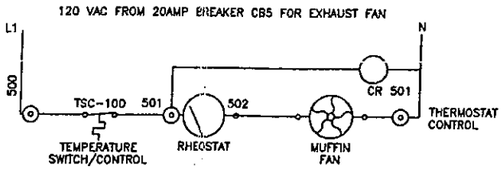
AUTODIALER DETAIL (EXISTING)

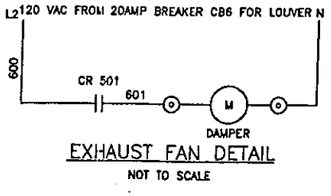
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

NOT TO SCALE





EXHAUST FAN DETAIL

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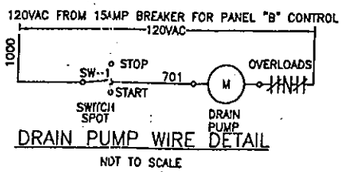

DRAIN PUMP WIRE DETAIL

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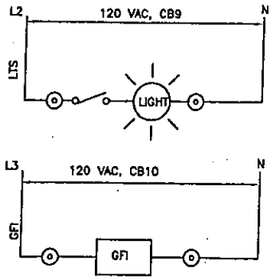

REVISIONS			
Rev	Date	By	Description
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1			
2			
3			
4			

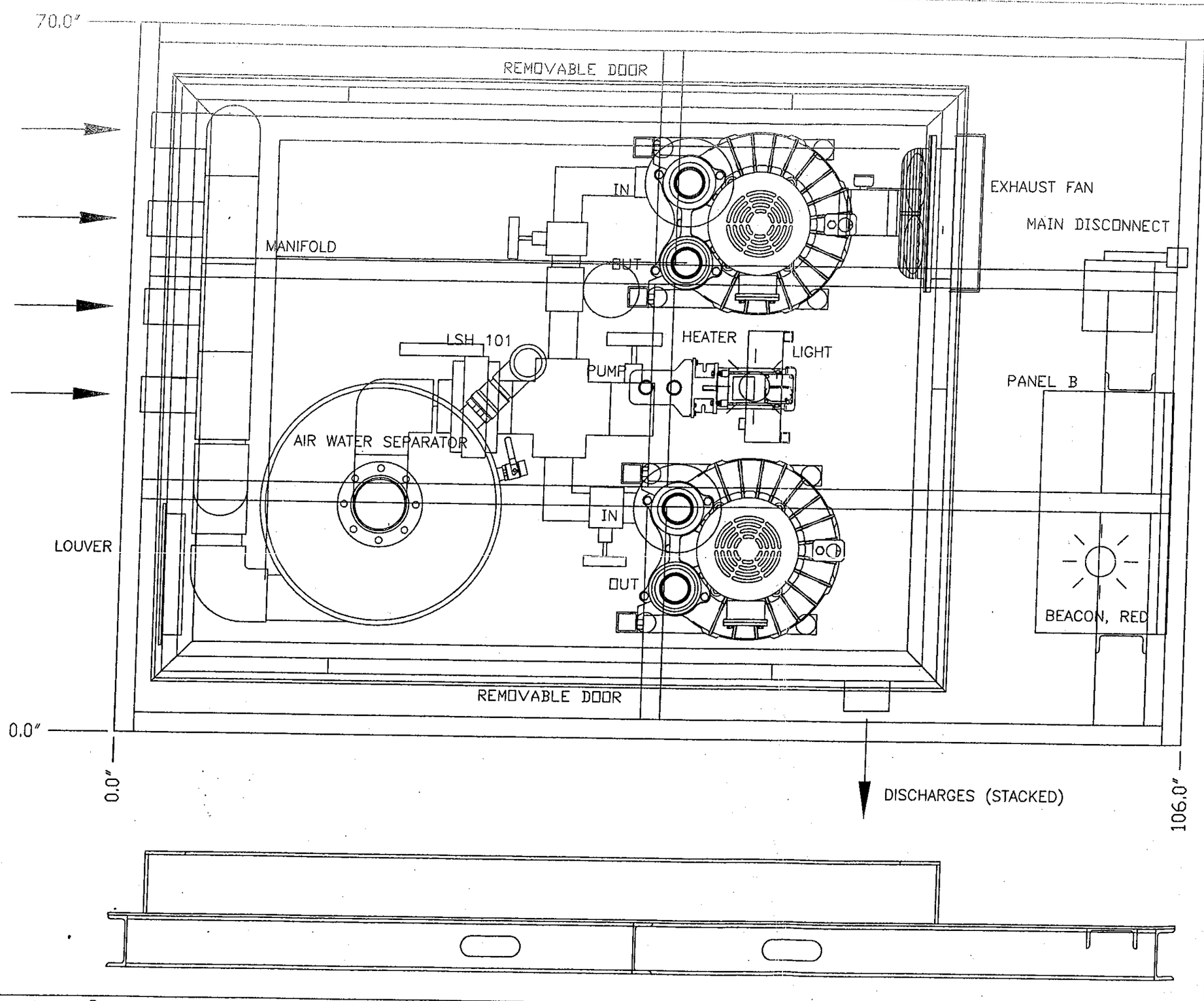
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

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Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

MONTHLY PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the May 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map including the equipment compound and system well locations is provided as Figure 2.

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recordings air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for May 2021 is estimated at 100%.

2.1.1 O&M ACTIVITIES

- May 11, 2021:
  - The system was operating upon arrival to and departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. No other adjustments were made to air flow rates at each of the extraction well locations. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format. Maintenance information is provided as Table 2.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed. Additional notes:
    - Site bollards were repainted.
  - Vacuum/influence monitoring at VMP wells conducted at VMP-2 through VMP-6.

3.0 SYSTEM AIR SAMPLING

During the monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On May 11, 2021, a monthly air sample for laboratory analysis was collected from the SVE effluent air stream. The sample was submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

Table 1

76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021	2/4/2021	3/3/2021	4/6/2021	5/11/2021
SVE System Status on Arrival			on	on	on	on	on	on	on	on
SVE System Status on Departure			on	on	on	on	on	on	on	on
SVE Blower B-201 Status			on	on	on	on	on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50	15444.40	16086.70	16905.20	17745.10
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00	2/4/2021 9:00	3/3/2021 6:52	4/6/2021 10:23	5/11/2021 9:00
Hours Since Last Site Visit			-	672.00	456.00	744.00	504.00	645.87	819.52	838.62
SVE Blower B-202 Status			off	off	off	off	off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF	MF	JB	JB	MF
In-Line Filter Status			ok	ok	ok	ok	ok	ok	ok	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty	3-4 gal	10 gal	empty	empty
Manifold Legs / Wells										
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4	-17.1	-17.5	-13.8	-13.5
		Air flow (SCFM)	140.0	145.0	85.0	80.0	55.0	100.0	50.0	90.0
		PID (PPM)	28.3	38.3	8.2	21.1	2.8	2.8	-	24.8
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6	-16.6	-16.1	-13.9	-12.7
		Air flow (SCFM)	100.0	152.0	140.0	140.0	120.0	115.0	110.0	100.0
		PID (PPM)	6.2	6.2	3.3	5.9	1.7	4.4	-	4.9
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7	-16.4	-15.8	-13.8	-12.6
		Air flow (SCFM)	90.0	100.0	105.0	95.0	58.0	60.0	60.0	55.0
		PID (PPM)	3.3	4.1	1.4	4.1	0.9	3.1	-	2.6
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1	-13.6	-11.8	-11.1	-9.0
		Air flow (SCFM)	43.0	84.0	56.0	11.0	18.0	22.0	28.0	24.0
		Temperature (°F)	64.0	66.0	-	62.0	56.0	51.0	64.0	-
		PID (PPM)	6.5	1.8	1.1	5.0	1.6	6.1	-	3.2
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5	-11.4	-13.6	-8.7	-7.9
		Air flow (SCFM)	14.0	38.0	68.0	97.0	77.0	104.0	89.0	84.5
		Temperature (°F)	64.0	57.0	-	57.0	51.0	52.0	63.0	-
		PID (PPM)	2.3	*	0.0	5.2	1.6	1.4	-	2.9
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6	-11.7	-11.0	-10.5	-9.3
		Air flow (SCFM)	64.0	81.0	*	24.0	28.0	29.0	33.0	49.3
		Temperature (°F)	65.0	61.0	-	56.0	50.0	51.0	64.0	-
		PID (PPM)	3.7	0.7	*	4.7	1.5	4.2	-	2.7
		Valve (% open)	50%	50%	50%	100%	100%	100%	100%	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7	25.8	-25.4	-29.6	-29.2
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1	26.5	-26.0	-54.4	-53.8
Discharge										
SVE EFFLUENT		Air flow (SCFM)	115.0	225.0	225.0	220.0	225.0	220.0	205.0	220.0
		Temperature (°F)	126.0	122.0	116.0	115.0	106.0	104.0	132.0	121.0
		PID (PPM)	5.9	21.9	12.6	128.0	13.4	11.2	24.7	21.9
Vapor Monitoring Points (VMPs)										
VMP-1		Vacuum ("WC)	-	0.0	0.0	-	-0.09	-0.01	0.0	-
		PID (PPM)	-	4.6	0.0	-	1.3	0.0	0.0	-
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.9	1.2	0.0	0.8	0.9	0.0	0.0	7.1
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	1.7	0.8	0.3	0.4	0.3	0.1	0.0	4.3
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.2	1.8	0.0	0.4	0.0	0.0	0.0	3.1
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7	-	-0.55	-1.20	-1.25
		PID (PPM)	0.0	0.7	0.4	1.4	-	0.1	0.0	9.7
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0	0.0	-0.02	-0.93	0.00
		PID (PPM)	-	1.1	0.2	0.2	1.6	1.1	0.0	1.1
VMP-7**		Vacuum ("WC)	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked
		PID (PPM)								

Notes:
- Reading not collected
*Water detected in lines
**VMP-7 is inaccessible
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

Table 2

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
02/04/21	M	X	X	X		X	X	X	X	3-4	Ambient PID in building basement was 0.7-0.8 ppm.
03/03/21	M	X	X	X		X		X	X	10	Filter was clean upon inspection.
04/06/21	M	X	X	X		X		X		0	Met TRC for site inspection for potential well abandonment. Determined VMP-7 location is blocked.
05/11/21	M	X	X	X		X		X		0	Cleaned filter and replacement ordered. Repainted bollards.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

Table 3

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethane	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	Total BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**1,055**	<0.32	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	<0.39	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	<640	**320**	<860	<780	<950	<780	<1,800	<500	<400	<770	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**183,900**	<230	**190**	**350**	<280	<340	<280	<660	<180	<140	<280	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<450	<220	<610	<550	<670	<550	<1,300	<360	<280	<550	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630
SVE_EFFLUENT	2/4/2021	**85,000**	**86,250**	<810	<400	<1,100	<980	<1,200	<980	<2,300	<640	<500	<980	<1,000	**440**	<1,700	<990	<9,400	<870	<870	<2,400	<870	<850	<1,100	<4,350	**810**	<1,100
SVE-7D	2/4/2021	**41,000**	**41,000**	<280	<140	<380	<340	<420	<340	<810	<220	<170	<340	<360	<140	<600	<340	<3,300	<300	<300	<820	<300	<300	<390	<1,510	<170	<390
SVE-8D	2/4/2021	**17,000**	**23,800**	**230**	**860**	**1500**	<150	<180	<150	<360	<97	**220**	**160**	<160	**960**	<260	<150	<1,400	<130	<130	<360	<130	<130	<170	<657	**2,700**	**170**
SVE-8S	2/4/2021	**5,000**	**5,458**	<48	<23	<64	<58	<71	<58	<140	<38	<30	<58	<61	**370**	<100	<58	<560	<51	<51	<140	<51	<50	<67	<258	**88**	**<66**
SVE-9S	2/4/2021	**9,500**	**10,000**	<110	<52	<140	<130	<160	<130	<310	<84	<66	<130	<130	**320**	<220	<130	<1,200	<110	<110	<310	<110	<110	<150	<564	**180**	<150
SVE-10S	2/4/2021	**1,600**	**2,025**	<16	<7.90	<22	<20	<24	<20	<47	<13	<10	<20	<21	**46**	<34	<20	320	<17	<17	<47	<17	<17	<23	<87	**59**	<22
URS_SVE-1	2/4/2021	**17,000**	**17,000**	<170	<85	<230	<210	<260	<210	<500	<140	<110	<210	<220	<85	<370	<210	<2,000	<190	<190	<510	<190	<180	<240	<950	<100	<240
URS_SVE-6D	2/4/2021	**63,000**	**63,000**	<500	<240	<670	<610	<740	<610	<1,400	<390	<310	<600	<640	<240	<1,100	<610	<5,800	<540	<540	<1,500	<540	<530	<700	<2,710	<300	<690
URS_SVE-6S	2/4/2021	**97,000**	**97,000**	<640	<320	<870	<780	<960	<780	<1,900	<510	<400	<780	<820	<320	<1,400	<790	<7,500	<690	<690	<1,900	<690	<680	<900	<3,480	<380	<890
SVE_EFFLUENT	3/3/2021	**45,000**	**45,520**	<650	<320	<880	<790	<970	<790	<1,900	<520	<410	<790	<830	<320	<1,400	<800	<7,600	<700	<700	<1,900	<700	<690	<910	<3,530	**520**	<910
SVE_EFFLUENT	4/6/2021	**72,000**	**73,370**	<530	**280**	<710	<640	<780	<640	<1,500	<410	<330	<630	<670	**340**	<1,100	<640	<6,100	<560	<560	<1,500	<560	<550	<730	<2,820	**750**	<730
SVE_EFFLUENT	5/11/2021	**86,000**	**86,790**	<670	<330	<910	<820	<1,000	<820	<1,900	<530	<420	<810	<860	<330	<1,400	<820	<7,800	<720	<720	<2,000	<720	<710	<940	<3,630	**790**	<930

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

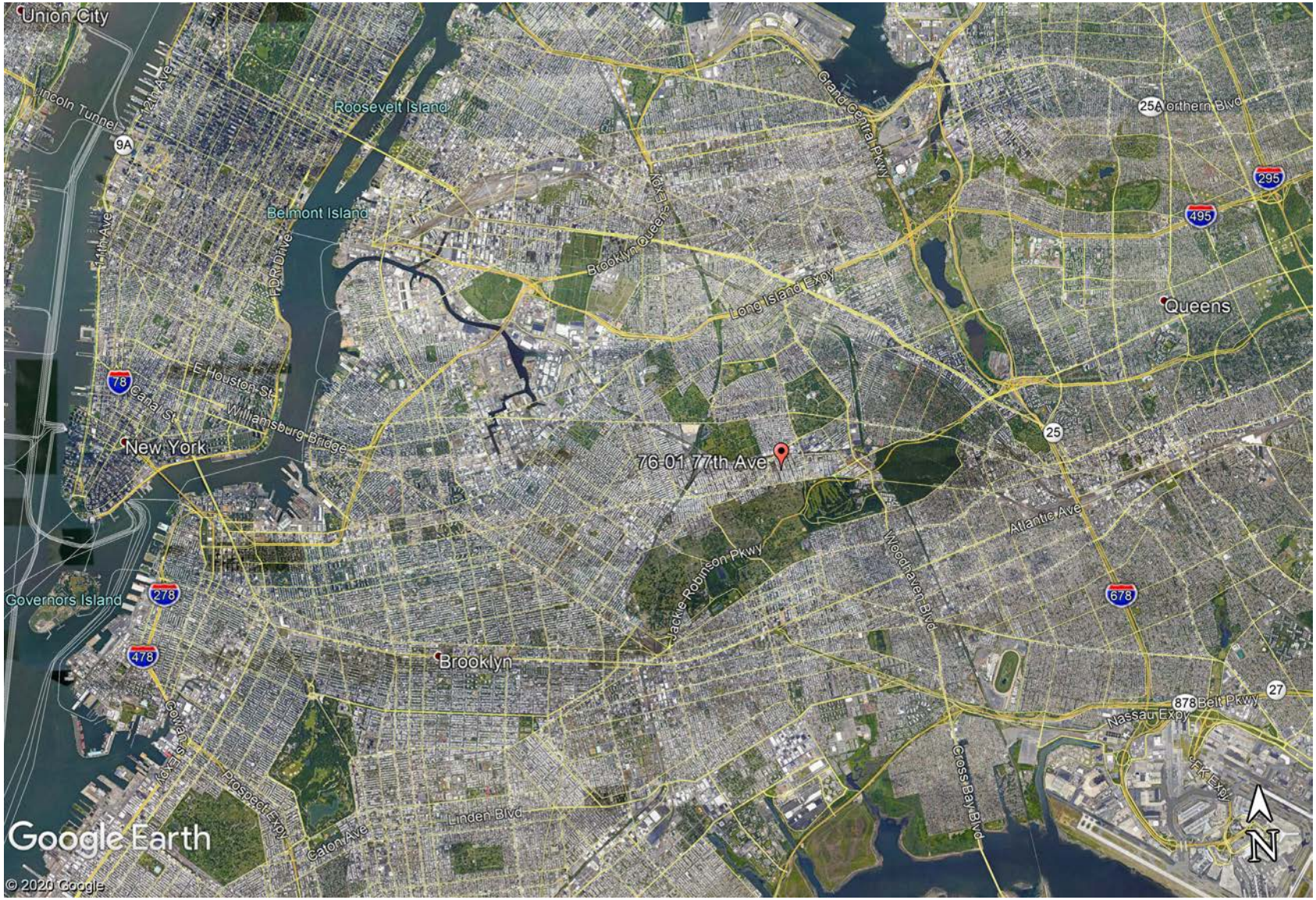
Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	1,055	4.55E-04	1.09E-02	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.009	142,320	0.120	2.9	0.304
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	183,900	0.155	3.7	55.0
1/14/21 9:50 AM	220.0	12.6	69,000	0.057	1.4	110.9	69,990	0.058	1.4	170.4
2/4/21 12:15 PM	225.0	13.4	85,000	0.072	1.7	139.7	86,250	0.073	1.7	199.6
3/3/21 9:30 AM	220.0	11.2	45,000	0.037	0.9	186.0	45,520	0.038	0.9	246.5
4/6/21 11:50 AM	205.0	24.7	72,000	0.055	1.3	216.3	73,370	0.056	1.4	277.2
5/11/21 9:30 AM	220.0	21.9	86,000	0.071	1.7	262.6	86,790	0.072	1.7	324.4
AVERAGE:	**207**									

FIGURES



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

Figure 2

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

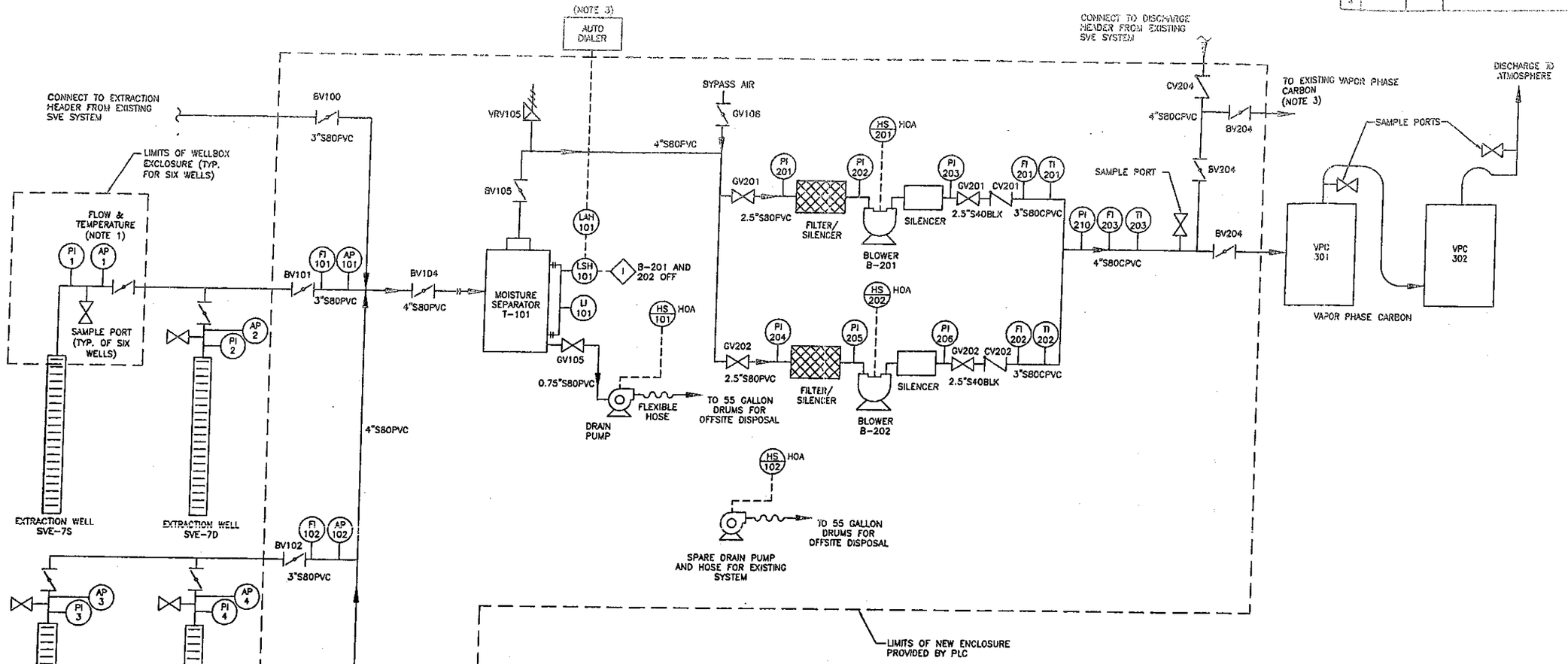
Site Map

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031

APPENDIX A

REVISIONS			
NO.	DATE	BY	COMMENTS
0			
1			
2			
3			
4			

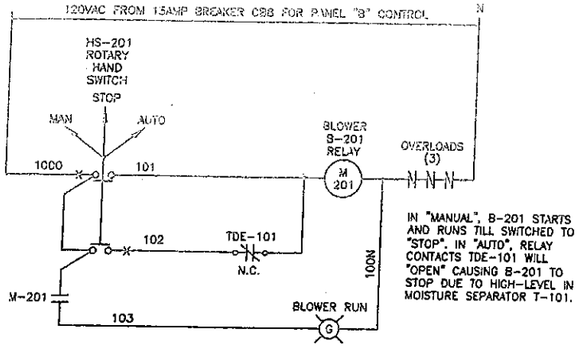


SOIL VAPOR EXTRACTION (SVE) SYSTEM

DESIGNED BY: DMc	URS Corporation	NYSDEC SITE 2-41-031 GLENDALE, QUEENS	CONTRACT D006547 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 BROADWAY, ALBANY, NEW YORK
DRAWN BY: RAL	Group Consultants	KLIEGMAN BROTHERS SITE OPERABLE UNIT NO. 1	
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax	GLENDALE, QUEENS NEW YORK	
PROJ. ENGR. DMc	JOB No. 11171964.00000		

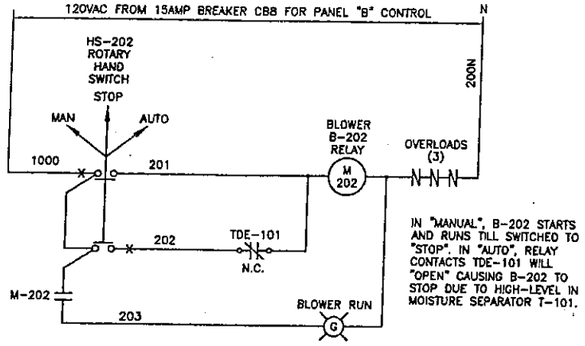
PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	PID
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



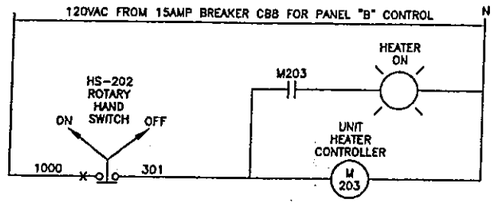
BLOWER B-201 CONTROL CIRCUITS

NOT TO SCALE



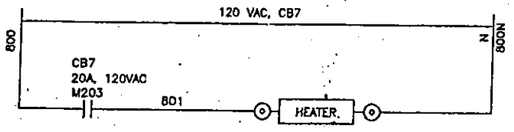
BLOWER B-202 CONTROL CIRCUITS

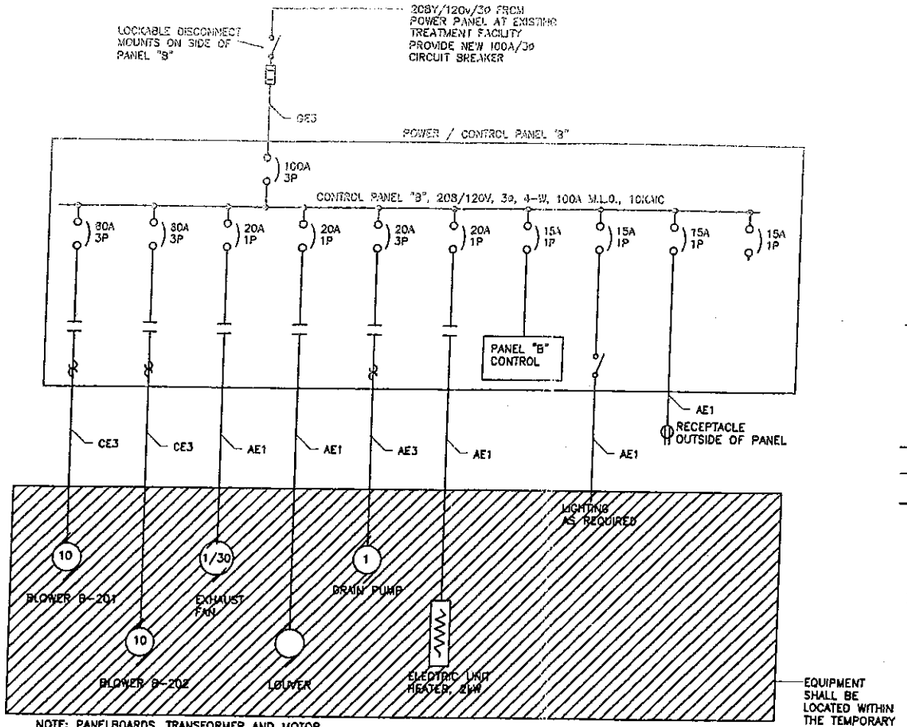
NOT TO SCALE



ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

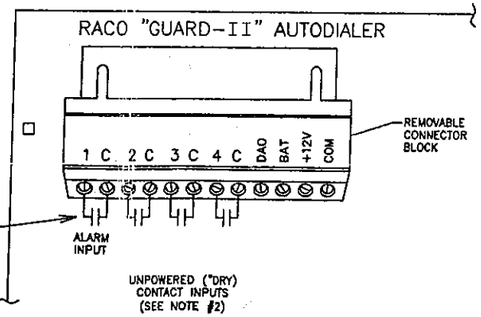
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

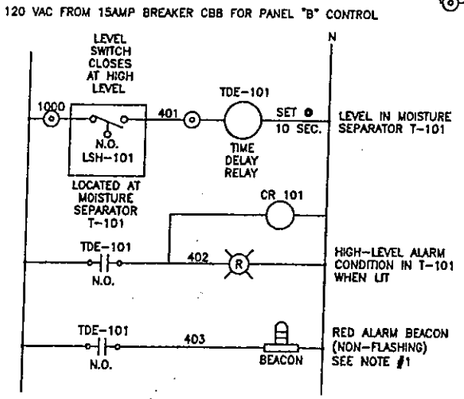
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



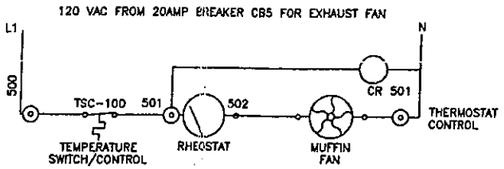
AUTODIALER DETAIL (EXISTING)

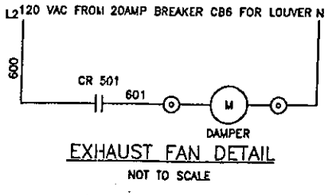
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

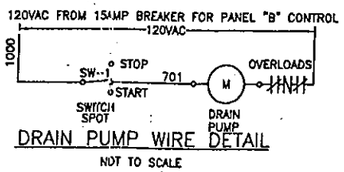
NOT TO SCALE





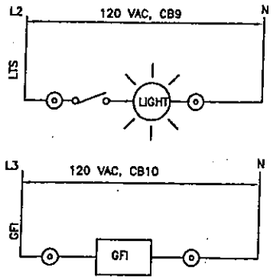
EXHAUST FAN DETAIL

NOT TO SCALE



DRAIN PUMP WIRE DETAIL

NOT TO SCALE



REVISIONS			
Rev	Date	By	Description
0			
1			
2			
3			
4			

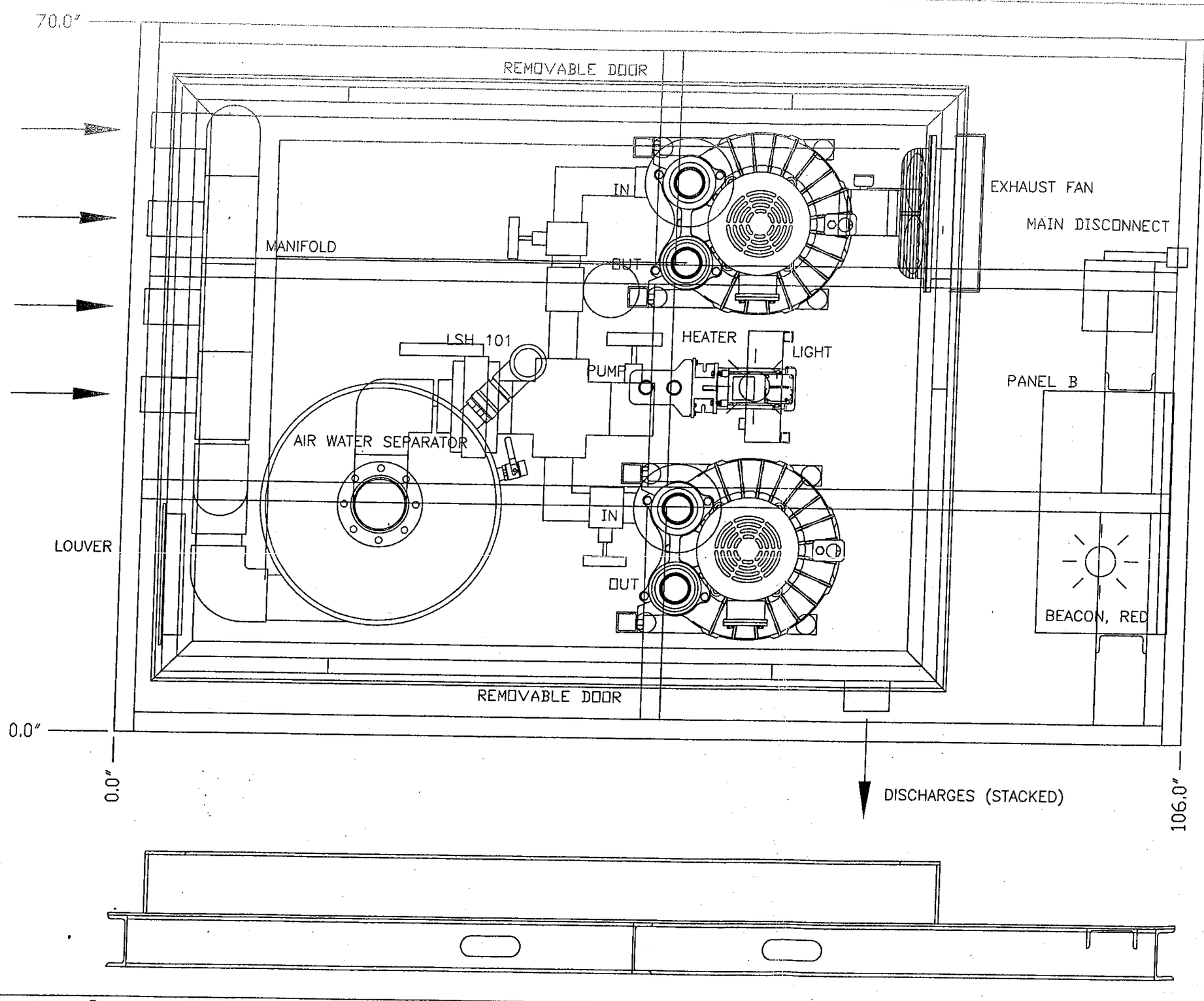
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

MONTHLY PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the June 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map including the equipment compound and system well locations is provided as Figure 2.

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recordings air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for June 2021 is estimated at 100%.

2.1.1 O&M ACTIVITIES

- June 11, 2021:
  - The system was operating upon arrival to and departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format. Maintenance information is provided as Table 2.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed.
  - Vacuum/influence monitoring at VMP wells were conducted at VMP-1 through VMP-6.

3.0 SYSTEM AIR SAMPLING

During the monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On June 11, 2021, a monthly air sample for laboratory analysis was collected from the SVE effluent air stream. The sample was submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

Table 1

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021	2/4/2021	3/3/2021	4/6/2021	5/11/2021	6/11/2021
SVE System Status on Arrival			on	on	on	on	on	on	on	on	on
SVE System Status on Departure			on	on	on	on	on	on	on	on	on
SVE Blower B-201 Status			on	on	on	on	on	on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50	15444.40	16086.70	16905.20	17745.10	18485.80
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00	2/4/2021 9:00	3/3/2021 6:52	4/6/2021 10:23	5/11/2021 9:00	6/11/2021 6:56
Hours Since Last Site Visit			-	672.00	456.00	744.00	504.00	645.87	819.52	838.62	741.93
SVE Blower B-202 Status			off	off	off	off	off	off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF	MF	JB	JB	MF	JB
In-Line Filter Status			ok	ok	ok	ok	ok	ok	ok	ok	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty	3-4 gal	10 gal	empty	empty	empty
Manifold Legs / Wells											
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4	-17.1	-17.5	-13.8	-13.5	-11.7
		Air flow (SCFM)	140.0	145.0	85.0	80.0	55.0	100.0	50.0	90.0	110.0
		PID (PPM)	28.3	38.3	8.2	21.1	2.8	2.8	-	24.8	0.0
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%	30%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6	-16.6	-16.1	-13.9	-12.7	-11.3
		Air flow (SCFM)	100.0	152.0	140.0	140.0	120.0	115.0	110.0	100.0	120.0
		PID (PPM)	6.2	6.2	3.3	5.9	1.7	4.4	-	4.9	0.0
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%	30%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7	-16.4	-15.8	-13.8	-12.6	-11.1
		Air flow (SCFM)	90.0	100.0	105.0	95.0	58.0	60.0	60.0	55.0	75.0
		PID (PPM)	3.3	4.1	1.4	4.1	0.9	3.1	-	2.6	0.0
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1	-13.6	-11.8	-11.1	-9.0	-7.8
		Air flow (SCFM)	43.0	84.0	56.0	11.0	18.0	22.0	28.0	24.0	18.0
		Temperature (°F)	64.0	66.0	-	62.0	56.0	51.0	64.0	-	68.0
		PID (PPM)	6.5	1.8	1.1	5.0	1.6	6.1	-	3.2	8.8
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5	-11.4	-13.6	-8.7	-7.9	-7.1
		Air flow (SCFM)	14.0	38.0	68.0	97.0	77.0	104.0	89.0	84.5	83.0
		Temperature (°F)	64.0	57.0	-	57.0	51.0	52.0	63.0	-	67.0
		PID (PPM)	2.3	*	0.0	5.2	1.6	1.4	-	2.9	11.1
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6	-11.7	-11.0	-10.5	-9.3	-8.1
		Air flow (SCFM)	64.0	81.0	*	24.0	28.0	29.0	33.0	49.3	28.0
		Temperature (°F)	65.0	61.0	-	56.0	50.0	51.0	64.0	-	68.0
		PID (PPM)	3.7	0.7	*	4.7	1.5	4.2	-	2.7	52.4
		Valve (% open)	50%	50%	50%	100%	100%	100%	100%	100%	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7	25.8	-25.4	-29.6	-29.2	-26.9
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1	26.5	-26.0	-54.4	-53.8	-49.8
Discharge											
SVE EFFLUENT		Air flow (SCFM)	115.0	225.0	225.0	220.0	225.0	220.0	205.0	220.0	210.0
		Temperature (°F)	126.0	122.0	116.0	115.0	106.0	104.0	132.0	121.0	130.0
		PID (PPM)	5.9	21.9	12.6	128.0	13.4	11.2	24.7	21.9	21.0
Vapor Monitoring Points (VMPs)											
VMP-1		Vacuum ("WC)	-	0.0	0.0	-	-0.09	-0.01	0.0	-	0.0
		PID (PPM)	-	4.6	0.0	-	1.3	0.0	0.0	-	0.0
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.9	1.2	0.0	0.8	0.9	0.0	0.0	7.1	0.0
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	1.7	0.8	0.3	0.4	0.3	0.1	0.0	4.3	0.0
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		PID (PPM)	0.2	1.8	0.0	0.4	0.0	0.0	0.0	3.1	0.0
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7	-	-0.55	-1.20	-1.25	0.0
		PID (PPM)	0.0	0.7	0.4	1.4	-	0.1	0.0	9.7	0.0
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0	0.0	-0.02	-0.93	0.00	0.0
		PID (PPM)	-	1.1	0.2	0.2	1.6	1.1	0.0	1.1	0.0
VMP-7**		Vacuum ("WC)	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked
		PID (PPM)									

Notes:
- Reading not collected
*Water detected in lines
**VMP-7 is inaccessible
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

Table 2

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
02/04/21	M	X	X	X		X	X	X	X	3-4	Ambient PID in building basement was 0.7-0.8 ppm.
03/03/21	M	X	X	X		X		X	X	10	Filter was clean upon inspection.
04/06/21	M	X	X	X		X		X		0	Met TRC for site inspection for potential well abandonment. Determined VMP-7 location is blocked.
05/11/21	M	X	X	X		X		X		0	Cleaned filter and replacement ordered. Repainted bollards.
06/11/21	M	X	X	X		X		X		0	Filter was clean upon inspection.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

Table 3

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethane	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	Total BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**595**	<0.32	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	<0.39	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	<640	**320**	<860	<780	<950	<780	<1,800	<500	<400	<770	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**92,900**	<230	**190**	**350**	<280	<340	<280	<660	<180	<140	<280	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<450	<220	<610	<550	<670	<550	<1,300	<360	<280	<550	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630
SVE_EFFLUENT	2/4/2021	**85,000**	**86,250**	<810	<400	<1,100	<980	<1,200	<980	<2,300	<640	<500	<980	<1,000	**440**	<1,700	<990	<9,400	<870	<870	<2,400	<870	<850	<1,100	<4,350	**810**	<1,100
SVE-7D	2/4/2021	**41,000**	**41,000**	<280	<140	<380	<340	<420	<340	<810	<220	<170	<340	<360	<140	<600	<340	<3,300	<300	<300	<820	<300	<300	<390	<1,510	<170	<390
SVE-8D	2/4/2021	**17,000**	**23,800**	**230**	**860**	**1,500**	<150	<180	<150	<360	<97	**220**	**160**	<160	**960**	<260	<150	<1,400	<130	<130	<360	<130	<130	<170	<657	**2,700**	**170**
SVE-8S	2/4/2021	**5,000**	**5,458**	<48	<23	<64	<58	<71	<58	<140	<38	<30	<58	<61	**370**	<100	<58	<560	<51	<51	<140	<51	<50	<67	<258	**88**	**<66**
SVE-9S	2/4/2021	**9,500**	**10,000**	<110	<52	<140	<130	<160	<130	<310	<84	<66	<130	<130	**320**	<220	<130	<1,200	<110	<110	<310	<110	<110	<150	<564	**180**	<150
SVE-10S	2/4/2021	**1,600**	**2,025**	<16	<7.90	<22	<20	<24	<20	<47	<13	<10	<20	<21	**46**	<34	<20	320	<17	<17	<47	<17	<17	<23	<87	**59**	<22
URS_SVE-1	2/4/2021	**17,000**	**17,000**	<170	<85	<230	<210	<260	<210	<500	<140	<110	<210	<220	<85	<370	<210	<2,000	<190	<190	<510	<190	<180	<240	<950	<100	<240
URS_SVE-6D	2/4/2021	**63,000**	**63,000**	<500	<240	<670	<610	<740	<610	<1,400	<390	<310	<600	<640	<240	<1,100	<610	<5,800	<540	<540	<1,500	<540	<530	<700	<2,710	<300	<690
URS_SVE-6S	2/4/2021	**97,000**	**97,000**	<640	<320	<870	<780	<960	<780	<1,900	<510	<400	<780	<820	<320	<1,400	<790	<7,500	<690	<690	<1,900	<690	<680	<900	<3,480	<380	<890
SVE_EFFLUENT	3/3/2021	**45,000**	**45,520**	<650	<320	<880	<790	<970	<790	<1,900	<520	<410	<790	<830	<320	<1,400	<800	<7,600	<700	<700	<1,900	<700	<690	<910	<3,530	**520**	<910
SVE_EFFLUENT	4/6/2021	**72,000**	**73,370**	<530	**280**	<710	<640	<780	<640	<1,500	<410	<330	<630	<670	**340**	<1,100	<640	<6,100	<560	<560	<1,500	<560	<550	<730	<2,820	**750**	<730
SVE_EFFLUENT	5/11/2021	**86,000**	**86,790**	<670	<330	<910	<820	<1,000	<820	<1,900	<530	<420	<810	<860	<330	<1,400	<820	<7,800	<720	<720	<2,000	<720	<710	<940	<3,630	**790**	<930
SVE_EFFLUENT	6/11/2021	**89,000**	**91,505**	**70**	**280**	**520**	<56	<69	<56	<130	<36	**68**	**77**	<59	**390**	<98	<56	<540	<50	<50	<130	<50	<49	<64	<250	**1,100**	<64

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

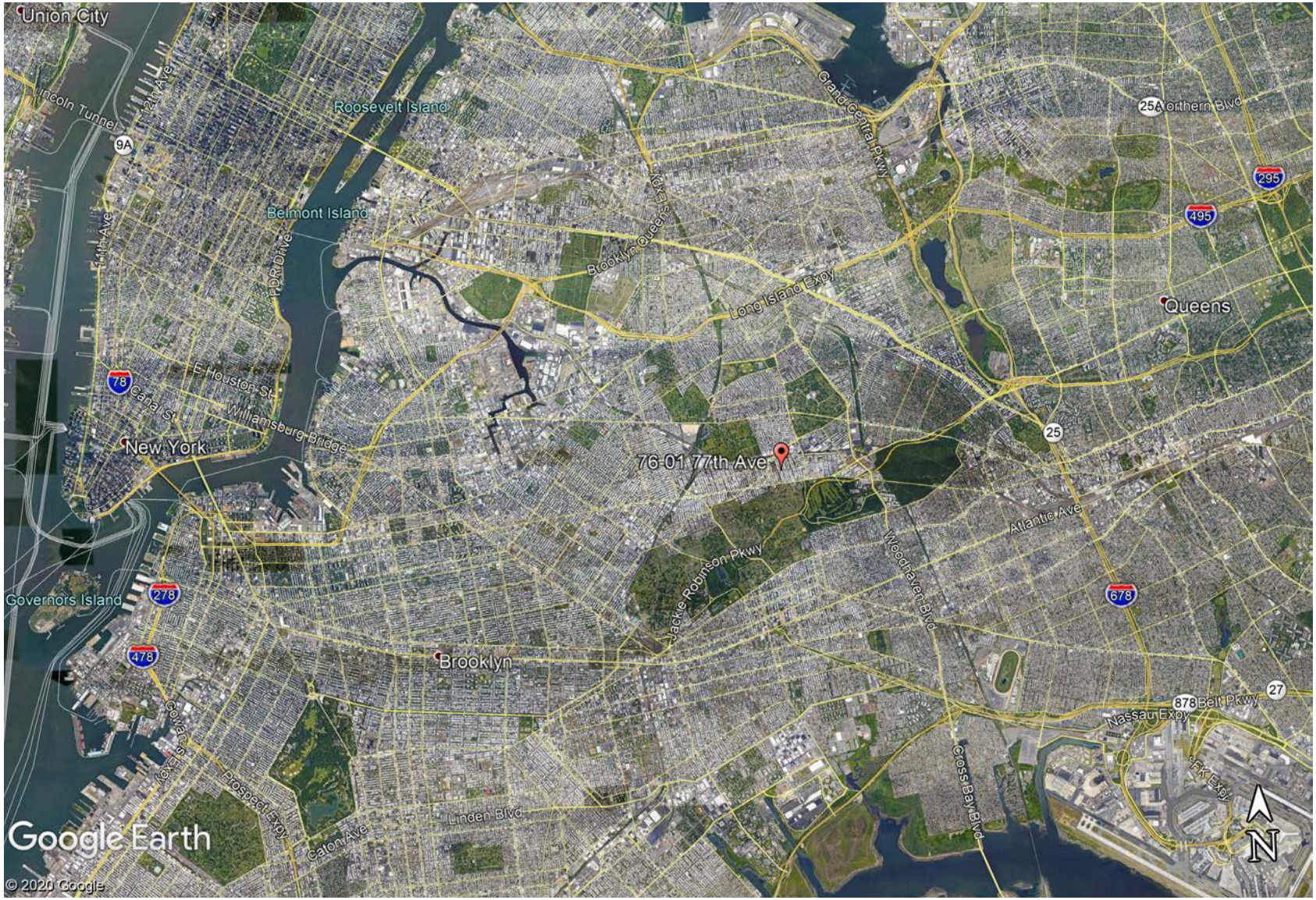
Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	595	2.56E-04	6.15E-03	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.009	142,320	0.120	2.9	0.172
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	92,900	0.078	1.9	54.9
1/14/21 9:50 AM	220.0	12.6	69,000	0.057	1.4	110.9	69,990	0.058	1.4	113.2
2/4/21 12:15 PM	225.0	13.4	85,000	0.072	1.7	139.7	86,250	0.073	1.7	142.4
3/3/21 9:30 AM	220.0	11.2	45,000	0.037	0.9	186.0	45,520	0.038	0.9	189.3
4/6/21 11:50 AM	205.0	24.7	72,000	0.055	1.3	216.3	73,370	0.056	1.4	220.0
5/11/21 9:30 AM	220.0	21.9	86,000	0.071	1.7	262.6	86,790	0.072	1.7	267.2
6/11/21 8:10 AM	210.0	21.0	89,000	0.070	1.7	315.3	91,505	0.072	1.7	320.3
AVERAGE:	**207**									

FIGURES



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

Figure 2

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

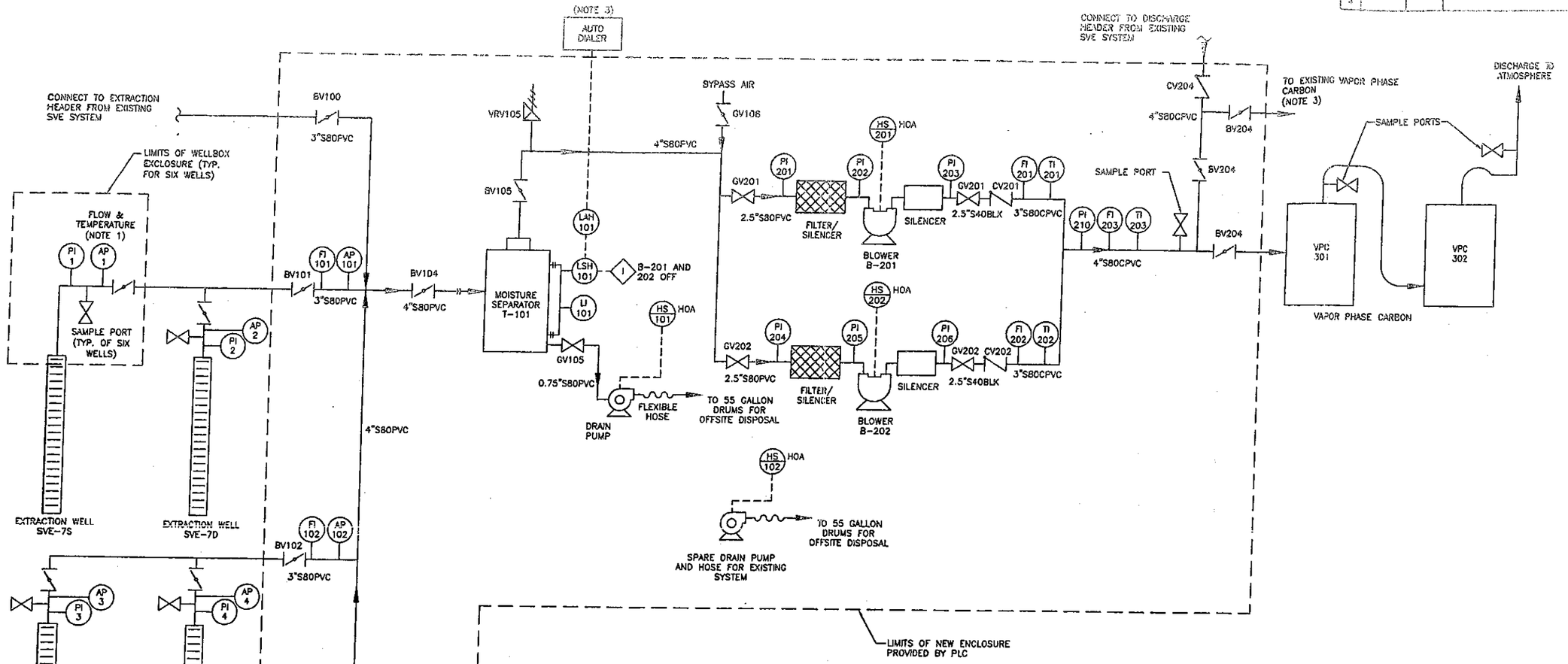
Site Map

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031

APPENDIX A

REVISIONS			
NO.	DATE	BY	COMMENTS
0			
1			
2			
3			
4			

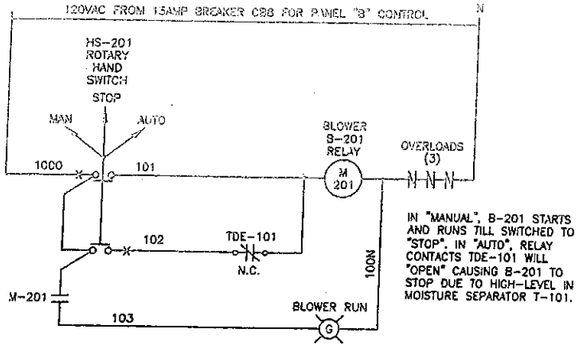


SOIL VAPOR EXTRACTION (SVE) SYSTEM

DESIGNED BY: DMc	URS Corporation	NYSDEC SITE 2-41-031 GLENDALE, QUEENS	CONTRACT D006547 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 BROADWAY, ALBANY, NEW YORK
DRAWN BY: RAL	Group Consultants	KLIEGMAN BROTHERS SITE OPERABLE UNIT NO. 1	
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax	GLENDALE, QUEENS NEW YORK	
PROJ. ENGR. DMc	JOB No. 11171964.00000		

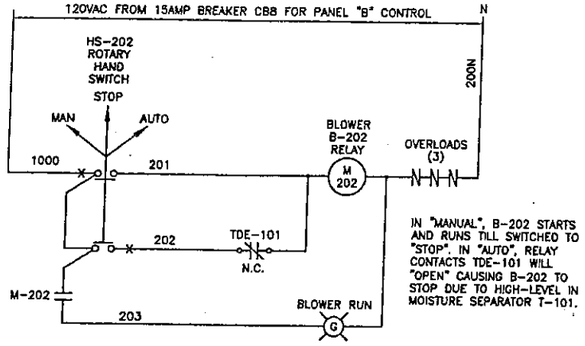
PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	PID
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



BLOWER B-201 CONTROL CIRCUITS

NOT TO SCALE



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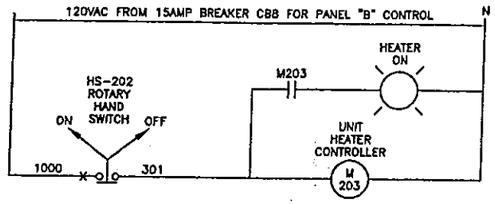
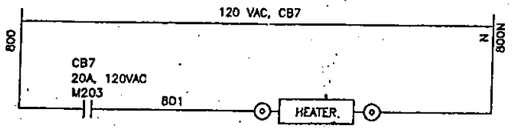
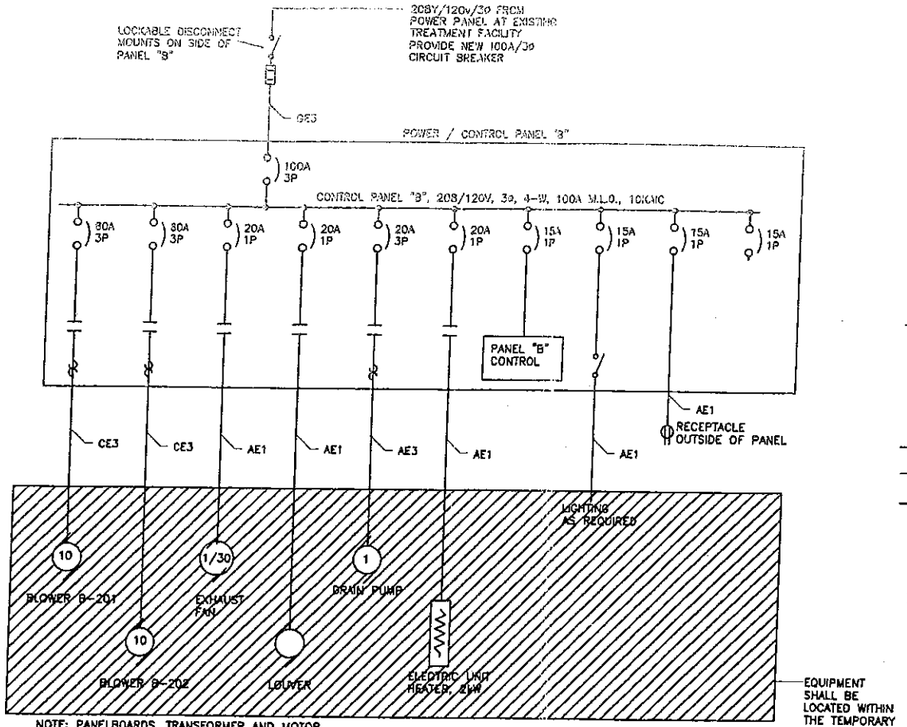


ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

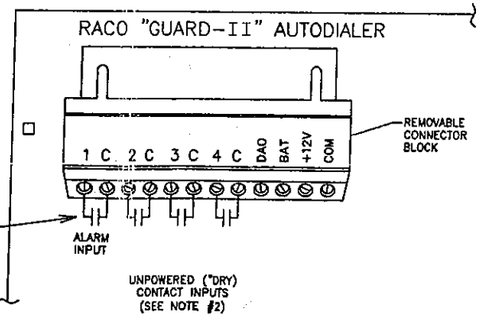
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

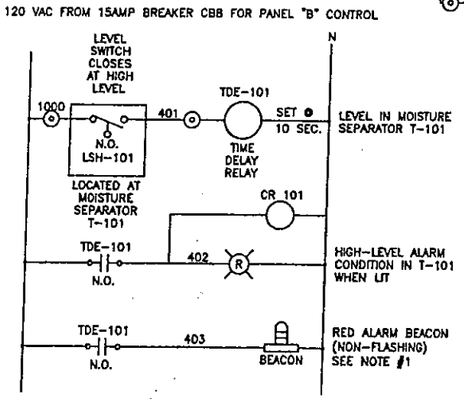
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



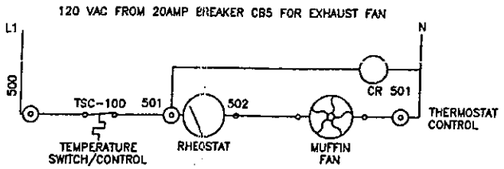
AUTODIALER DETAIL (EXISTING)

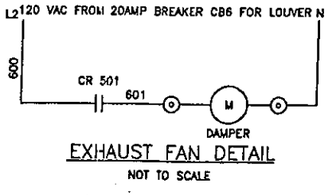
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

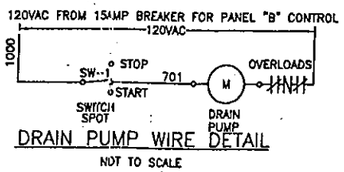
NOT TO SCALE





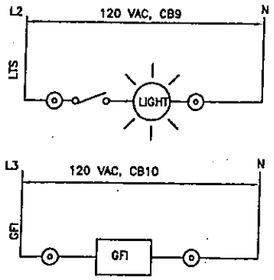
EXHAUST FAN DETAIL

NOT TO SCALE



DRAIN PUMP WIRE DETAIL

NOT TO SCALE



REVISIONS			
Rev	Date	By	Description
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1			
2			
3			
4			

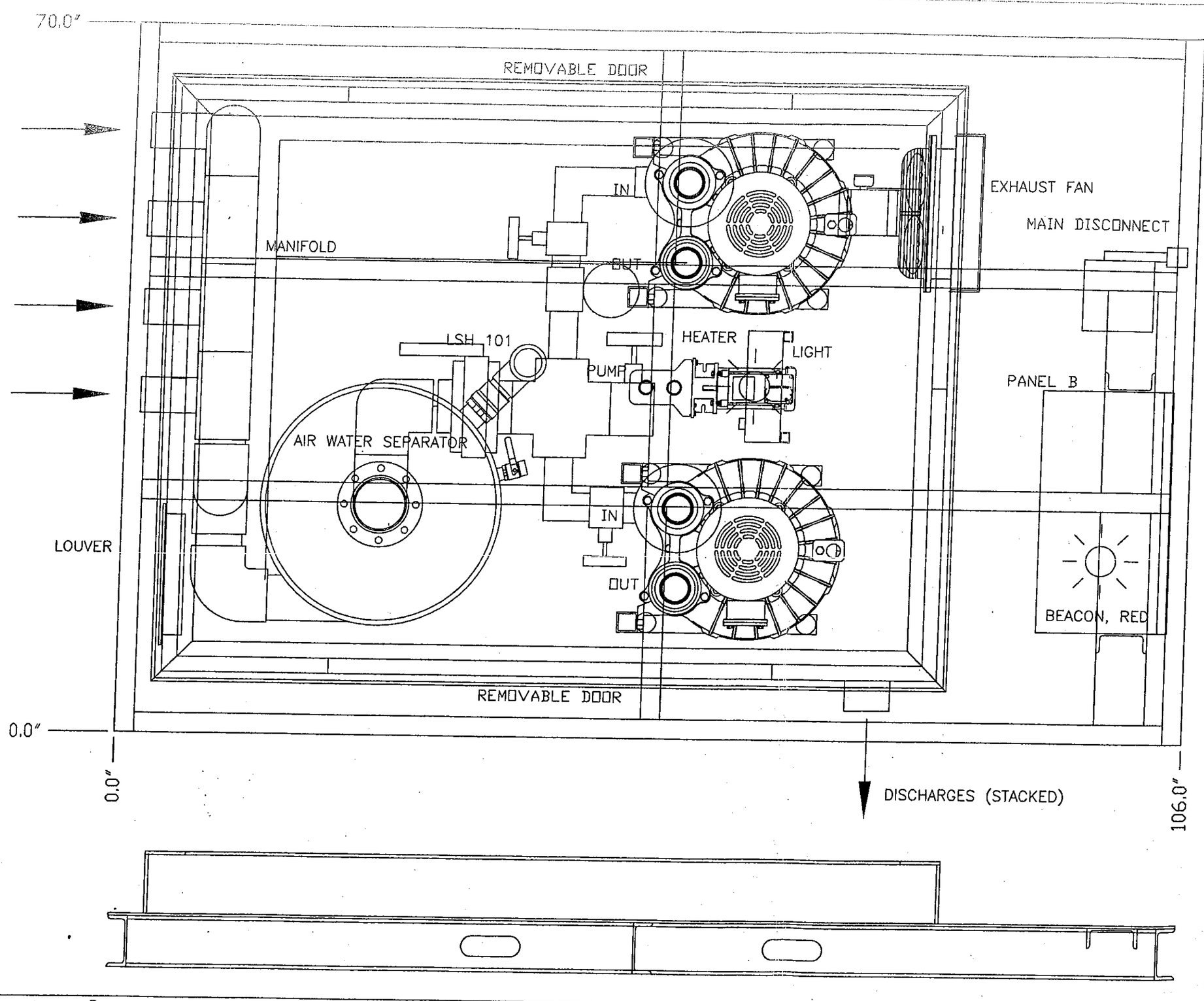
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

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Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

SEPTEMBER 2021 PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the bi-monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the August and September 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map including the equipment compound and system well locations is provided as Figure 2.

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Bi-monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recordings air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for June 11 through September 2021 is estimated at 62%.

2.1.1 O&M ACTIVITIES

- August 5, 2021:
  - Basement inspection was completed with Northside Bakery representative. Basement inspection details were submitted via email on 08/24/21 and is included as Appendix B.
  - The system was running upon arrival to site and turned off for routine maintenance activities. Post-routine maintenance, the system could not be restarted. The system remained off pending further assessment. No site sampling was conducted.
- August 6, 2021:
  - Assessment of the system was conducted and replacement of disconnect switch fuses was completed. Attempted to restart system but was unable to. Suspected phase loss of power supply.
- August 31, 2021:
  - EAR electrician conducted further assessment of phase loss and additional power switch problems. Determined phase loss problem was resolved by Consolidated Edison and confirmed that entire disconnect switch unit needs to be replaced.
- September 7, 2021:
  - EAR electrician replaced disconnect switch and restarted the system.
- September 8, 2021:
  - The system was not operating upon arrival to the site. Restarted system and conducted O&M event. The system was running well upon departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format. Maintenance information is provided as Table 2.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed.
  - Vacuum/influence monitoring at VMP wells were conducted at VMP-1 through VMP-6.

3.0 SYSTEM AIR SAMPLING

During the bi-monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On September 8, 2021, an air sample for laboratory analysis was collected from the SVE effluent air stream. The sample was submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

Table 1

76-01 77th Avenue
Glendale, NY
Site No. 241031

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021	2/4/2021	3/3/2021	4/6/2021	5/11/2021	6/11/2021	8/5/2021	9/8/2021
SVE System Status on Arrival			on	on	on	on	on	on	on	on	on	on	off
SVE System Status on Departure			on	on	on	on	on	on	on	on	on	off	on
SVE Blower B-201 Status			on	on	on	on	on	on	on	on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50	15444.40	16086.70	16905.20	17745.10	18485.80	19806.30	19832.60
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00	2/4/2021 9:00	3/3/2021 6:52	4/6/2021 10:23	5/11/2021 9:00	6/11/2021 6:56	8/5/2021 7:20	9/8/2021 9:35
Hours Since Last Site Visit			-	672.00	456.00	744.00	504.00	645.87	819.52	838.62	741.93	1320.40	818.25
SVE Blower B-202 Status			off	off	off	off	off	off	off	off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF	MF	JB	JB	MF	JB	JB	JB
In-Line Filter Status			ok	ok	ok	ok	ok	ok	ok	ok	ok	replaced	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty	3-4 gal	10 gal	empty	empty	empty	empty	empty
Manifold Legs / Wells													
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4	-17.1	-17.5	-13.8	-13.5	-11.7	-	-7.2
		Air flow (SCFM)	140.0	145.0	85.0	80.0	55.0	100.0	50.0	90.0	110.0	-	110.0
		PID (PPM)	28.3	38.3	8.2	21.1	2.8	2.8	-	24.8	0.0	-	0.0
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%	30%	-	30%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6	-16.6	-16.1	-13.9	-12.7	-11.3	-	-6.5
		Air flow (SCFM)	100.0	152.0	140.0	140.0	120.0	115.0	110.0	100.0	120.0	-	130.0
		PID (PPM)	6.2	6.2	3.3	5.9	1.7	4.4	-	4.9	0.0	-	0.0
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%	30%	-	30%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7	-16.4	-15.8	-13.8	-12.6	-11.1	-	-6.5
		Air flow (SCFM)	90.0	100.0	105.0	95.0	58.0	60.0	60.0	55.0	75.0	-	80.0
		PID (PPM)	3.3	4.1	1.4	4.1	0.9	3.1	-	2.6	0.0	-	0.0
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1	-13.6	-11.8	-11.1	-9.0	-7.8	-	-4.7
		Air flow (SCFM)	43.0	84.0	56.0	11.0	18.0	22.0	28.0	24.0	18.0	-	13.0
		Temperature (°F)	64.0	66.0	-	62.0	56.0	51.0	64.0	-	68.0	-	62.0
		PID (PPM)	6.5	1.8	1.1	5.0	1.6	6.1	-	3.2	8.8	-	15.1
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5	-11.4	-13.6	-8.7	-7.9	-7.1	-	-4.0
		Air flow (SCFM)	14.0	38.0	68.0	97.0	77.0	104.0	89.0	84.5	83.0	-	57.0
		Temperature (°F)	64.0	57.0	-	57.0	51.0	52.0	63.0	-	67.0	-	58.0
		PID (PPM)	2.3	*	0.0	5.2	1.6	1.4	-	2.9	11.1	-	36.0
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6	-11.7	-11.0	-10.5	-9.3	-8.1	-	-6.1
		Air flow (SCFM)	64.0	81.0	*	24.0	28.0	29.0	33.0	49.3	28.0	-	24.0
		Temperature (°F)	65.0	61.0	-	56.0	50.0	51.0	64.0	-	68.0	-	60.0
		PID (PPM)	3.7	0.7	*	4.7	1.5	4.2	-	2.7	52.4	-	75.0
		Valve (% open)	50%	50%	50%	100%	100%	100%	100%	100%	100%	-	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7	25.8	-25.4	-29.6	-29.2	-26.9	-	-13.8
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1	26.5	-26.0	-54.4	-53.8	-49.8	-	-29.8
Discharge													
SVE EFFLUENT		Air flow (SCFM)	115.0	225.0	225.0	220.0	225.0	220.0	205.0	220.0	210.0	-	243.0
		Temperature (°F)	126.0	122.0	116.0	115.0	106.0	104.0	132.0	121.0	130.0	-	82.0
		PID (PPM)	5.9	21.9	12.6	128.0	13.4	11.2	24.7	21.9	21.0	-	39.6
Vapor Monitoring Points (VMPs)													
VMP-1		Vacuum ("WC)	-	0.0	0.0	-	-0.09	-0.01	0.0	-	0.0	-	-0.04
		PID (PPM)	-	4.6	0.0	-	1.3	0.0	0.0	-	0.0	-	0.0
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
		PID (PPM)	0.9	1.2	0.0	0.8	0.9	0.0	0.0	7.1	0.0	-	0.0
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
		PID (PPM)	1.7	0.8	0.3	0.4	0.3	0.1	0.0	4.3	0.0	-	0.0
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0
		PID (PPM)	0.2	1.8	0.0	0.4	0.0	0.0	0.0	3.1	0.0	-	0.0
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7	-	-0.55	-1.20	-1.25	0.0	-	-0.8
		PID (PPM)	0.0	0.7	0.4	1.4	-	0.1	0.0	9.7	0.0	-	0.0
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0	0.0	-0.02	-0.93	0.0	0.0	-	-0.04
		PID (PPM)	-	1.1	0.2	0.2	1.6	1.1	0.0	1.1	0.0	-	0.0
VMP-7**		Vacuum ("WC)	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	-	Blocked
		PID (PPM)											

Notes:
- Reading not collected
*Water detected in lines
**VMP-7 is inaccessible
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

Table 2

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
02/04/21	M	X	X	X		X	X	X	X	3-4	Ambient PID in building basement was 0.7-0.8 ppm.
03/03/21	M	X	X	X		X		X	X	10	Filter was clean upon inspection.
04/06/21	M	X	X	X		X		X		0	Met TRC for site inspection for potential well abandonment. Determined VMP-7 location is blocked.
05/11/21	M	X	X	X		X		X		0	Cleaned filter and replacement ordered. Repainted bollards.
06/11/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
08/05/21	M	X									O&M event not conducted due to power issues. System shut down at 7:20 AM, pending assessment.
08/06/21	R										Assessed system, suspected electrical phase loss. Unable to repair system & restart.
08/31/21	R										Con Ed repaired phase loss issue. Unable to restart system due to further disconnect switch repair.
09/07/21	R		X								Replaced disconnect switch. Restarted system.
09/08/21	M		X	X		X		X		0	System off upon arrival & was restarted at 9:35 AM. Filter was clean upon inspection.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

Table 3

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethane	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	Total BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**595**	<0.32	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	<0.39	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	<640	**320**	<860	<780	<950	<780	<1,800	<500	<400	<770	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**92,900**	<230	**190**	**350**	<280	<340	<280	<660	<180	<140	<280	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<450	<220	<610	<550	<670	<550	<1,300	<360	<280	<550	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630
SVE_EFFLUENT	2/4/2021	**85,000**	**86,250**	<810	<400	<1,100	<980	<1,200	<980	<2,300	<640	<500	<980	<1,000	**440**	<1,700	<990	<9,400	<870	<870	<2,400	<870	<850	<1,100	<4,350	**810**	<1,100
SVE-7D	2/4/2021	**41,000**	**41,000**	<280	<140	<380	<340	<420	<340	<810	<220	<170	<340	<360	<140	<600	<340	<3,300	<300	<300	<820	<300	<300	<390	<1,510	<170	<390
SVE-8D	2/4/2021	**17,000**	**23,800**	**230**	**860**	**1,500**	<150	<180	<150	<360	<97	**220**	**160**	<160	**960**	<260	<150	<1,400	<130	<130	<360	<130	<130	<170	<657	**2,700**	**170**
SVE-8S	2/4/2021	**5,000**	**5,458**	<48	<23	<64	<58	<71	<58	<140	<38	<30	<58	<61	**370**	<100	<58	<560	<51	<51	<140	<51	<50	<67	<258	**88**	**<66**
SVE-9S	2/4/2021	**9,500**	**10,000**	<110	<52	<140	<130	<160	<130	<310	<84	<66	<130	<130	**320**	<220	<130	<1,200	<110	<110	<310	<110	<110	<150	<564	**180**	<150
SVE-10S	2/4/2021	**1,600**	**2,025**	<16	<7.90	<22	<20	<24	<20	<47	<13	<10	<20	<21	**46**	<34	<20	320	<17	<17	<47	<17	<17	<23	<87	**59**	<22
URS_SVE-1	2/4/2021	**17,000**	**17,000**	<170	<85	<230	<210	<260	<210	<500	<140	<110	<210	<220	<85	<370	<210	<2,000	<190	<190	<510	<190	<180	<240	<950	<100	<240
URS_SVE-6D	2/4/2021	**63,000**	**63,000**	<500	<240	<670	<610	<740	<610	<1,400	<390	<310	<600	<640	<240	<1,100	<610	<5,800	<540	<540	<1,500	<540	<530	<700	<2,710	<300	<690
URS_SVE-6S	2/4/2021	**97,000**	**97,000**	<640	<320	<870	<780	<960	<780	<1,900	<510	<400	<780	<820	<320	<1,400	<790	<7,500	<690	<690	<1,900	<690	<680	<900	<3,480	<380	<890
SVE_EFFLUENT	3/3/2021	**45,000**	**45,520**	<650	<320	<880	<790	<970	<790	<1,900	<520	<410	<790	<830	<320	<1,400	<800	<7,600	<700	<700	<1,900	<700	<690	<910	<3,530	**520**	<910
SVE_EFFLUENT	4/6/2021	**72,000**	**73,370**	<530	**280**	<710	<640	<780	<640	<1,500	<410	<330	<630	<670	**340**	<1,100	<640	<6,100	<560	<560	<1,500	<560	<550	<730	<2,820	**750**	<730
SVE_EFFLUENT	5/11/2021	**86,000**	**86,790**	<670	<330	<910	<820	<1,000	<820	<1,900	<530	<420	<810	<860	<330	<1,400	<820	<7,800	<720	<720	<2,000	<720	<710	<940	<3,630	**790**	<930
SVE_EFFLUENT	6/11/2021	**89,000**	**91,505**	**70**	**280**	**520**	<56	<69	<56	<130	<36	**68**	**77**	<59	**390**	<98	<56	<540	<50	<50	<130	<50	<49	<64	<250	**1,100**	<64
SVE_EFFLUENT	9/8/2021	**130,000**	**131,450**	<540	<260	<730	<650	<800	<650	<1,600	<420	<330	<650	<690	**1,000**	<1,100	<660	<6,300	<580	<580	<1,600	<580	<570	<750	<2,910	**450**	<750

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

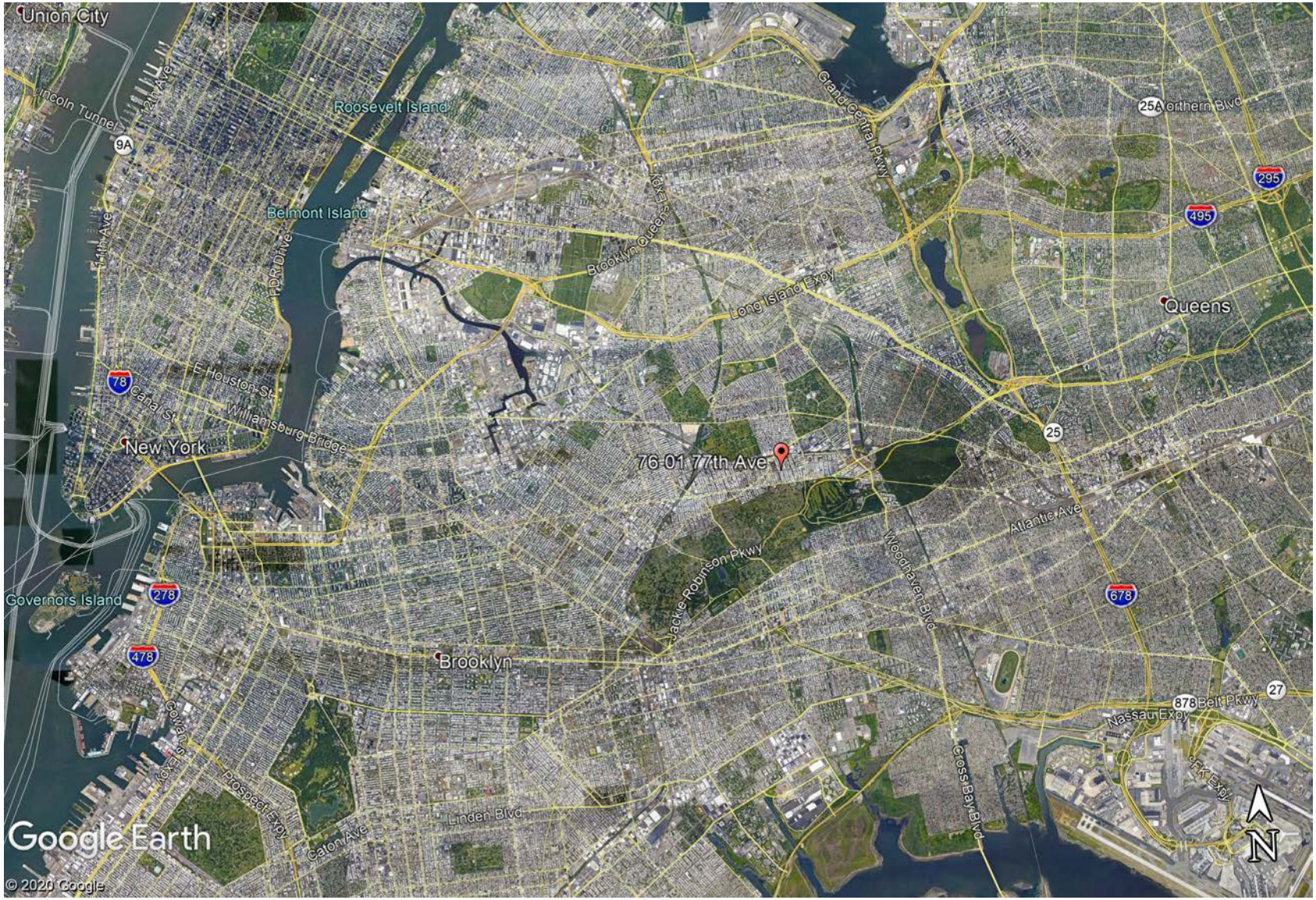
ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	595	2.56E-04	6.15E-03	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.009	142,320	0.120	2.9	0.172
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	92,900	0.078	1.9	54.9
1/14/21 9:50 AM	220.0	12.6	69,000	0.057	1.4	110.9	69,990	0.058	1.4	113.2
2/4/21 12:15 PM	225.0	13.4	85,000	0.072	1.7	139.7	86,250	0.073	1.7	142.4
3/3/21 9:30 AM	220.0	11.2	45,000	0.037	0.9	186.0	45,520	0.038	0.9	189.3
4/6/21 11:50 AM	205.0	24.7	72,000	0.055	1.3	216.3	73,370	0.056	1.4	220.0
5/11/21 9:30 AM	220.0	21.9	86,000	0.071	1.7	262.6	86,790	0.072	1.7	267.2
6/11/21 8:10 AM	210.0	21.0	89,000	0.070	1.7	315.3	91,505	0.072	1.7	320.3
9/8/21 12:40 PM	243.0	39.6	130,000	0.118	2.8	407.7	131,450	0.120	2.9	415.3
AVERAGE:	**211**							**AVERAGE:**	**1.6**	

Notes:
System downtime occurred from 8/5/21 to 9/8/21 for system repairs. 9/8/21 cumulative lbs estimate accounts for this system downtime period.

FIGURES



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

Figure 2

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

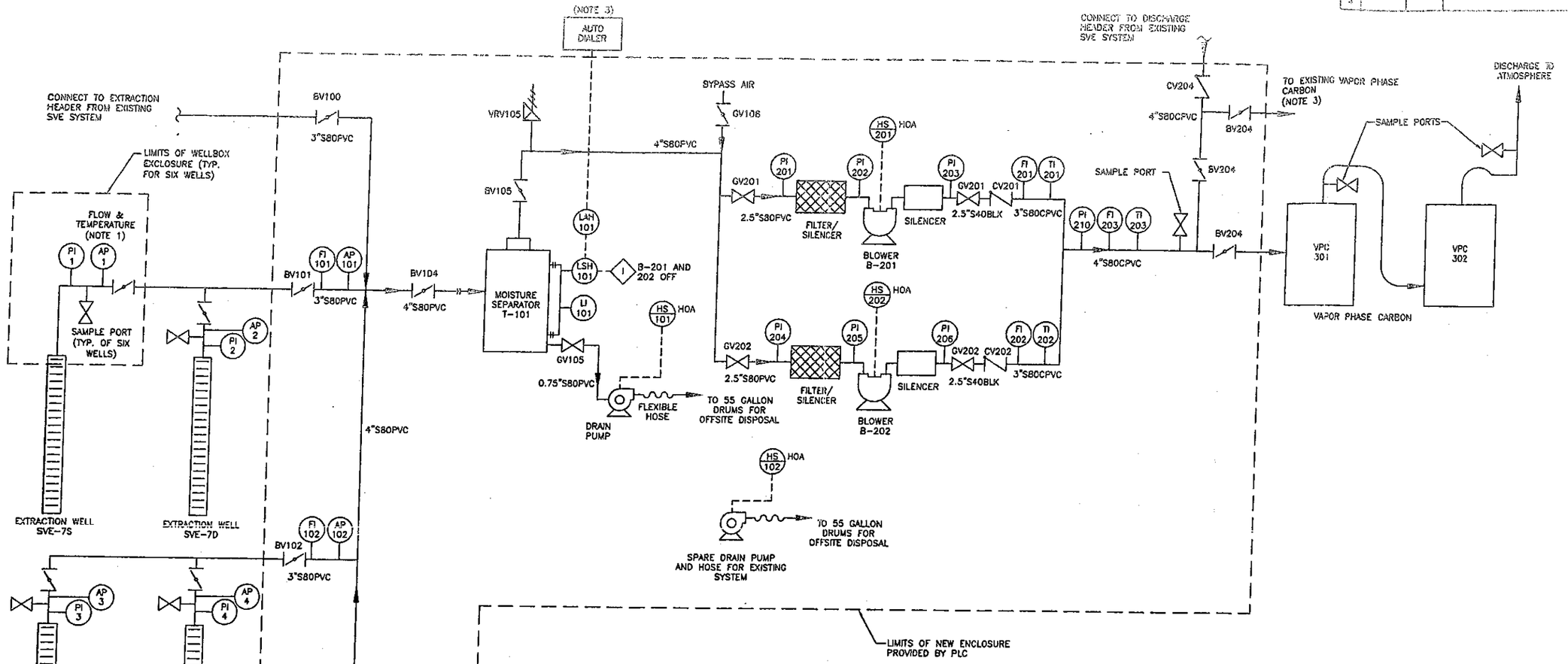
Site Map

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031

APPENDIX A

REVISIONS			
NO.	DATE	BY	COMMENTS
0			
1			
2			
3			
4			

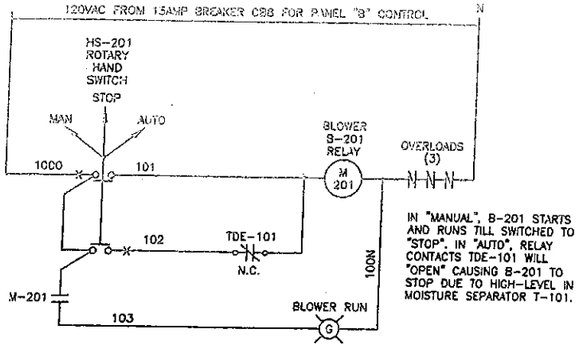


SOIL VAPOR EXTRACTION (SVE) SYSTEM

DESIGNED BY: DMc	URS Corporation	NYSDEC SITE 2-41-031 GLENDALE, QUEENS	CONTRACT D006547 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 625 BROADWAY, ALBANY, NEW YORK
DRAWN BY: RAL	Group Consultants	KLIEGMAN BROTHERS SITE OPERABLE UNIT NO. 1	
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax	GLENDALE, QUEENS NEW YORK	
PROJ. ENGR. DMc	JOB No. 11171964.00000		

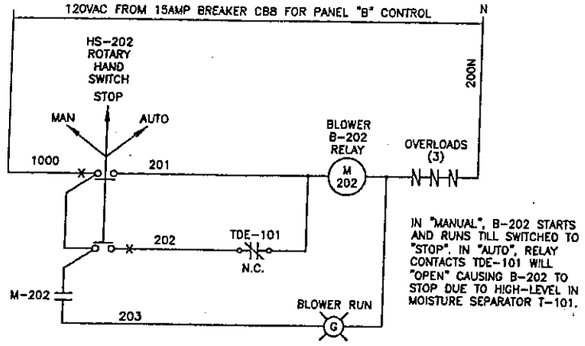
PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	PID
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



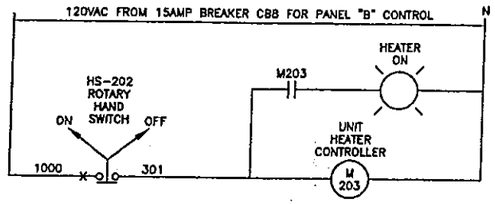
BLOWER B-201 CONTROL CIRCUITS

NOT TO SCALE



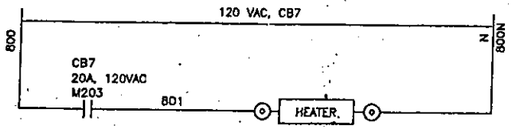
BLOWER B-202 CONTROL CIRCUITS

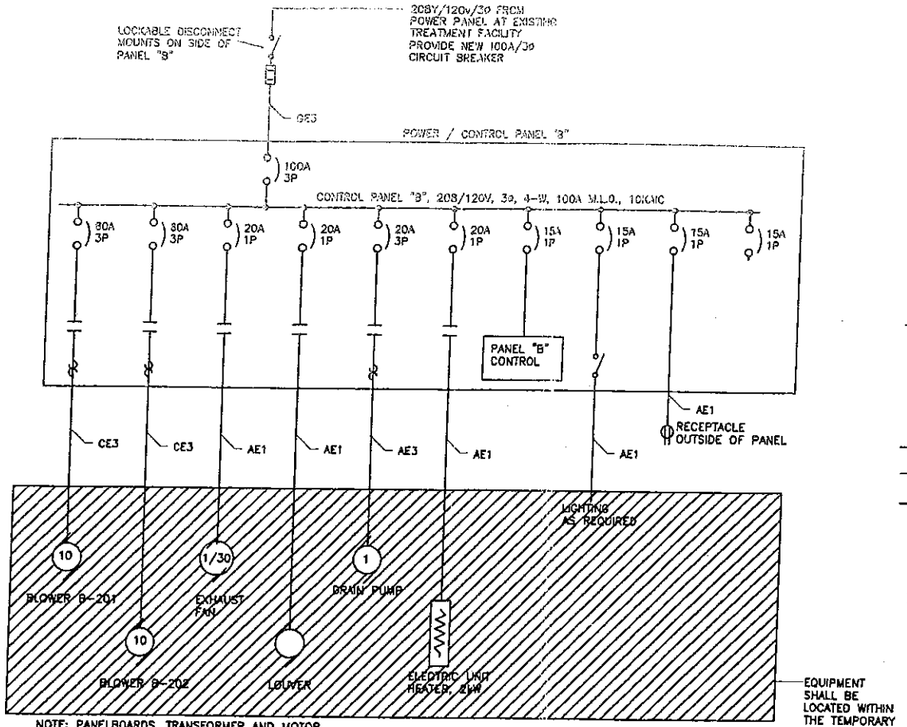
NOT TO SCALE



ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

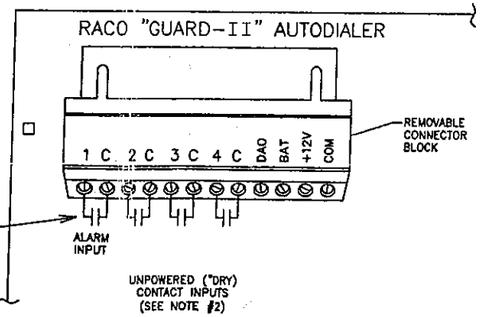
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

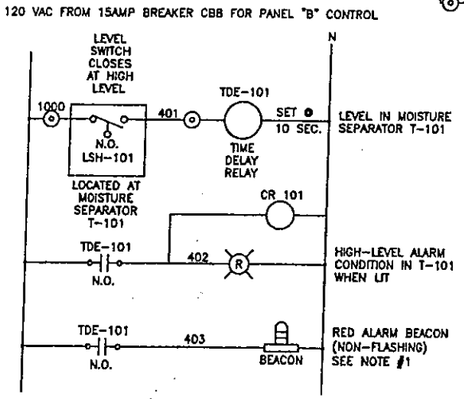
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



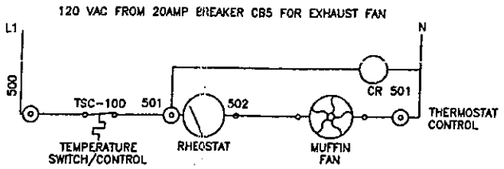
AUTODIALER DETAIL (EXISTING)

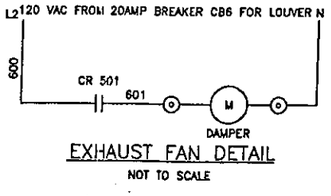
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

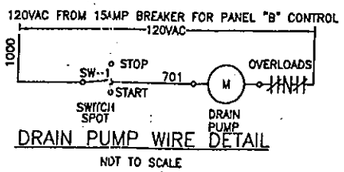
NOT TO SCALE





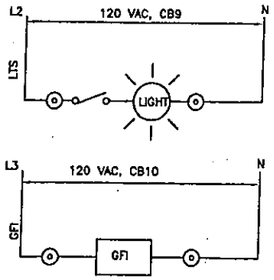
EXHAUST FAN DETAIL

NOT TO SCALE



DRAIN PUMP WIRE DETAIL

NOT TO SCALE



REVISIONS			
Rev	Date	By	Description
0			
1			
2			
3			
4			

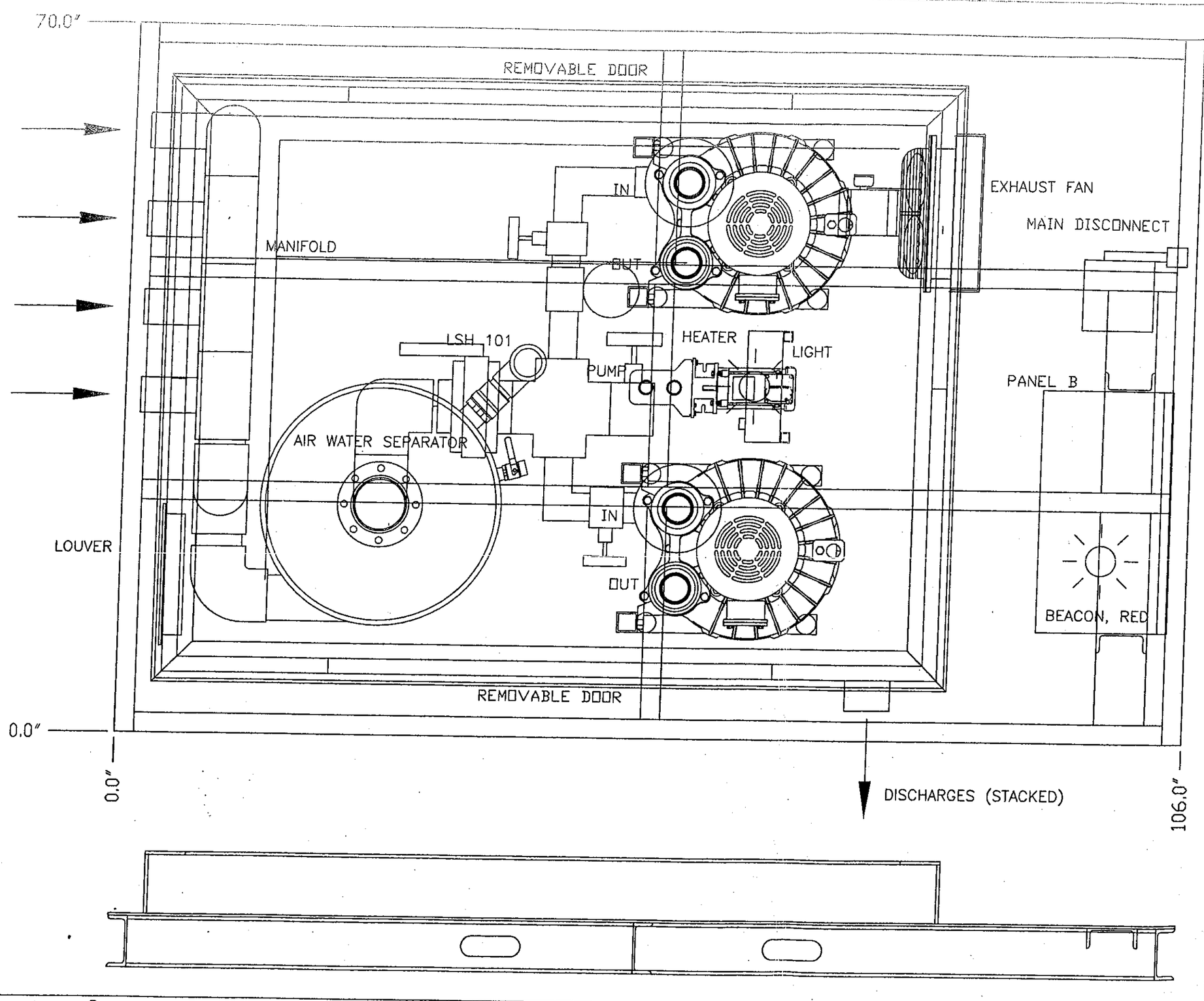
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

PRODUCT LEVEL CONTROL, INC.
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11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

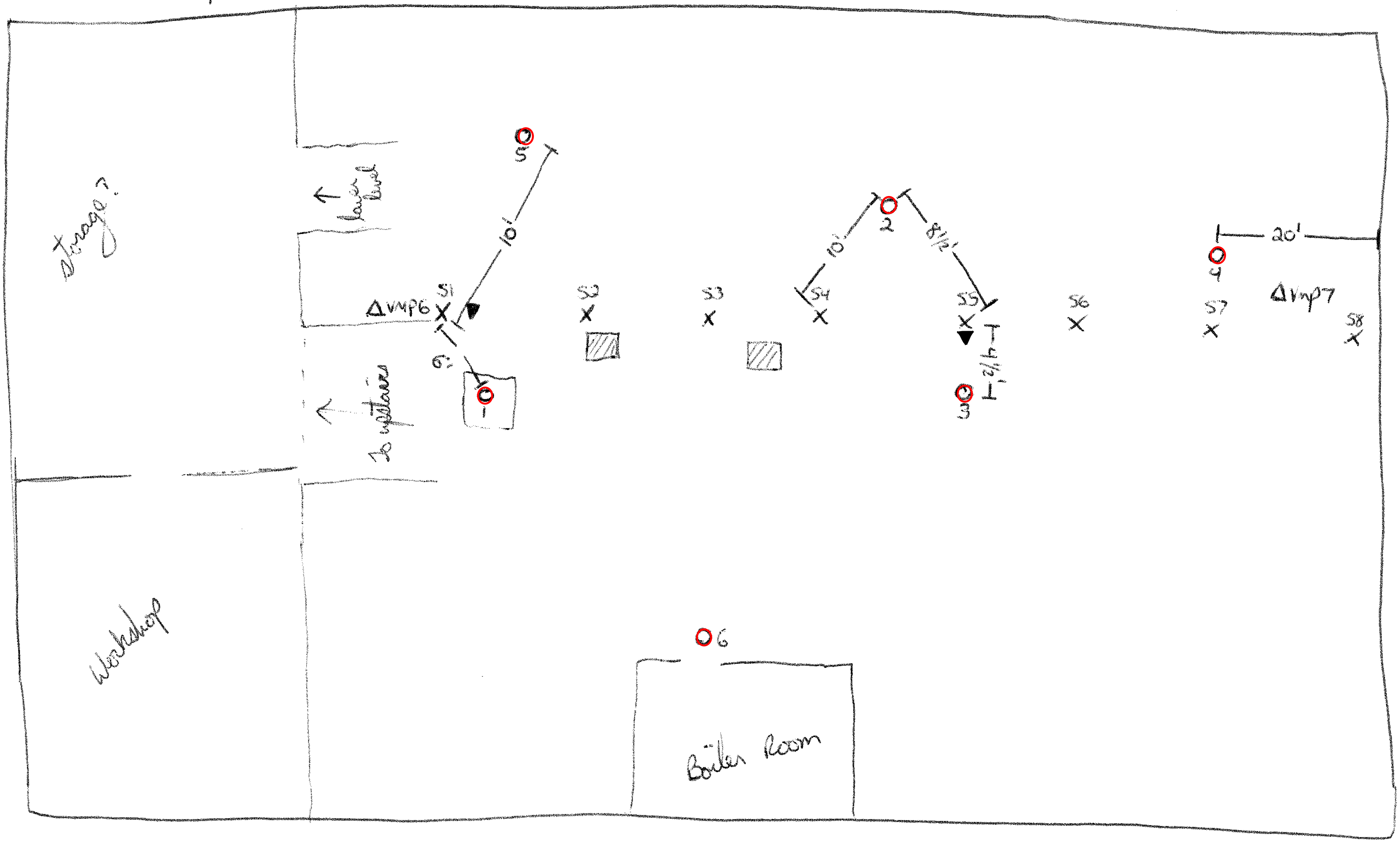
APPENDIX B

system — W E S

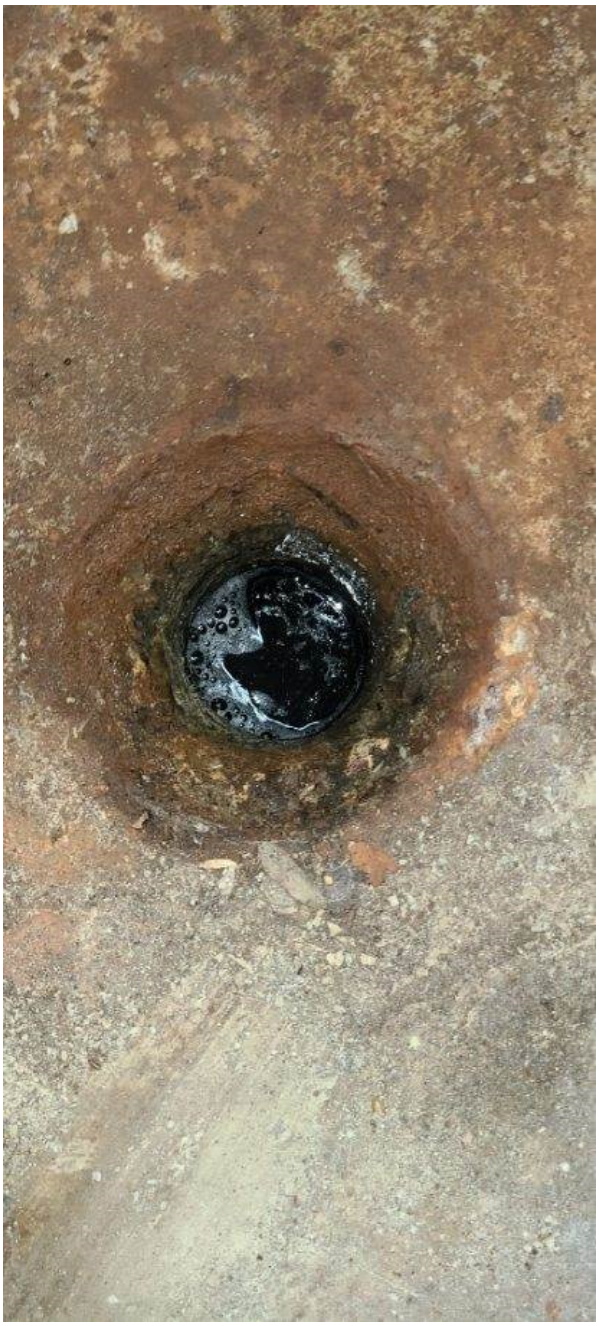
Δ VMP point
O drain/hole
▼ sewer line
X posts
▨ vault/cleanout

- O6 - extra drain, By Boiler Room entrance
- cleanouts in vaults w/yellow covers go to sewer
- Each drain ~6" deep, except one By Boiler Room entrace

- sewer line? goes into floor By post S1, goes East under floor

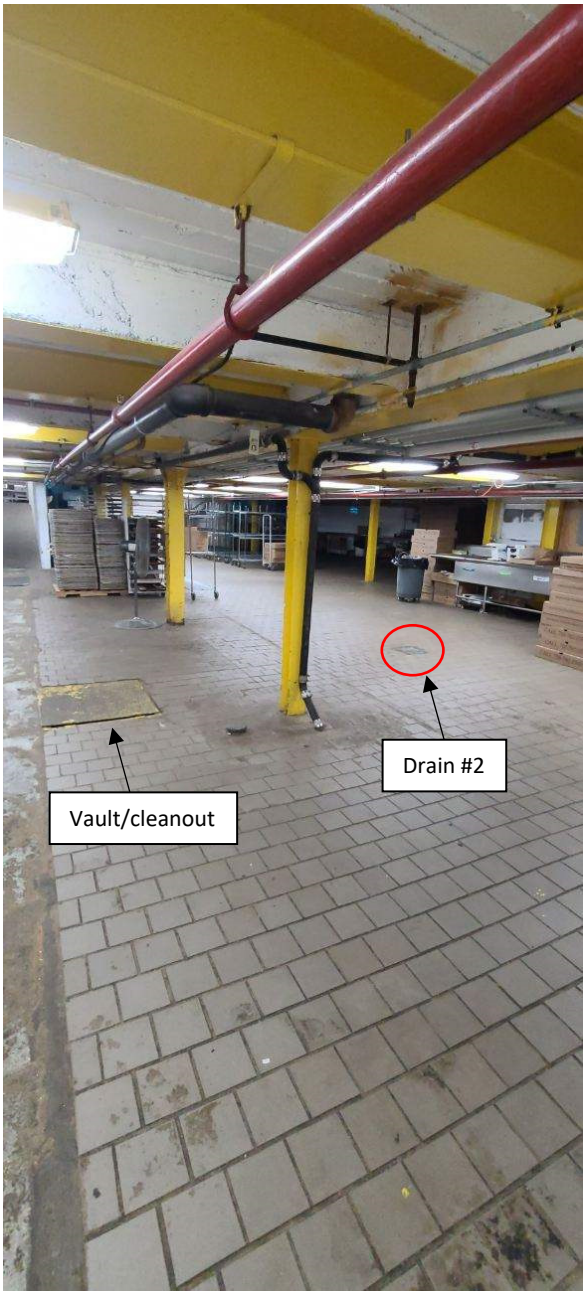


Photos of the various drain locations in the basement. All of the drains appeared to be around 6” deep with a solid bottom. Each had trace amounts of water at the bottom and no connected piping.



Drain #1, located as soon as you come down the ramp into the basement, located under a large steel cover.

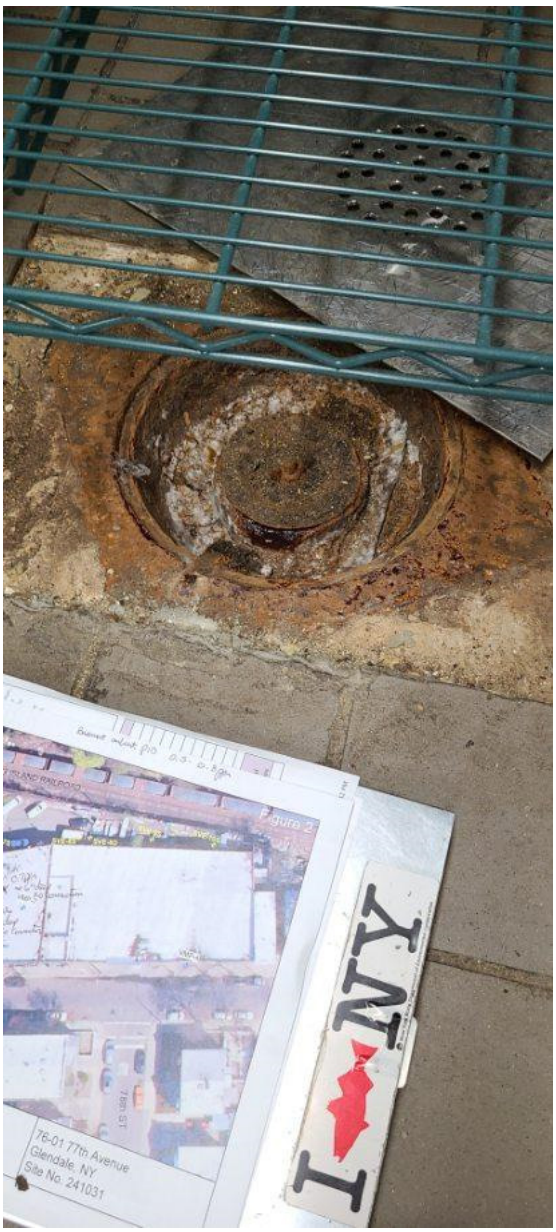
Drain #2 between support post S4 and S5

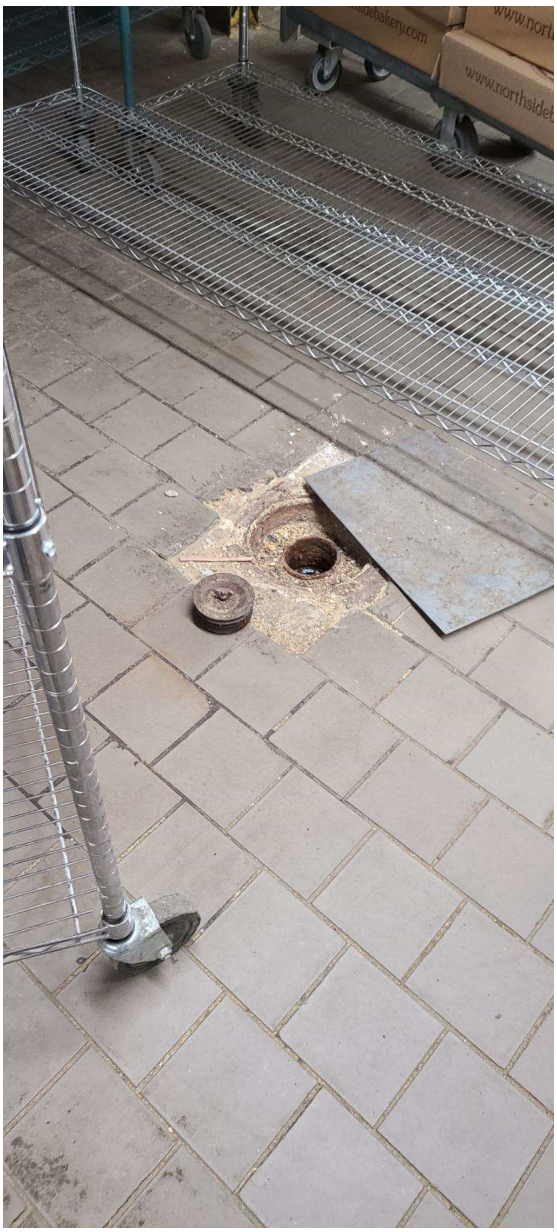


Drain #3, located near column S5

Drain #4, located in the rear/east side of basement, near VMP 7.

Drain #5, usually has a cap on it.





Additional drain #6 located in front of the boiler/equipment room.

Two vaults containing cleanouts for the sewer line are located between support posts S2- S4. The sewer line is in the first picture, adjacent to support post, S1.

Inside one of the vaults/cleanout.

NOVEMBER 2021 PROGRESS REPORT
SITE OPERATION & MAINTENANCE

76-01 77TH AVENUE

GLENDALE, NEW YORK

SITE#: 241031

Prepared For:

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

New York State - Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Prepared By:

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Environmental Assessment & Remediations
225 Atlantic Avenue
Patchogue, NY 11772

TABLE OF CONTENTS

1.0 INTRODUCTION

This document represents the bi-monthly progress report for the operation and maintenance (O&M) activities at Kliegman Brothers, New York State Department of Environmental Conservation (NYSDEC) Site No. 241031. The site is located at 76-01 77th Avenue in the Town of Glendale, Queens County, New York. The project site is located at the intersection of 77th Avenue and 76th Street and was a former dry-cleaner/laundry warehouse supplier. The site property is currently still operating a commercial facility as a Bakery on the western portion of the building and a Brewery to the east. The surrounding area is primarily residential, mixed with commercial. A site location map is provided as Figure 1.

This report summarizes the November 2021 operation and maintenance (O&M) activities conducted at this site to summarize the current Soil Vapor Extraction (SVE) System. A site map including the equipment compound and system well locations is provided as Figure 2.

1.1 SYSTEM DESCRIPTION: SVE

The SVE system compound is located within the parking lot in the northwest corner of the site property. The current SVE system in operation is comprised of extraction wells from two former SVE Systems: Ground/Water Treatment & Technology (GWTT) and URS Corporation (URS). The SVE system is currently operating four header lines which are connected to the following well pairs Trunk Line 1 (A-103): SVE-7S/SVE-7D, Trunk Line 2 (A-102): SVE-8S/SVE-8D, and Trunk Line 3 (A-101): SVE-9S/SVE-10S. The fourth header line was previously reconfigured and is connected to the former URS system wells: Trunk Line 4: 3 SVE wells (SVE-1, SVE-6S and SVE-6D).

All extraction wells are located in the parking area north of the building (well locations are shown in Figure 2). The treatment system is housed in a hot box which contains the blowers, moisture separator drum, and four main trunk lines. The wells connected to Trunk Line 4 are piped to an outside manifold which allows for independent well readings and controls. The treatment system consists of two 10.0 horsepower regenerative blower that are connected to the piping manifold. Blower B-201 is currently operational and conveys soil vapor from the nine extraction wells, blower B-202 is functional and on standby as a spare. Currently, after passing through the manifold, moisture separator and blower, the SVE effluent airstream is discharged to the atmosphere. An as-built system diagram previously made available to EAR has been marked up with current notes/configuration and is provided as Appendix A.

For monitoring of system performance, vapor monitoring (VMP) wells are located surrounding and within the property building. VMP well locations are presented on Figure 2.

2.0 O&M ACTIVITIES

2.1 SVE

EAR began O&M activities at this site starting in October 2020 with the first monthly system check conducted on October 28, 2020. Bi-monthly O&M activities include, but are not limited to:

- General inspection and observations of all system components.
- Recording of hour meter readings on blowers.
- Draining the moisture separator tank, as necessary.
- Recordings air flow, vacuum, and temperature readings from 3 trunk lines, 3 independent well lines on outside manifold (4th trunk line), and SVE effluent line.
- Screening of all trunk lines/wells, and effluent for VOCs using a photo-ionization detector (PID).
- Recording vacuum/influence from VMP locations.
- Collection of SVE effluent air sample and individual SVE points, per schedule.
- Routine maintenance of blowers and filters, as needed.

Based on review of prior reporting, the system is operating normally. System uptime for September 8, 2021 through November 10, 2021 is estimated at 100%.

2.1.1 O&M ACTIVITIES

- October 4, 2021: Drive-by system check to confirm system operation. The system was operating upon arrival and departure from the site.
- October 8, 2021: Post-storm debris cleanup event. The system was operating upon arrival and departure from the site.
- November 10, 2021:
  - The system was operating upon arrival to and departure from the site.
  - System operating parameters were monitored, recorded, and tabulated in a system data log. Monitoring data collected during the site visit detailed in this report is provided as Table 1 and submitted separately in spreadsheet format. Maintenance information is provided as Table 2.
  - The vacuum blower was inspected for proper operation and any potential maintenance issues.
  - The moisture separator tank was inspected, and any collected condensation water discharged to the pavement adjacent to the system enclosure.
  - The control panel and electrical distribution panel were found to be working as specified.
  - General site conditions were inspected and found to be in working condition. General housekeeping tasks were completed.
  - Vacuum/influence monitoring at VMP wells were conducted at VMP-1 through VMP-6.

3.0 SYSTEM AIR SAMPLING

During the bi-monthly site visit, SVE trunk lines/manifolds and effluent air stream were screened in the field for Total VOCs using a PID. Prior to use, the PID was calibrated using a 100 ppm isobutylene standard and ambient air. PID utilized during the system evaluation is equipped with a sensor with standard 10.6 eV UV lamp.

On November 10, 2021, an air sample for laboratory analysis was collected from the SVE effluent air stream. The sample was submitted to Eurofins TestAmerica Laboratories, Inc. of Knoxville, Tennessee (TAL – Knoxville) for analysis of VOCs via EPA method TO-15 with 10-day turnaround time and Category A deliverables requested. Field screening results for Total VOCs are summarized in Tables 1, air analytical results are summarized in Table 3, and SVE effluent recovery data are summarized in Table 4.

TABLES

Table 1

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Data Log

System Evaluation Date			10/28/2020	11/25/2020	12/14/2020	1/14/2021	2/4/2021	3/3/2021	4/6/2021	5/11/2021	6/11/2021	8/5/2021	9/8/2021	11/10/2021
SVE System Status on Arrival			on	on	on	on	on	on	on	on	on	on	off	on
SVE System Status on Departure			on	on	on	on	on	on	on	on	on	off	on	on
SVE Blower B-201 Status			on	on	on	on	on	on	on	on	on	on	on	on
SVE Blower B-201 Hour Meter Readings			130671.00	13738.40	14194.50	14937.50	15444.40	16086.70	16905.20	17745.10	18485.80	19806.30	19832.60	21346.70
Hour Readings - Time Recorded			10/28/2020 9:00	11/25/2020 9:00	12/14/2020 9:00	1/14/2021 9:00	2/4/2021 9:00	3/3/2021 6:52	4/6/2021 10:23	5/11/2021 9:00	6/11/2021 6:56	8/5/2021 7:20	9/8/2021 9:35	11/10/2021 11:00
Hours Since Last Site Visit			-	672.00	456.00	744.00	504.00	645.87	819.52	838.62	741.93	1320.40	818.25	1513.42
SVE Blower B-202 Status			off	off	off	off	off	off	off	off	off	off	off	off
SVE Blower B-202 Hour Meter Readings			1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50	1439.50
Technician(s)			MF	MF	MF	MF	MF	JB	JB	MF	JB	JB	JB	JB
In-Line Filter Status			ok	ok	ok	ok	ok	ok	ok	ok	ok	replaced	ok	ok
Moisture Separator Water Level			empty	empty	15-20 gal	empty	3-4 gal	10 gal	empty	empty	empty	empty	empty	empty
Manifold Legs / Wells														
Trunk Line 1 (SVE-7S/7D)	A-103	Vacuum ("WC)	-12.5	-16.8	-17.4	-17.4	-17.1	-17.5	-13.8	-13.5	-11.7	-	-7.2	-13.5
		Air flow (SCFM)	140.0	145.0	85.0	80.0	55.0	100.0	50.0	90.0	110.0	-	110.0	130.0
		PID (PPM)	28.3	38.3	8.2	21.1	2.8	2.8	-	24.8	0.0	-	0.0	18.1
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%	30%	-	30%	30%
Trunk Line 2 (SVE-8S/8D)	A-102	Vacuum ("WC)	-13.0	-17.8	-17.9	-15.6	-16.6	-16.1	-13.9	-12.7	-11.3	-	-6.5	-13.6
		Air flow (SCFM)	100.0	152.0	140.0	140.0	120.0	115.0	110.0	100.0	120.0	-	130.0	150.0
		PID (PPM)	6.2	6.2	3.3	5.9	1.7	4.4	-	4.9	0.0	-	0.0	5.6
		Valve (% open)	50%	50%	50%	50%	50%	50%	50%	50%	30%	-	30%	30%
Trunk Line 3 (SVE-9S/10S)	A-101	Vacuum ("WC)	-11.7	-16.4	-16.8	-16.7	-16.4	-15.8	-13.8	-12.6	-11.1	-	-6.5	-14.0
		Air flow (SCFM)	90.0	100.0	105.0	95.0	58.0	60.0	60.0	55.0	75.0	-	80.0	30.0
		PID (PPM)	3.3	4.1	1.4	4.1	0.9	3.1	-	2.6	0.0	-	0.0	10.2
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%
Trunk 4	URS SVE-1	Vacuum ("WC)	-7.5	-12.9	-13.6	-12.1	-13.6	-11.8	-11.1	-9.0	-7.8	-	-4.7	-11.4
		Air flow (SCFM)	43.0	84.0	56.0	11.0	18.0	22.0	28.0	24.0	18.0	-	13.0	15.0
		Temperature (°F)	64.0	66.0	-	62.0	56.0	51.0	64.0	-	68.0	-	62.0	67.0
		PID (PPM)	6.5	1.8	1.1	5.0	1.6	6.1	-	3.2	8.8	-	15.1	3.8
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%
	URS SVE-6D	Vacuum ("WC)	-7.0	-13.4	-15.8	-9.5	-11.4	-13.6	-8.7	-7.9	-7.1	-	-4.0	-10.3
		Air flow (SCFM)	14.0	38.0	68.0	97.0	77.0	104.0	89.0	84.5	83.0	-	57.0	100.0
		Temperature (°F)	64.0	57.0	-	57.0	51.0	52.0	63.0	-	67.0	-	58.0	68.0
		PID (PPM)	2.3	*	0.0	5.2	1.6	1.4	-	2.9	11.1	-	36.0	10.1
		Valve (% open)	100%	100%	100%	100%	100%	100%	100%	100%	100%	-	100%	100%
	URS SVE-6S	Vacuum ("WC)	-4.2	-8.8	-8.1[1]	-11.6	-11.7	-11.0	-10.5	-9.3	-8.1	-	-6.1	-11.7
		Air flow (SCFM)	64.0	81.0	*	24.0	28.0	29.0	33.0	49.3	28.0	-	24.0	32.0
		Temperature (°F)	65.0	61.0	-	56.0	50.0	51.0	64.0	-	68.0	-	60.0	67.0
		PID (PPM)	3.7	0.7	*	4.7	1.5	4.2	-	2.7	52.4	-	75.0	12.2
		Valve (% open)	50%	50%	50%	100%	100%	100%	100%	100%	100%	-	100%	100%
Air Filter	Pre Filter	Vacuum ("WC)	-26.1	-29.5	-30.4	-29.7	25.8	-25.4	-29.6	-29.2	-26.9	-	-13.8	-28.7
	Post Filter	Vacuum ("WC)	-52.7	-55.6	-55.5	-56.1	26.5	-26.0	-54.4	-53.8	-49.8	-	-29.8	-50.1
Discharge														
SVE EFFLUENT		Air flow (SCFM)	115.0	225.0	225.0	220.0	225.0	220.0	205.0	220.0	210.0	-	243.0	228.0
		Temperature (°F)	126.0	122.0	116.0	115.0	106.0	104.0	132.0	121.0	130.0	-	82.0	120.0
		PID (PPM)	5.9	21.9	12.6	128.0	13.4	11.2	24.7	21.9	21.0	-	39.6	26.0
Vapor Monitoring Points (VMPs)														
VMP-1		Vacuum ("WC)	-	0.0	0.0	-	-0.09	-0.01	0.0	-	0.0	-	-0.04	-0.21
		PID (PPM)	-	4.6	0.0	-	1.3	0.0	0.0	-	0.0	-	0.0	0.0
VMP-2		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
		PID (PPM)	0.9	1.2	0.0	0.8	0.9	0.0	0.0	7.1	0.0	-	0.0	0.0
VMP-3		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
		PID (PPM)	1.7	0.8	0.3	0.4	0.3	0.1	0.0	4.3	0.0	-	0.0	0.0
VMP-4		Vacuum ("WC)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-	0.0	0.0
		PID (PPM)	0.2	1.8	0.0	0.4	0.0	0.0	0.0	3.1	0.0	-	0.0	0.0
VMP-5		Vacuum ("WC)	0.0	0.0	-0.6	-0.7	-	-0.55	-1.20	-1.25	0.0	-	-0.8	-0.4
		PID (PPM)	0.0	0.7	0.4	1.4	-	0.1	0.0	9.7	0.0	-	0.0	0.0
VMP-6		Vacuum ("WC)	-	0.0	0.0	0.0	0.0	-0.02	-0.93	0.0	0.0	-	-0.04	-0.08
		PID (PPM)	-	1.1	0.2	0.2	1.6	1.1	0.0	1.1	0.0	-	0.0	0.0
VMP-7**		Vacuum ("WC)	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	Blocked	-	Blocked	Blocked
		PID (PPM)												

Notes:
- Reading not collected
*Water detected in lines
**VMP-7 is inaccessible
[1]Opened valve from 50% to 100% prior to departure. Vac reading was >10"WC after opening.

Table 2

76-01 77th Avenue
Glendale, NY
Site No. 241031

Soil Vapor Extraction System Maintenance Log

Date	Purpose	SVE Operation upon arrival	SVE Operation upon departure	SVE Blower B-201 in operation	SVE Blower B-202 in operation	SVE-Effluent air sampling conducted	Individual SVE line air sampling conducted	Checked SVE Filter	Emptied Moisture Separator Tank	Approximate volume in knockout tank (gal)	Notes
10/28/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
11/08/19	M	X	X	X		X		X		0	Filter was clean upon inspection.
12/14/20	M	X	X	X		X		X	X	15-20	Filter was clean upon inspection. Additional readings collected to measure the system influence.
01/14/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
02/04/21	M	X	X	X		X	X	X	X	3-4	Ambient PID in building basement was 0.7-0.8 ppm.
03/03/21	M	X	X	X		X		X	X	10	Filter was clean upon inspection.
04/06/21	M	X	X	X		X		X		0	Met TRC for site inspection for potential well abandonment. Determined VMP-7 location is blocked.
05/11/21	M	X	X	X		X		X		0	Cleaned filter and replacement ordered. Repainted bollards.
06/11/21	M	X	X	X		X		X		0	Filter was clean upon inspection.
08/05/21	M	X									O&M event not conducted due to power issues. System shut down at 7:20 AM, pending assessment.
08/06/21	R										Assessed system, suspected electrical phase loss. Unable to repair system & restart.
08/31/21	R										Con Ed repaired phase loss issue. Unable to restart system due to further disconnect switch repair.
09/07/21	R		X								Replaced disconnect switch. Restarted system.
09/08/21	M		X	X		X		X		0	System off upon arrival & was restarted at 9:35 AM. Filter was clean upon inspection.
10/04/21	O	X	X	X							Drive-by system check. System operating well upon arrival & departure.
10/28/21	R	X	X	X							Post-storm debris cleanup & system check. System operating well upon arrival & departure.
11/10/21	M	X	X	X		X		X		0	Bi-monthly Sampling/O&M event.

M - Monthly O&M Visit
R - Modifications/Repair/Troubleshooting/Emergency Response
O - Other

Table 3

76-01 77th Avenue
Glendale, NY
Site No. 241031

Air Samples Analyzed by EPA Method TO-15 (µg/m^3)

Sample Location	Date Collected	Tetrachloroethene	Total VOCs	1,1 Dichloroethane	1,1 Dichloroethene	1,1,1 Trichloroethane	1,2,4 Trimethylbenzene	1,3 Dichlorobenzene	1,3,5 Trimethylbenzene	2,2,4-Trimethylpentane	Benzene	Carbon Tetrachloride	Chloroform	Chloromethane	cis-1,2-Dichloroethene	Cyclohexane	Dichlorodifluoromethane	Ethanol	Ethylbenzene	m + p Xylene	Methyl Ethyl Ketone	o-Xylene	Styrene	Toluene	Total BTEX	Trichloroethylene	Trichlorofluoromethane
SVE_EFFLUENT	10/28/2020	**30**	**595**	<0.32	<0.16	<0.44	**3.3**	**14**	**1**	**1.7**	**1.5**	**0.55**	<0.39	**0.97**	**0.18**	**0.76**	**2**	**56**	**1.9**	**6.9**	**460**	**2.5**	**0.66**	**8.6**	**21**	**0.65**	**1.4**
SVE_EFFLUENT	11/25/2020	**140,000**	**142,320**	<640	**320**	<860	<780	<950	<780	<1,800	<500	<400	<770	<810	**600**	<1,400	<780	<7,400	<690	<690	<1,900	<690	<670	<890	<3,460	**1,400**	<890
SVE_EFFLUENT	12/14/2020	**91,000**	**92,900**	<230	**190**	**350**	<280	<340	<280	<660	<180	<140	<280	<290	**360**	<490	<280	<2,700	<250	<250	<670	<250	<240	<320	<1,250	**1,000**	<320
SVE_EFFLUENT	1/14/2021	**69,000**	**69,990**	<450	<220	<610	<550	<670	<550	<1,300	<360	<280	<550	<580	**250**	<960	<550	<5,300	<490	<490	<1,300	<490	<480	<630	<2,460	**740**	<630
SVE_EFFLUENT	2/4/2021	**85,000**	**86,250**	<810	<400	<1,100	<980	<1,200	<980	<2,300	<640	<500	<980	<1,000	**440**	<1,700	<990	<9,400	<870	<870	<2,400	<870	<850	<1,100	<4,350	**810**	<1,100
SVE-7D	2/4/2021	**41,000**	**41,000**	<280	<140	<380	<340	<420	<340	<810	<220	<170	<340	<360	<140	<600	<340	<3,300	<300	<300	<820	<300	<300	<390	<1,510	<170	<390
SVE-8D	2/4/2021	**17,000**	**23,800**	**230**	**860**	**1,500**	<150	<180	<150	<360	<97	**220**	**160**	<160	**960**	<260	<150	<1,400	<130	<130	<360	<130	<130	<170	<657	**2,700**	**170**
SVE-8S	2/4/2021	**5,000**	**5,458**	<48	<23	<64	<58	<71	<58	<140	<38	<30	<58	<61	**370**	<100	<58	<560	<51	<51	<140	<51	<50	<67	<258	**88**	**<66**
SVE-9S	2/4/2021	**9,500**	**10,000**	<110	<52	<140	<130	<160	<130	<310	<84	<66	<130	<130	**320**	<220	<130	<1,200	<110	<110	<310	<110	<110	<150	<564	**180**	<150
SVE-10S	2/4/2021	**1,600**	**2,025**	<16	<7.90	<22	<20	<24	<20	<47	<13	<10	<20	<21	**46**	<34	<20	320	<17	<17	<47	<17	<17	<23	<87	**59**	<22
URS_SVE-1	2/4/2021	**17,000**	**17,000**	<170	<85	<230	<210	<260	<210	<500	<140	<110	<210	<220	<85	<370	<210	<2,000	<190	<190	<510	<190	<180	<240	<950	<100	<240
URS_SVE-6D	2/4/2021	**63,000**	**63,000**	<500	<240	<670	<610	<740	<610	<1,400	<390	<310	<600	<640	<240	<1,100	<610	<5,800	<540	<540	<1,500	<540	<530	<700	<2,710	<300	<690
URS_SVE-6S	2/4/2021	**97,000**	**97,000**	<640	<320	<870	<780	<960	<780	<1,900	<510	<400	<780	<820	<320	<1,400	<790	<7,500	<690	<690	<1,900	<690	<680	<900	<3,480	<380	<890
SVE_EFFLUENT	3/3/2021	**45,000**	**45,520**	<650	<320	<880	<790	<970	<790	<1,900	<520	<410	<790	<830	<320	<1,400	<800	<7,600	<700	<700	<1,900	<700	<690	<910	<3,530	**520**	<910
SVE_EFFLUENT	4/6/2021	**72,000**	**73,370**	<530	**280**	<710	<640	<780	<640	<1,500	<410	<330	<630	<670	**340**	<1,100	<640	<6,100	<560	<560	<1,500	<560	<550	<730	<2,820	**750**	<730
SVE_EFFLUENT	5/11/2021	**86,000**	**86,790**	<670	<330	<910	<820	<1,000	<820	<1,900	<530	<420	<810	<860	<330	<1,400	<820	<7,800	<720	<720	<2,000	<720	<710	<940	<3,630	**790**	<930
SVE_EFFLUENT	6/11/2021	**89,000**	**91,505**	**70**	**280**	**520**	<56	<69	<56	<130	<36	**68**	**77**	<59	**390**	<98	<56	<540	<50	<50	<130	<50	<49	<64	<250	**1,100**	<64
SVE_EFFLUENT	9/8/2021	**130,000**	**131,450**	<540	<260	<730	<650	<800	<650	<1,600	<420	<330	<650	<690	**1,000**	<1,100	<660	<6,300	<580	<580	<1,600	<580	<570	<750	<2,910	**450**	<750
SVE_EFFLUENT	11/10/2021	**83,000**	**85,090**	<200	**290**	**670**	<250	<300	<250	<590	<160	<130	<250	<260	**240**	<430	<250	<2,400	<220	<220	<590	<220	<210	<290	<1,110	**890**	<280

Laboratory Analysis by Eurofins TestAmerica
The chemicals listed below were reported below the LRL:

1,1,2 Trichloroethane
1,1,2,2 Tetrachloroethane
1,2 Dibromoethane
1,2 Dichlorobenzene
1,2 Dichloroethane
1,2 Dichloropropane
1,2,4 Trichlorobenzene
1,4 Dichlorobenzene
1,4-Dioxane
4-Methyl-2-Pentanone
Benzyl Chloride
Bromoform
Bromomethane
c 1,3 Dichloropropene
Chlorobenzene
Chloroethane
Dibromochloromethane
Freon 113
Freon 114
Hexachlorobutadiene
Hexane
Methylene Chloride
Naphthalene
t 1,3 Dichloropropene
Tert-Butyl Alcohol
trans-1,2-Dichloroethene
Vinyl Chloride

Table 4

Soil Vapor Extraction
76-01 77th Avenue
Glendale, NY
Site No. 241031

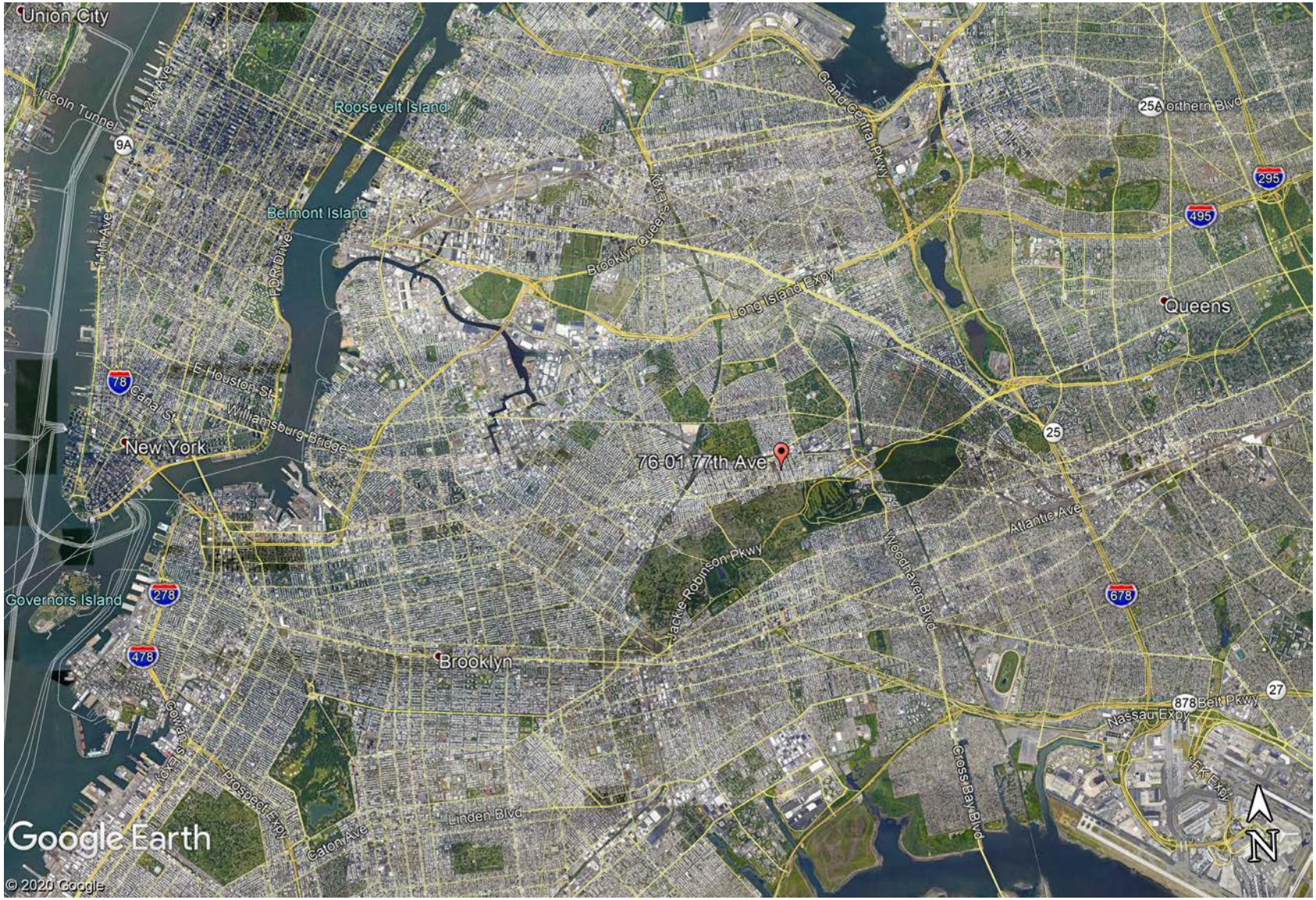
ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

SVE Effluent Recovery
Test America, Inc. (EPA Method TO-15)

Date/Time	Flow Rate (CFM)	PID (ppm)	Recovery Rates							
			Tetrachloroethene				Total VOCs			
			(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)	(µg/m3)	(lbs/hr)	(lbs/day)	Cumulative (lbs)
10/28/20 12:30 PM	115.0	5.9	30	1.29E-05	3.10E-04	0	595	2.56E-04	6.15E-03	0
11/25/20 9:40 AM	225.0	21.9	140,000	0.118	2.8	0.009	142,320	0.120	2.9	0.172
12/14/20 9:50 AM	225.0	12.6	91,000	0.077	1.8	53.8	92,900	0.078	1.9	54.9
1/14/21 9:50 AM	220.0	12.6	69,000	0.057	1.4	110.9	69,990	0.058	1.4	113.2
2/4/21 12:15 PM	225.0	13.4	85,000	0.072	1.7	139.7	86,250	0.073	1.7	142.4
3/3/21 9:30 AM	220.0	11.2	45,000	0.037	0.9	186.0	45,520	0.038	0.9	189.3
4/6/21 11:50 AM	205.0	24.7	72,000	0.055	1.3	216.3	73,370	0.056	1.4	220.0
5/11/21 9:30 AM	220.0	21.9	86,000	0.071	1.7	262.6	86,790	0.072	1.7	267.2
6/11/21 8:10 AM	210.0	21.0	89,000	0.070	1.7	315.3	91,505	0.072	1.7	320.3
9/8/21 12:40 PM	243.0	39.6	130,000	0.118	2.8	407.7	131,450	0.120	2.9	415.3
11/10/21 12:00 PM	228.0	26.0	83,000	0.071	1.7	586.5	85,090	0.073	1.7	596.2
AVERAGE:	**212**							**AVERAGE:**	**1.7**	

Notes:
System downtime occurred from 8/5/21 to 9/8/21 for system repairs. 9/8/21 cumulative lbs estimate accounts for this system downtime period.

FIGURES



ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Figure 1
Site Location Map

(Map not to scale)

Kliegman Brothers
76-01 77th Avenue
Glendale, NY
NYSDEC Site #241031

Figure 2

ENVIRONMENTAL ASSESSMENT & REMEDIATIONS

Site Map

0 40
SCALE IN FEET

76-01 77th Avenue
Glendale, NY
Site No. 241031

APPENDIX A

EAR Note: No autodialer was observed during November 2016 inspection.

(NOTE 4)
AUTO DIALER

CONNECT TO EXTRACTION HEADER FROM EXISTING SVE SYSTEM

BV100
3"S80PVC

LIMITS OF WELLBOX EXCLOSURE (TYP. FOR SIX WELLS)

FLOW & TEMPERATURE (NOTE 1)
PI 1
AP 1
FI 101
AP 101
BV101
3"S80PVC
BV104
4"S80PVC

SAMPLE PORT (TYP. OF SIX WELLS)
AP 2
PI 2

EXTRACTION WELL SVE-7S
EXTRACTION WELL SVE-7D

4"S80PVC

BV102
FI 102
AP 102
3"S80PVC

AP 3
PI 3
AP 4
PI 4

EXTRACTION WELL SVE-8S
EXTRACTION WELL SVE-8D

BV103
FI 103
AP 103
3"S80PVC

AP 5
PI 5
AP 6
PI 6

EXTRACTION WELL SVE-9S
EXTRACTION WELL SVE-10S

VRV105
BV105
4"S80PVC

MOISTURE SEPARATOR T-101
LAH 101
LSH 101
LI 101
B-201 AND 202 OFF
HS 101 HOA
GV105
0.75"S80PVC
DRAIN PUMP
FLEXIBLE HOSE
TO 55 GALLON DRUMS FOR OFFSITE DISPOSAL

HS 102 HOA

SPARE DRAIN PUMP AND HOSE FOR EXISTING SYSTEM

TO 55 GALLON DRUMS FOR OFFSITE DISPOSAL

SYPASS AIR
GV108

GV201
2.5"S80PVC
PI 201
PI 202
FILTER/ SILENCER
HS 201 HOA
BLOWER B-201
SILENCER
2.5"S40BLK
PI 203
GV201
CV201
3"S80CPVC
FI 201
TI 201

GV202
2.5"S80PVC
PI 204
PI 205
FILTER/ SILENCER
HS 202 HOA
BLOWER B-202
SILENCER
2.5"S40BLK
PI 206
GV202
CV202
3"S80CPVC
FI 202
TI 202

CONNECT TO DISCHARGE HEADER FROM EXISTING SVE SYSTEM

PI 210
FI 203
TI 203
4"S80CPVC

SAMPLE PORT

CV204
4"S80CPVC
BV204
BV204
BV204

TO EXISTING VAPOR PHASE CARBON (NOTE 3)

DISCHARGE TO ATMOSPHERE

SAMPLE PORTS

VPC 301
VPC 302
VAPOR PHASE CARBON

EAR Note: During November 2016 site inspection noted no carbon vessels on-site; direct discharge to atmosphere.

LIMITS OF NEW ENCLOSURE PROVIDED BY PLC

SOIL VAPOR EXTRACTION (SVE) SYSTEM

REVISIONS			
NO.	DATE	BY	COMMENTS
0			
1			
2			
3			
4			

DESIGNED BY:	DMc
DRAWN BY:	RAL
CHECKED BY:	CWP
PROJ. ENGR.	DMc

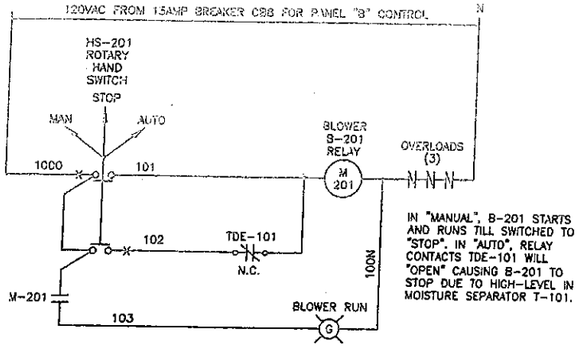
URS Corporation
Group Consultants
77 Goodell Street, Buffalo, New York 14203
(716)856-5636 - (716)856-2545 fax
JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

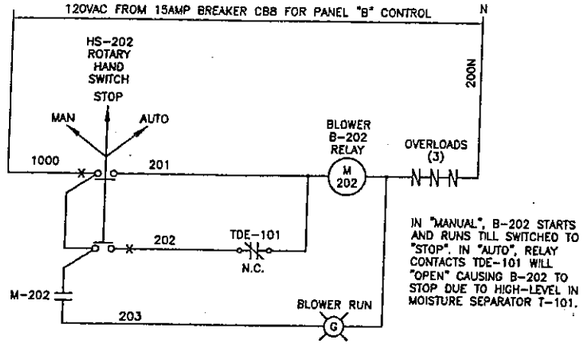
PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	PID
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-21-07
Title	PID



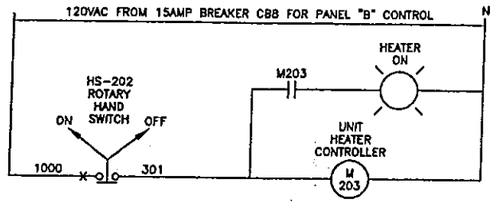
BLOWER B-201 CONTROL CIRCUITS

NOT TO SCALE



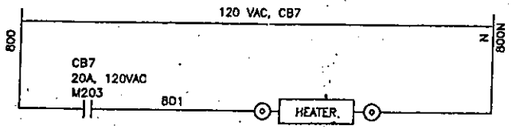
BLOWER B-202 CONTROL CIRCUITS

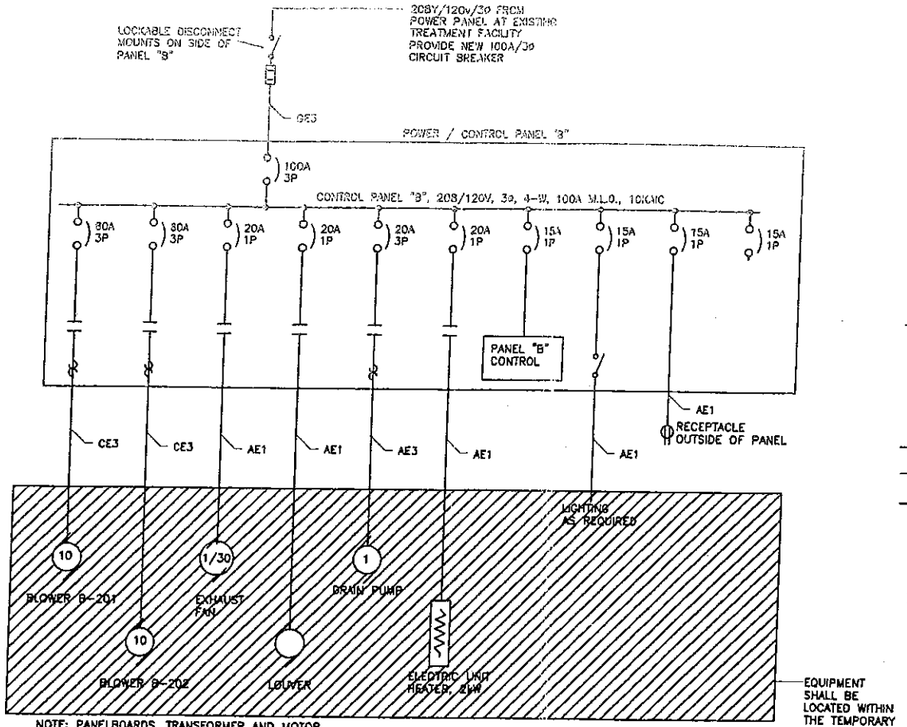
NOT TO SCALE



ELECTRIC UNIT HEATER

NOT TO SCALE





NOTE: PANELBOARDS, TRANSFORMER AND MOTOR STARTERS SHALL BE RATED NEMA 3R AND MOUNTED ON THE EXTERIOR OF THE TREATMENT BUILDING.

SINGLE LINE DIAGRAM

NO SCALE

LEGEND

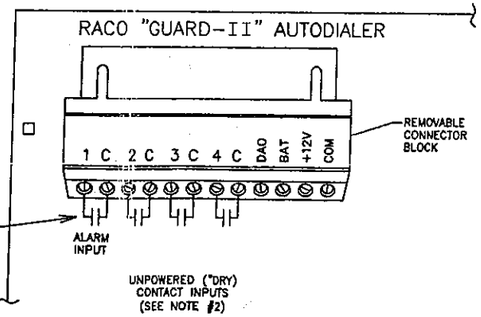
- ELECTRIC METER
- TRANSFORMER
- GROUND
- CIRCUIT BREAKER
- NODE
- PILOT LIGHT (R- RED)
- SWITCH/DISCONNECT
- FUSE
- CONTACT, N.O.
- CONTACT, N.C.
- COIL, MOTOR STARTER
- THERMAL MOTOR OVERLOAD
- MOTOR LOAD, # INDICATES H.P.
- FIELD TERMINAL BLOCKS

FEEDER SCHEDULE

	OVERCURRENT DEVICE RATING	CONDUCTORS +NEUTRAL **75°C	EGC (E)	EGC (THWN) (S)	CONDUIT 1 PHASE (1)	CONDUIT 1 PHASE (3)
A	20	#12	#12	-	1/2"	1/2"
B	30	#10	#10	-	1/2"	1/2"
C	50	#8	#10	-	3/4"	1"
D	70	#6	#8	-	1"	1"
E	80	#4	#8	-	1 1/2	1 1/2"
F	90	#4	#8	-	1 1/2"	1 1/2"
G	100	#2	#8	#8	1 1/2"	1 1/2
H	125	#2	#6	#8	1 1/2"	1 1/2
I	150	#1/0	#6	#6	1 1/2"	2"
J	175	#2/0	#6	#4	2"	2"
K	200	#3/0	#6	#4	2"	2 1/2"
L	225	#3/0	#4	#4	2"	2 1/2"

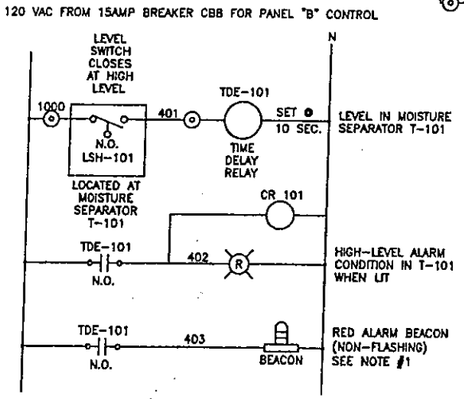
NOTES:

1. MOUNT RED ALARM BEACON IN A CONSPICUOUS LOCATION OUTSIDE TRAILER.
2. THE INPUT SIGNALS TO THE AUTODIALER CAN BE "DRY" CONTACTS, ANALOG, OR DIGITAL LOGIC. "DRY" CONTACTS ARE SHOWN IN WIRING SCHEMATIC. THE WIRING CONNECTIONS SHOWN ARE FOR A RACO "GUARD-II" AUTODIALER.
3. PURCHASE AUTODIALER WITH A.C. TO D.C. TRANSFORMER OR D.C. POWER SUPPLY.



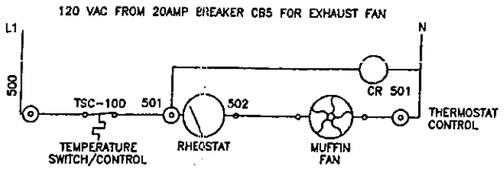
AUTODIALER DETAIL (EXISTING)

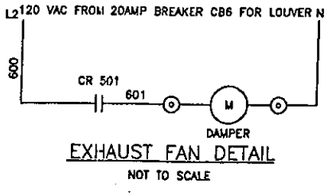
NOT TO SCALE



CONTROL PANEL "B" ALARM CIRCUITS

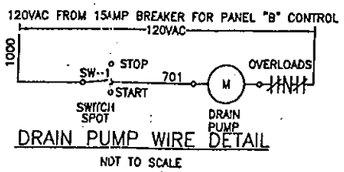
NOT TO SCALE





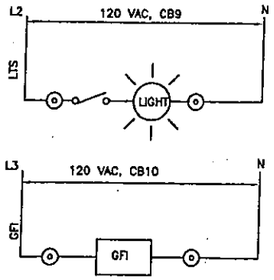
EXHAUST FAN DETAIL

NOT TO SCALE



DRAIN PUMP WIRE DETAIL

NOT TO SCALE



REVISIONS			
Rev	Date	By	Description
0			
1			
2			
3			
4			

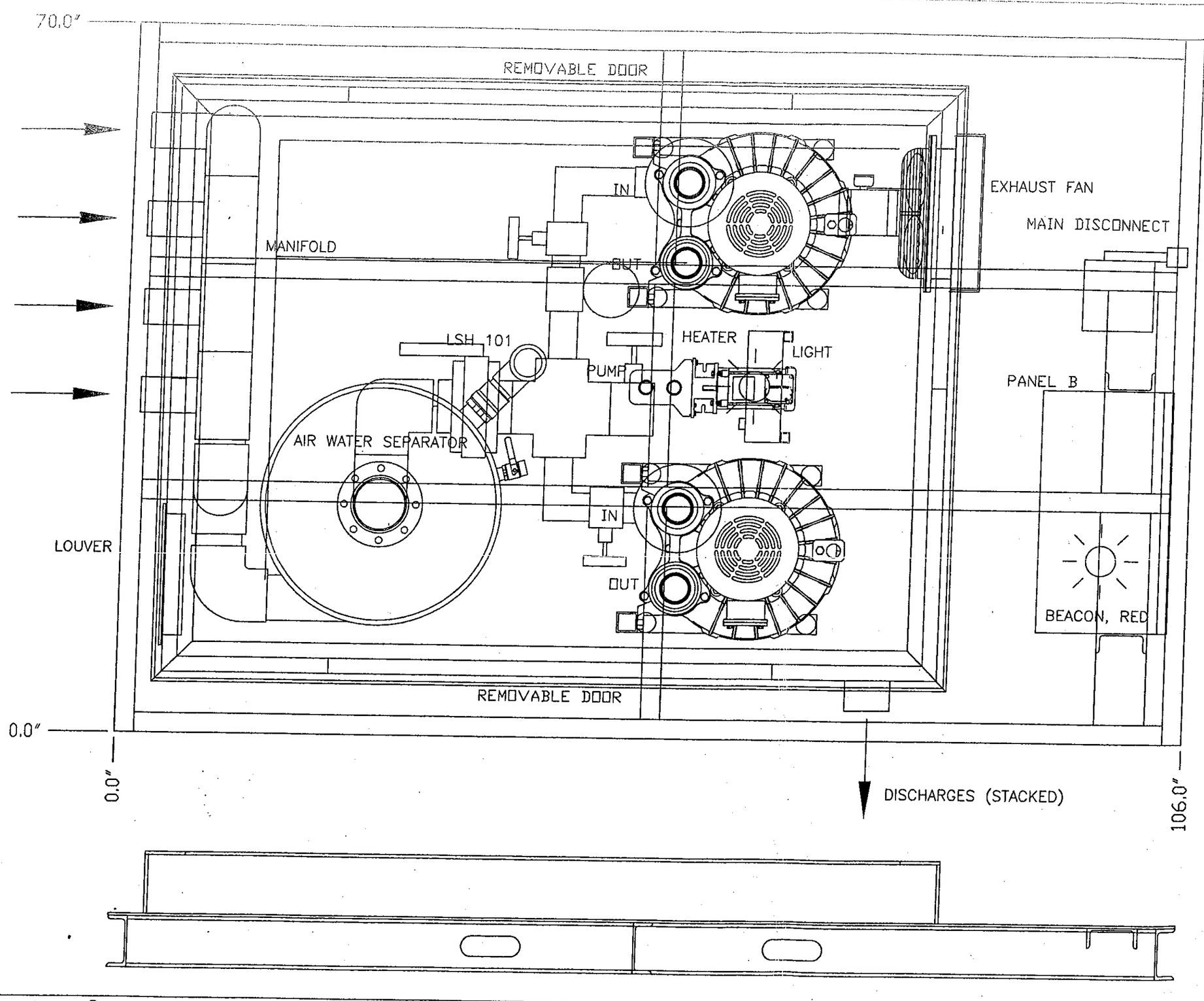
DESIGNED BY: DML	URS Corporation
DRAWN BY: DML	Group Consultants
CHECKED BY: CWP	77 Goodell Street, Buffalo, New York 14203 (716)856-5636 - (716)856-2545 fax
PROJ. ENGR. DMc	JOB No. 11171964.00000

NYSDEC SITE 2-41-031
GLENDALE, QUEENS
KLIEGMAN BROTHERS SITE
OPERABLE UNIT NO. 1
GLENDALE, QUEENS NEW YORK

CONTRACT D006547
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
625 BROADWAY, ALBANY, NEW YORK

PRODUCT LEVEL CONTROL, INC.
ENVIRONMENTAL EQUIPMENT & CONTROLS
11929 Portland Ave S.
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance NA	Rev. 0
Drawing No.	ELECTRICAL SCHEMATICS
Sheet No.	Sheet 1 of 1
Scale	NA
Drawn By	BGG
Drawn Date	9-26-07
Title	Electrical Schematics



REVISIONS			
Rev	Date	By	Description
3			
1			
2			
3			
4			

NOTES
-PLACE VIBRATION DAMPENERS UNDER BLOWERS
-INSTALL $\frac{1}{4}$" ISOLATION VALVES AT ALL PIs
-INSTALL EQUIPMENT TO ALLOW FOR REMOVAL OF HOTBOX ENCLOSURE
-INSTALL HOTBOX ON 6" HIGH CURB FROM SKID
-ALLOW FOR POSSIBLE INSTALLATION OF ACOUSTIC HOODS ON EXHAUST FAN AND PASSIVE VENT
-HEATER AND LIGHT MOUNTED TO FLOOR BRACKET
-BOLT ALL MOUNTING BRACKETS TO FLOOR TO ALLOW FOR EASY REMOVAL
--VERIFY ADEQUATE MAINTENANCE CLEARANCES (GREASE)
--MAXIMIZE MANIFOLD HEADER HEIGHT (MANIFOLD HEADER IS HIGHER THAN AWS INLET)
--NOISE LIMITATION: 70 dBA AT 3' FROM ENCLOSURE
--TAKE NOISE READINGS AT PLC
--NON CLASSIFIED SYSTEM
--USE RIGID CONDUIT

PRODUCT LEVEL CONTROL, INC.
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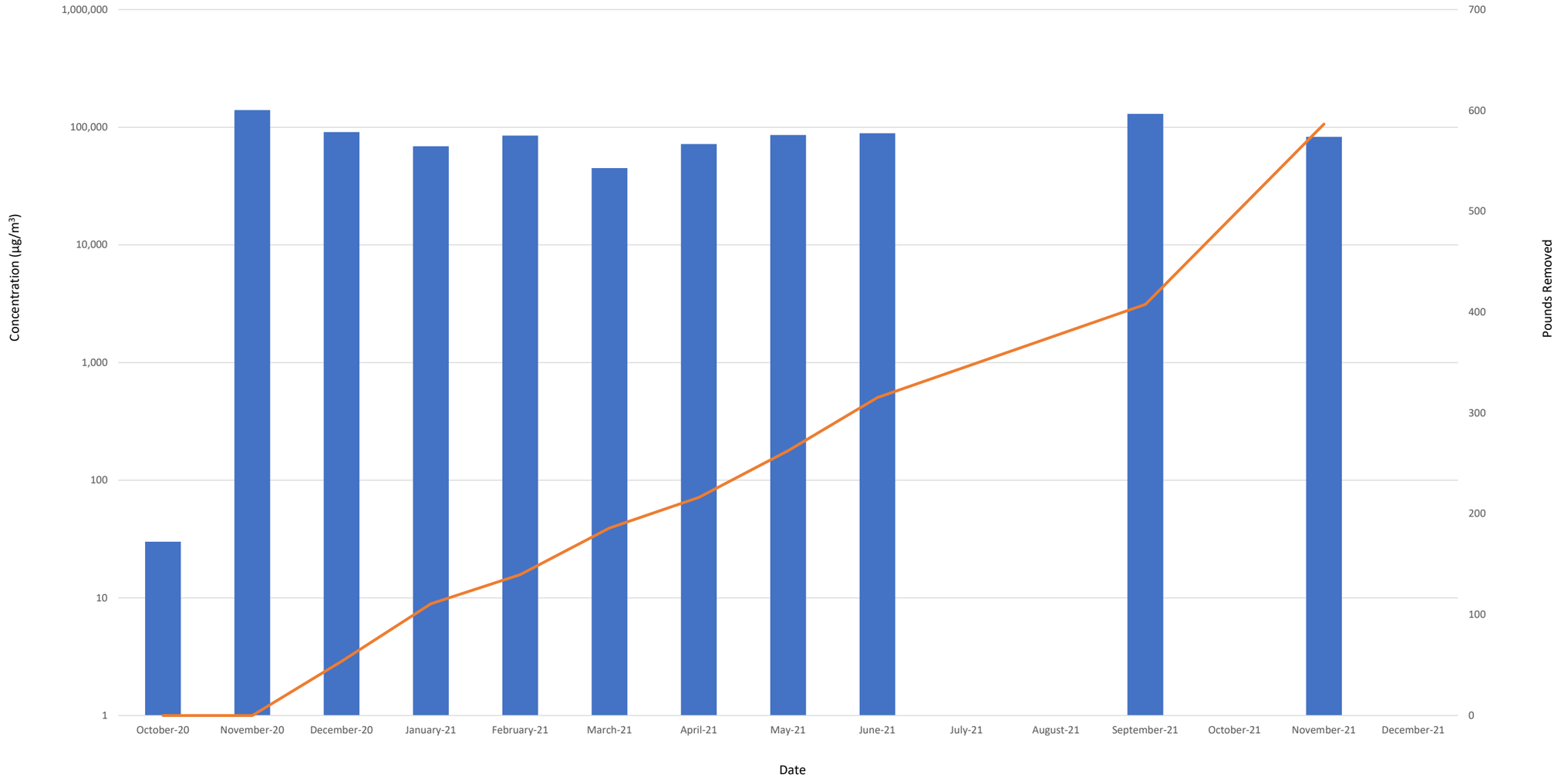
Burnsville, MN 55377
Phone: 952-707-9101
Fax: 952-707-1075

Customer	GWTT
Site Reference	KLIEGMAN BROTHERS UNIT 1
	GLENDALE, QUEENS
Cust. No.	PLC Job No. 07-050
Tolerance ±4'	Rev. 0
Drawing No.	Plan
Sheet No. Sheet 1 of 1	Scale 1:10
Drawn By BGG	Drawn Date 9-26-07
Title	Plan

Appendix F

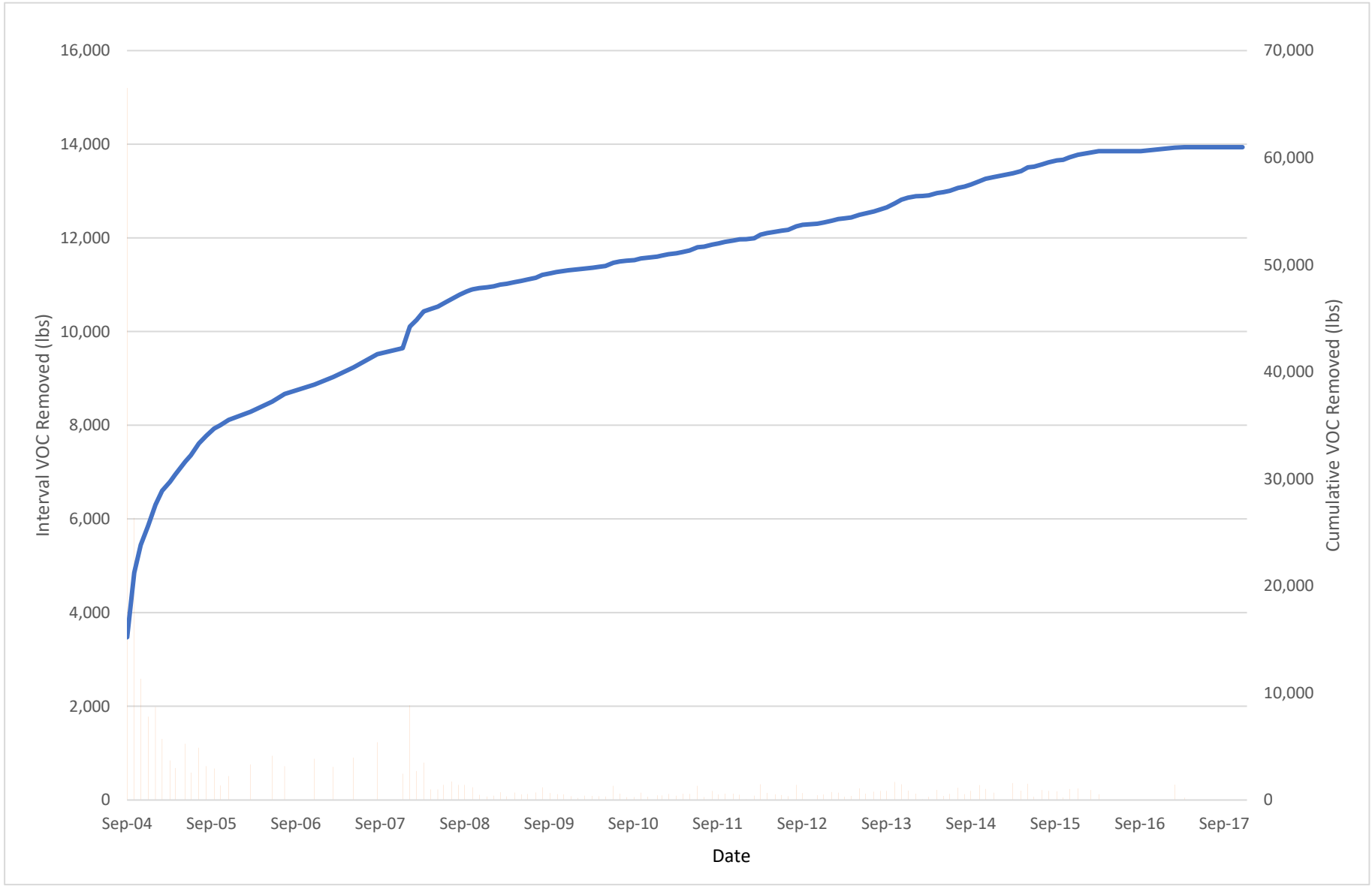
Appendix F
New York State Department of Environmental Conservation
SMP B - Kliegman Brothers - Site No. 241031
Periodic Review Report
Glendale, Queens, New York
Summary of SVE System PCE Recovery



Notes
1. SVE influent sampling frequency was reduced to once every other month beginning in June 2021.
2. The SVE system was shut down on August 5, 2021 and could not be restarted until September 8, 2021.

Appendix G

Appendix G
New York State Department of Environmental Conservation
SMP B - Kliegman Brothers - Site No. 241031
Periodic Review Report
Glendale, Queens, New York
Summary of SVE System PCE Recovery 2004 to 2017



Appendix H

OSR – 3

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 Samuel Pereira **Date/Time Prepared** 3/31/2021

Preparer's Affiliation TRC Engineers, Inc **Phone No.** (203) 788-9341

Purpose of Investigation IAQ Survey

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: _____ First Name: _____

Address: _____

County: _____

Home Phone: _____ Office Phone: _____

3. BUILDING CHARACTERISTICS

Type of Building: (Circle appropriate response)

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

77-11 76th St: Bakery
78-01 77th Ave: Brewery

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

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

If multiple units, how many? NA

If the property is commercial, type?

Business Type(s) Bakery + Brewery

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

Other characteristics:

Number of floors 2 + Basement Building age_____

Is the building insulated? (Y) / N How air tight? Tight / Average / (Not Tight) → Many garage doors, often open

4. AIRFLOW

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

Tracer study not performed

Airflow between floors

Strong; No doors separating basement and first floor; ramps connecting basement and first floor

Airflow near source

NA

Outdoor air infiltration

Outdoor air infiltration via garage/overhead doors

Infiltration into air ducts

None; ductwork appears tight & in good condition

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 _____
c. Basement floor:	concrete	dirt	stone	other _____
d. Basement floor:	uncovered	covered	covered with Partially covered with tile	
e. Concrete floor:	unsealed	sealed	sealed with Epoxy	
f. Foundation walls:	poured	block	stone	other _____
g. Foundation walls:	unsealed	sealed	sealed with Paint + Tiles	
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: ~8 (feet)

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

Potential soil vapor entry points include Vapor monitoring points and floor drains (marked on figure)

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

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

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

The primary type of fuel used is:

Natural Gas	Fuel Oil	Kerosene
Electric	Propane	Solar
Wood	Coal	

Domestic hot water tank fueled by: Natural Gas

Boiler/furnace located in: Basement of Bakery Outdoors Main Floor of Bakery 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.

N/A

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	Storage of packaging materials (+ some food)
1st Floor	Storefront of Bakery, Production on Floor 1.5, Brewery/Bar
2nd Floor	Offices of Bakery
3rd Floor	N/A
4th Floor	N/A

8. FACTORS THAT MAY INFLUENCE INDOOR AIR QUALITY

a. Is there an attached garage?	(Y) / N	
b. Does the garage have a separate heating unit?	Y / (N) / NA	
c. Are petroleum-powered machines or vehicles stored in the garage (e.g., lawnmower, atv, car)	Y / (N) / NA	Please specify_____
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? "Lab room" in brewery
g. Is there smoking in the building?	Y / (N)	How frequently?_____
h. Have cleaning products been used recently?	(Y) / N	When & Type? cleaning agent in SE room of Brewery
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: Smell of flow in bakery production area, smell of beer in the brewery

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? NA

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

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

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

Is there a radon mitigation system for the building/structure? Y / (N) Date of Installation: _____

Is the system active or passive? Active/Passive NA

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) NA

a. Provide reasons why relocation is recommended: _____

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

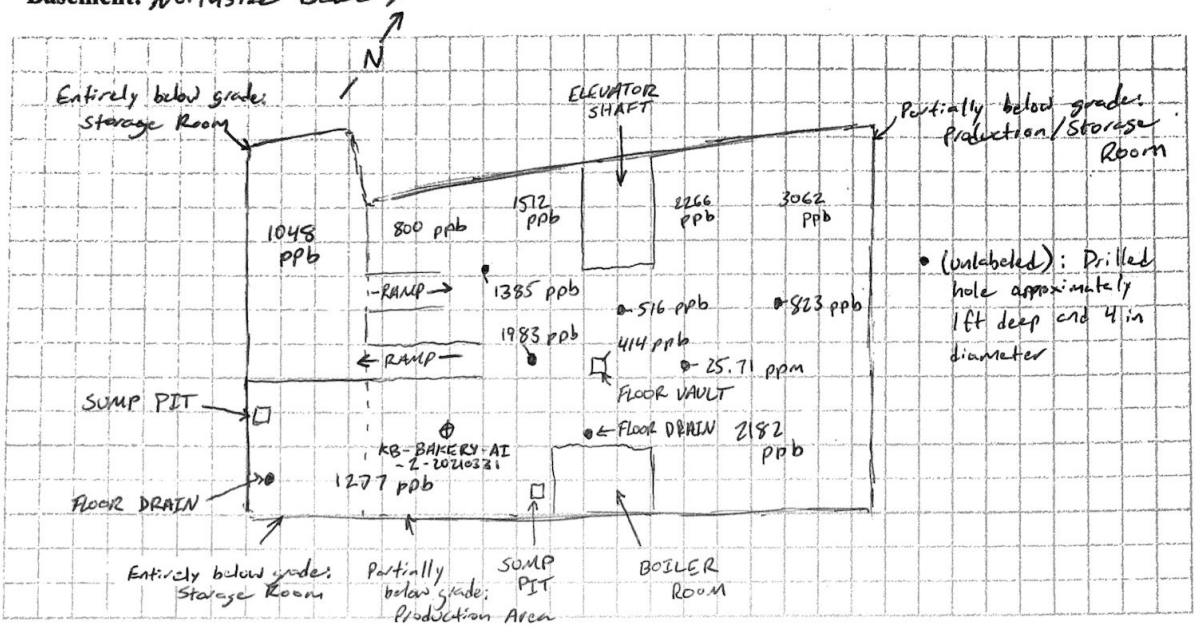
c. Responsibility for costs associated with reimbursement explained? Y / N

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

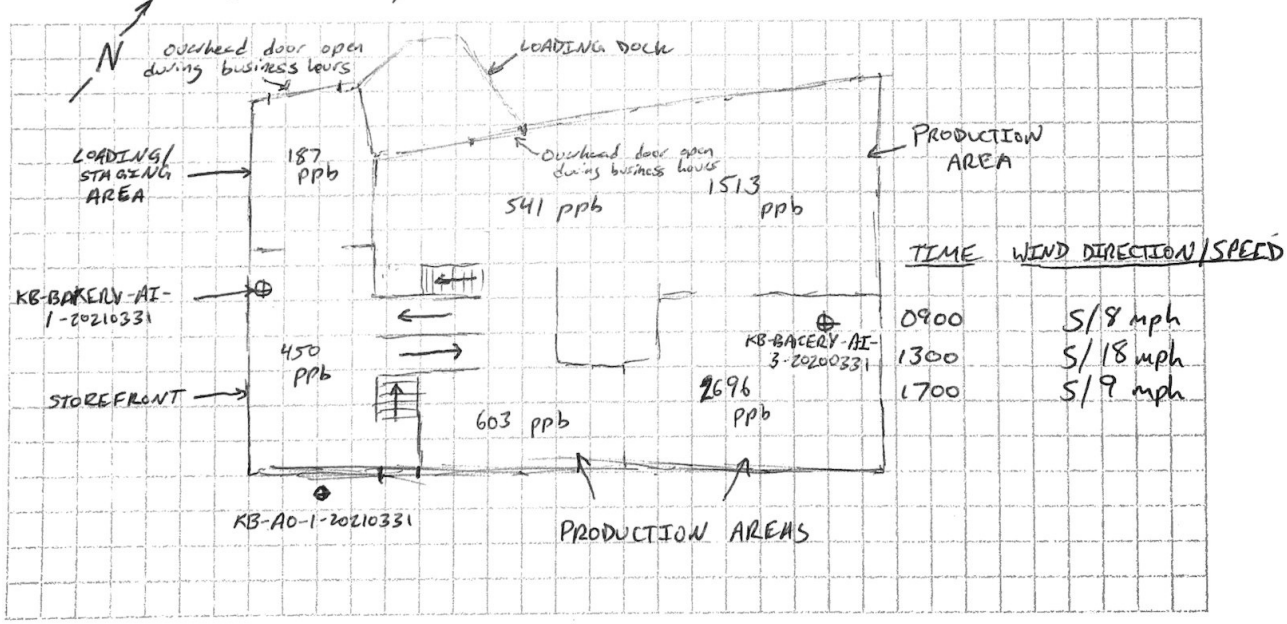
11. FLOOR PLANS

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: Northside Bakery



First Floor: Northside Bakery

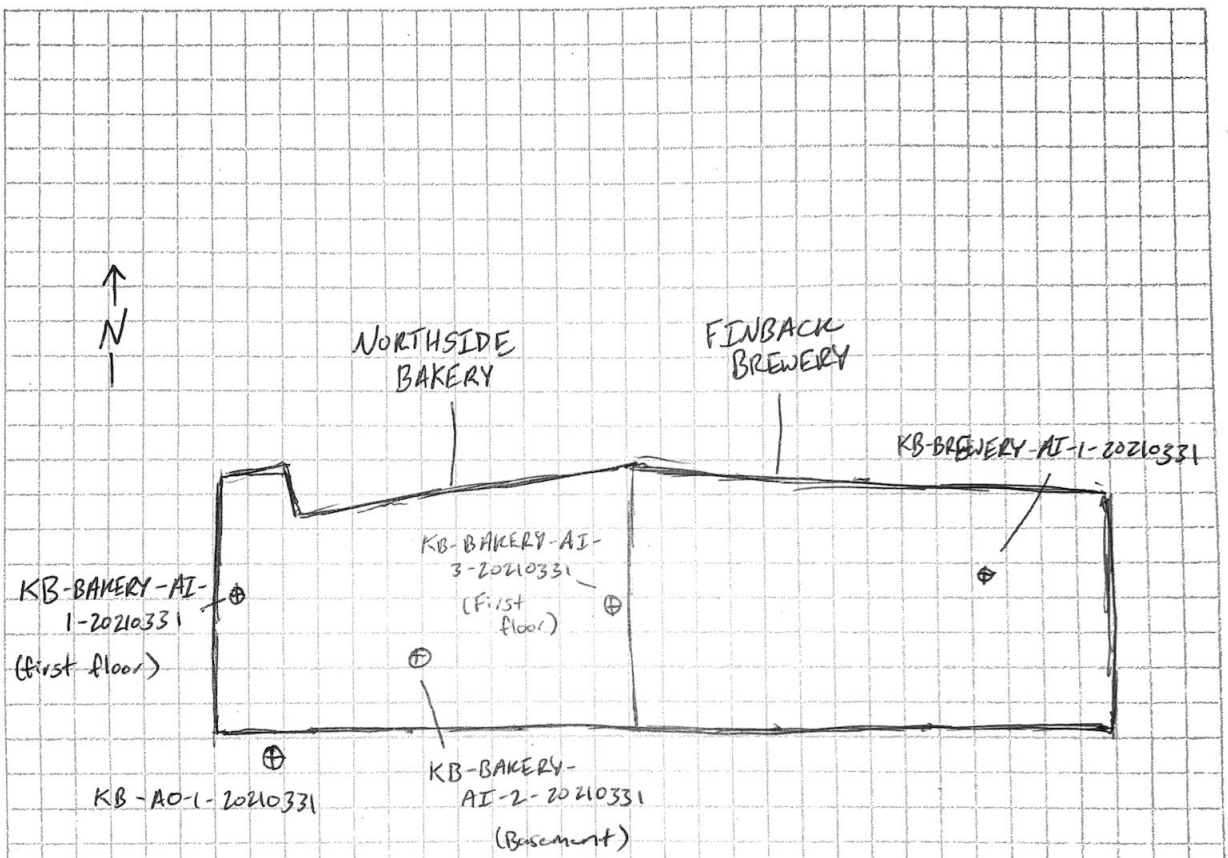


TIME	WIND DIRECTION/SPEED
0900	S/8 mph
1300	S/18 mph
1700	S/9 mph

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.



TIME	WIND DIRECTION/SPEED
0900	S/ 8 mph
1300	S/ 18 mph
1700	S/ 9 mph

*PID readings and interior features included in individual floor plans

13. PRODUCT INVENTORY FORM

Make & Model of field instrument used: ppb RAE 3000

List specific products found in the residence that have the potential to affect indoor air quality.

Location	Product Description	Size (units)	Condition*	Chemical Ingredients	Field Instrument Reading (units)	Photo** Y / N
Bakery Basement	Marlotherm N	55 gal	U	Marlotherm N	CNM	Y
" "	Therminol 55	55 gal	U	Benzene, C14-30-alkyl derivs, CAS No.: 68855-24-3	CNM	Y
" "	CarboZyme	50 lbs	U	See Photo	CNM	Y
" "	Sentinel Pro-Antifreeze/coolant	1 gal	U	See Photo	1736 ppb	Y
" "	Flex Seal	14 oz	U	See Photo	CNM	Y
" "	CRC - Anti-Seize	1 lb	U	See Photo	>10000 ppm	Y
" "	WD-40	70 fl oz	U	See Photo	CNM	Y
" "	CRC - QD Electronic Cleaner	11 oz	U	See Photo	CNM	Y
" "	STP Automatic trans fluid	1 Qt	U	See Photo	C	Y
" "	Rustoleum - Chalked	12 oz	U	See Photo	CNM	Y
" "	Varathane - Floor Finish	1 gal	U	See Photo	>10000 ppm	D

* Describe the condition of the product containers as **Unopened (UO), Used (U),** or **Deteriorated (D)**
** Photographs of the **front and back** of product containers can replace the handwritten list of chemical ingredients. However, the photographs must be of good quality and ingredient labels must be legible.

CNM: Could not measure

Appendix I

Data Usability Summary Report

Site: SMP B - Kliegman Brothers
Laboratory: Eurofins TestAmerica – Knoxville, TN
SDG: 140-22610-1
Parameter: Volatile Organic Compounds (VOCs)
Data Reviewer: Amy Bass/TRC
Peer Reviewer: Elizabeth Denly /TRC
Date: May 3, 2021

Samples Reviewed and Evaluation Summary

4 / Indoor Air: KB-BAKERY-AI-1-20210331, KB-BAKERY-AI-2-20210331, KB-BAKERY-AI-3-20210331, KB-BREWERY-AI-1-20210331

1 / Outdoor Air: KB-AO-1-20210331

The above-listed samples were collected on March 31, 2021 and were analyzed for VOCs by EPA method TO-15 Low Level (LL). The data validation was performed in accordance with the USEPA Region 2 Standard Operating Procedure (SOP) HW-31 (Revision 6) *Data Validation for the Analysis of VOCs in Air Contained in Canisters by Method TO-15* (September 2016).

The data were evaluated based on the following parameters:

	•	Overall Evaluation of Data and Potential Usability Issues
*	•	Data Completeness
*	•	Holding Times and Sample Integrity
*	•	Gas Chromatography/Mass Spectrometry (GC/MS) Tunes
	•	Initial and Continuing Calibrations
*	•	Blanks
*	•	Surrogate Recoveries
NA	•	Laboratory Duplicate Results
	•	Laboratory Control Sample (LCS) Results
NA	•	Field Duplicate Results
*	•	Internal Standard Performance
	•	Sample Results and Reported Quantitation Limits (QLs)
*	•	Target Compound Identification

*	-	All criteria were met.
NA	-	A laboratory duplicate and field duplicate pair were not associated with this sample set.

Overall Evaluation of Data and Potential Usability Issues

All results are usable for project objectives. Qualifications applied to the data as a result of sampling error were not required. Qualifications applied to the data as a result of analytical error are discussed below.

- The nondetect results for select VOCs in samples KB-BAKERY-AI-1-20210331, KB-BAKERY-AI-2-20210331, KB-BAKERY-AI-3-20210331, and KB-BREWERY-AI-1-20210331 were qualified as estimated (UJ) due to continuing calibration

nonconformances. These results can be used for project objectives as nondetects with estimated QLs, which may have a minor impact on the data usability.

- The positive results for ethanol in samples KB-BAKERY-AI-1-20210331, KB-BAKERY-AI-2-20210331, KB-BAKERY-AI-3-20210331, and KB-BREWERY-AI-1-20210331 were qualified as estimated (J) due to a continuing calibration nonconformance. These results can be used for project objectives as estimated values, which may have a minor impact on the data usability.

Data Completeness

The data package was a complete Level IV data deliverable package.

Holding Times and Sample Integrity

All holding time and sample integrity criteria were met.

GC/MS Tunes

All criteria were met.

Initial and Continuing Calibrations

The correlation coefficients and relative response factors (RRFs) met the method acceptance criteria in the initial calibrations (ICs) associated with the samples in this data set. The following table summarizes the percent relative standard deviation (%RSD) values that did not meet the method acceptance criteria in the ICs (IC criteria: %RSD ≤30%).

IC ID	Analyte	%RSD	Validation Action
04/09/2021 Instrument: MH	1,2,4-Trimethylbenzene	37.5	Qualification was not required since these analytes were non-detect in the associated sample.
	1,2-Dichlorobenzene	31.8	
Associated sample: KB-AO-1-20210331			

All RRFs met the method acceptance criteria in the continuing calibration (CC) standards associated with the samples in this data set. The following table summarizes the percent difference or percent drift (%D) values that did not meet the method acceptance criteria in the CCs, the associated samples, and the validation actions (CC criteria: |%D| ≤30%).

CC ID	Analyte	%D	Validation Action
CCVIS 140-48707/2 04/12/2021 @08:30	1,2-Dichlorobenzene	31.1	The positive and nondetect results for these VOCs were qualified as estimated (J/UJ) in the associated samples.
	1,2-Dichloroethane	30.1	
	1,2-Dichlorotetrafluoroethane	34.1	
	Benzyl chloride	39.0	
	Bromoform	62.1	
	Carbon tetrachloride	75.2	
	Chloromethane	-31.7	
	Dibromochloromethane	45.1	
	Dichlorodifluoromethane	34.9	

CC ID	Analyte	%D	Validation Action
	Ethanol	-35.8	
	Hexachlorobutadiene	65.3	
	Trichlorofluoromethane	43.0	
Associated samples: KB-BAKERY-AI-1-20210331, KB-BAKERY-AI-2-20210331, KB-BAKERY-AI-3-20210331, KB-BREWERY-AI-1-20210331			

Blanks

Target compounds were not detected in the laboratory method blanks associated with the samples in this data set. The canister certificates indicated that no contamination was present in the canisters prior to sampling.

Surrogate Recoveries

Surrogate recovery criteria were met for all samples.

Laboratory Duplicate Results

A laboratory duplicate analysis was not performed with this sample set.

LCS Results

All criteria were met in the LCS analyses, with some exceptions. The following table summarizes the LCS percent recoveries (%Rs) that did not meet criteria, the associated samples, and the resulting validation actions.

Analyte	LCS %R	%R QC Limits	Validation Action
1,2-Dichlorobenzene	131	70-130	Qualification was not required on this basis since these analytes were non-detect in the associated samples.
Benzyl chloride	139	70-130	
Bromoform	162	60-140	
Carbon tetrachloride	175	70-130	
Dibromochloromethane	145	70-130	
Hexachlorobutadiene	165	60-140	
Trichlorofluoromethane	143	60-140	
LCS ID: LCS 140-48707/1002 **Associated samples:** KB-BAKERY-AI-1-20210331, KB-BAKERY-AI-2-20210331, KB-BAKERY-AI-3-20210331, KB-BREWERY-AI-1-20210331			

Field Duplicate Results

A field duplicate pair was not submitted with this sample set.

Internal Standard Performance

All criteria were met.

Sample Results and Reported Quantitation Limits

Sample calculations were spot-checked; there were no errors noted.

The following table summarizes the dilutions that were required for the VOC analyses; QLs were elevated accordingly.

Sample ID	Dilution	Reason for Dilution
KB-BAKERY-AI-1-20210331	25-fold (20 mL versus the standard 500 mL)	Dilutions were performed due to the concentrations of ethanol that would have exceeded the calibration range if not diluted.
KB-BAKERY-AI-2-20210331	45.4-fold (11 mL versus the standard 500 mL)	
KB-BAKERY-AI-3-20210331	173.5-fold (50-fold dilution due to 10 mL versus the standard 500 mL and pressurization of canister causing 3.47-fold dilution)	
KB-BREWERY-AI-1-20210331	45.4-fold (11 mL versus the standard 500 mL)	

Target Compound Identification

All criteria were met.

QUALIFIED FORM 1s

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-1-20210331 Lab Sample ID: 140-22610-1

Matrix: Air Lab File ID: SD12P107.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:06

Sample wt/vol: 20(mL) Date Analyzed: 04/12/2021 18:51

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		2.0	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		2.0	
79-00-5	1,1,2-Trichloroethane	133.41	ND		2.0	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		2.0	
75-34-3	1,1-Dichloroethane	98.96	ND		2.0	
75-35-4	1,1-Dichloroethene	96.94	ND		1.0	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		2.0	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		2.0	
106-93-4	1,2-Dibromoethane	187.87	ND		2.0	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~*+~~ UJ	2.0	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	2.0	
78-87-5	1,2-Dichloropropane	112.99	ND		2.0	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	2.0	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		2.0	
541-73-1	1,3-Dichlorobenzene	147.00	ND		2.0	
106-46-7	1,4-Dichlorobenzene	147.00	ND		2.0	
123-91-1	1,4-Dioxane	88.11	ND		5.0	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		5.0	
78-93-3	2-Butanone	72.11	ND		8.0	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		5.0	
71-43-2	Benzene	78.11	ND		2.0	
100-44-7	Benzyl chloride	126.58	ND	~~*+~~ UJ	4.0	
75-27-4	Bromodichloromethane	163.83	ND		2.0	
75-25-2	Bromoform	252.75	ND	~~*+~~ UJ	2.0	
74-83-9	Bromomethane	94.94	ND		2.0	
56-23-5	Carbon tetrachloride	153.81	ND	~~*+~~ UJ	0.80	
108-90-7	Chlorobenzene	112.56	ND		2.0	
75-00-3	Chloroethane	64.52	ND		2.0	
67-66-3	Chloroform	119.38	ND		2.0	
74-87-3	Chloromethane	50.49	ND	UJ	5.0	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		1.0	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		2.0	
110-82-7	Cyclohexane	84.16	ND		5.0	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-1-20210331 Lab Sample ID: 140-22610-1

Matrix: Air Lab File ID: SD12P107.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:06

Sample wt/vol: 20(mL) Date Analyzed: 04/12/2021 18:51

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~*+~~ UJ	2.0	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	2.0	
64-17-5	Ethanol	46.07	550	J	50	
100-41-4	Ethylbenzene	106.17	ND		2.0	
87-68-3	Hexachlorobutadiene	260.76	ND	~~*+~~ UJ	2.0	
110-54-3	Hexane	86.17	ND		5.0	
1634-04-4	Methyl tert-butyl ether	88.15	ND		4.0	
75-09-2	Methylene Chloride	84.93	ND		10	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		2.0	
91-20-3	Naphthalene	128.17	ND		5.0	
95-47-6	o-Xylene	106.17	ND		2.0	
100-42-5	Styrene	104.15	ND		2.0	
75-65-0	t-Butyl alcohol	74.12	ND		8.0	
127-18-4	Tetrachloroethene	165.83	ND		2.0	
108-88-3	Toluene	92.14	ND		3.0	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		2.0	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		2.0	
79-01-6	Trichloroethene	131.39	ND		0.90	
75-69-4	Trichlorofluoromethane	137.37	ND	~~*+~~ UJ	2.0	
75-01-4	Vinyl chloride	62.50	ND		1.0	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	112		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-1-20210331 Lab Sample ID: 140-22610-1

Matrix: Air Lab File ID: SD12P107.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:06

Sample wt/vol: 20(mL) Date Analyzed: 04/12/2021 18:51

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		11	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		14	
79-00-5	1,1,2-Trichloroethane	133.41	ND		11	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		15	
75-34-3	1,1-Dichloroethane	98.96	ND		8.1	
75-35-4	1,1-Dichloroethene	96.94	ND		4.0	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		15	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		9.8	
106-93-4	1,2-Dibromoethane	187.87	ND		15	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~UJ~~	12	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	8.1	
78-87-5	1,2-Dichloropropane	112.99	ND		9.2	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	14	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		9.8	
541-73-1	1,3-Dichlorobenzene	147.00	ND		12	
106-46-7	1,4-Dichlorobenzene	147.00	ND		12	
123-91-1	1,4-Dioxane	88.11	ND		18	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		23	
78-93-3	2-Butanone	72.11	ND		24	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		20	
71-43-2	Benzene	78.11	ND		6.4	
100-44-7	Benzyl chloride	126.58	ND	~~UJ~~	21	
75-27-4	Bromodichloromethane	163.83	ND		13	
75-25-2	Bromoform	252.75	ND	~~UJ~~	21	
74-83-9	Bromomethane	94.94	ND		7.8	
56-23-5	Carbon tetrachloride	153.81	ND	~~UJ~~	5.0	
108-90-7	Chlorobenzene	112.56	ND		9.2	
75-00-3	Chloroethane	64.52	ND		5.3	
67-66-3	Chloroform	119.38	ND		9.8	
74-87-3	Chloromethane	50.49	ND	UJ	10	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		4.0	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		9.1	
110-82-7	Cyclohexane	84.16	ND		17	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-1-20210331 Lab Sample ID: 140-22610-1

Matrix: Air Lab File ID: SD12P107.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:06

Sample wt/vol: 20(mL) Date Analyzed: 04/12/2021 18:51

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~*+~~ UJ	17	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	9.9	
64-17-5	Ethanol	46.07	1000	J	94	
100-41-4	Ethylbenzene	106.17	ND		8.7	
87-68-3	Hexachlorobutadiene	260.76	ND	~~*+~~ UJ	21	
110-54-3	Hexane	86.17	ND		18	
1634-04-4	Methyl tert-butyl ether	88.15	ND		14	
75-09-2	Methylene Chloride	84.93	ND		35	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		8.7	
91-20-3	Naphthalene	128.17	ND		26	
95-47-6	o-Xylene	106.17	ND		8.7	
100-42-5	Styrene	104.15	ND		8.5	
75-65-0	t-Butyl alcohol	74.12	ND		24	
127-18-4	Tetrachloroethene	165.83	ND		14	
108-88-3	Toluene	92.14	ND		11	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		7.9	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		9.1	
79-01-6	Trichloroethene	131.39	ND		4.8	
75-69-4	Trichlorofluoromethane	137.37	ND	~~*+~~ UJ	11	
75-01-4	Vinyl chloride	62.50	ND		2.6	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	112		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-2-20210331 Lab Sample ID: 140-22610-2

Matrix: Air Lab File ID: SD12P108.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:11

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 19:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		3.6	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		3.6	
79-00-5	1,1,2-Trichloroethane	133.41	ND		3.6	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		3.6	
75-34-3	1,1-Dichloroethane	98.96	ND		3.6	
75-35-4	1,1-Dichloroethene	96.94	ND		1.8	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		3.6	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		3.6	
106-93-4	1,2-Dibromoethane	187.87	ND		3.6	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~+~~ UJ	3.6	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	3.6	
78-87-5	1,2-Dichloropropane	112.99	ND		3.6	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	3.6	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		3.6	
541-73-1	1,3-Dichlorobenzene	147.00	ND		3.6	
106-46-7	1,4-Dichlorobenzene	147.00	ND		3.6	
123-91-1	1,4-Dioxane	88.11	ND		9.1	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		9.1	
78-93-3	2-Butanone	72.11	ND		15	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		9.1	
71-43-2	Benzene	78.11	ND		3.6	
100-44-7	Benzyl chloride	126.58	ND	~~+~~ UJ	7.3	
75-27-4	Bromodichloromethane	163.83	ND		3.6	
75-25-2	Bromoform	252.75	ND	~~+~~ UJ	3.6	
74-83-9	Bromomethane	94.94	ND		3.6	
56-23-5	Carbon tetrachloride	153.81	ND	~~+~~ UJ	1.5	
108-90-7	Chlorobenzene	112.56	ND		3.6	
75-00-3	Chloroethane	64.52	ND		3.6	
67-66-3	Chloroform	119.38	ND		3.6	
74-87-3	Chloromethane	50.49	ND	UJ	9.1	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		1.8	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		3.6	
110-82-7	Cyclohexane	84.16	ND		9.1	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-2-20210331 Lab Sample ID: 140-22610-2

Matrix: Air Lab File ID: SD12P108.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:11

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 19:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~*+~~ UJ	3.6	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	3.6	
64-17-5	Ethanol	46.07	2400	J	91	
100-41-4	Ethylbenzene	106.17	ND		3.6	
87-68-3	Hexachlorobutadiene	260.76	ND	~~*+~~ UJ	3.6	
110-54-3	Hexane	86.17	ND		9.1	
1634-04-4	Methyl tert-butyl ether	88.15	ND		7.3	
75-09-2	Methylene Chloride	84.93	ND		18	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		3.6	
91-20-3	Naphthalene	128.17	ND		9.1	
95-47-6	o-Xylene	106.17	ND		3.6	
100-42-5	Styrene	104.15	ND		3.6	
75-65-0	t-Butyl alcohol	74.12	ND		15	
127-18-4	Tetrachloroethene	165.83	ND		3.6	
108-88-3	Toluene	92.14	ND		5.5	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		3.6	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		3.6	
79-01-6	Trichloroethene	131.39	ND		1.6	
75-69-4	Trichlorofluoromethane	137.37	ND	~~*+~~ UJ`	3.6	
75-01-4	Vinyl chloride	62.50	ND		1.8	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	109		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-2-20210331 Lab Sample ID: 140-22610-2

Matrix: Air Lab File ID: SD12P108.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:11

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 19:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		20	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		25	
79-00-5	1,1,2-Trichloroethane	133.41	ND		20	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		28	
75-34-3	1,1-Dichloroethane	98.96	ND		15	
75-35-4	1,1-Dichloroethene	96.94	ND		7.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		27	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		18	
106-93-4	1,2-Dibromoethane	187.87	ND		28	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~UJ~~ UJ	22	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	15	
78-87-5	1,2-Dichloropropane	112.99	ND		17	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	25	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		18	
541-73-1	1,3-Dichlorobenzene	147.00	ND		22	
106-46-7	1,4-Dichlorobenzene	147.00	ND		22	
123-91-1	1,4-Dioxane	88.11	ND		33	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		42	
78-93-3	2-Butanone	72.11	ND		43	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		37	
71-43-2	Benzene	78.11	ND		12	
100-44-7	Benzyl chloride	126.58	ND	~~UJ~~ UJ	38	
75-27-4	Bromodichloromethane	163.83	ND		24	
75-25-2	Bromoform	252.75	ND	~~UJ~~ UJ	38	
74-83-9	Bromomethane	94.94	ND		14	
56-23-5	Carbon tetrachloride	153.81	ND	~~UJ~~ UJ	9.2	
108-90-7	Chlorobenzene	112.56	ND		17	
75-00-3	Chloroethane	64.52	ND		9.6	
67-66-3	Chloroform	119.38	ND		18	
74-87-3	Chloromethane	50.49	ND	UJ	19	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		7.2	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		17	
110-82-7	Cyclohexane	84.16	ND		31	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-2-20210331 Lab Sample ID: 140-22610-2

Matrix: Air Lab File ID: SD12P108.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:11

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 19:39

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~*+~~ UJ	31	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	18	
64-17-5	Ethanol	46.07	4500	J	170	
100-41-4	Ethylbenzene	106.17	ND		16	
87-68-3	Hexachlorobutadiene	260.76	ND	~~*+~~ UJ	39	
110-54-3	Hexane	86.17	ND		32	
1634-04-4	Methyl tert-butyl ether	88.15	ND		26	
75-09-2	Methylene Chloride	84.93	ND		63	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		16	
91-20-3	Naphthalene	128.17	ND		48	
95-47-6	o-Xylene	106.17	ND		16	
100-42-5	Styrene	104.15	ND		15	
75-65-0	t-Butyl alcohol	74.12	ND		44	
127-18-4	Tetrachloroethene	165.83	ND		25	
108-88-3	Toluene	92.14	ND		21	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		14	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		17	
79-01-6	Trichloroethene	131.39	ND		8.8	
75-69-4	Trichlorofluoromethane	137.37	ND	~~*+~~ UJ	20	
75-01-4	Vinyl chloride	62.50	ND		4.6	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	109		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-3-20210331 Lab Sample ID: 140-22610-3

Matrix: Air Lab File ID: SD12P109.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:19

Sample wt/vol: 10(mL) Date Analyzed: 04/12/2021 20:25

Soil Aliquot Vol: Dilution Factor: 3.47

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		14	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		14	
79-00-5	1,1,2-Trichloroethane	133.41	ND		14	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		14	
75-34-3	1,1-Dichloroethane	98.96	ND		14	
75-35-4	1,1-Dichloroethene	96.94	ND		6.9	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		14	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		14	
106-93-4	1,2-Dibromoethane	187.87	ND		14	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~L~~ UJ	14	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	14	
78-87-5	1,2-Dichloropropane	112.99	ND		14	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	14	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		14	
541-73-1	1,3-Dichlorobenzene	147.00	ND		14	
106-46-7	1,4-Dichlorobenzene	147.00	ND		14	
123-91-1	1,4-Dioxane	88.11	ND		35	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		35	
78-93-3	2-Butanone	72.11	ND		56	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		35	
71-43-2	Benzene	78.11	ND		14	
100-44-7	Benzyl chloride	126.58	ND	~~L~~ UJ	28	
75-27-4	Bromodichloromethane	163.83	ND		14	
75-25-2	Bromoform	252.75	ND	~~L~~ UJ	14	
74-83-9	Bromomethane	94.94	ND		14	
56-23-5	Carbon tetrachloride	153.81	ND	~~L~~ UJ	5.6	
108-90-7	Chlorobenzene	112.56	ND		14	
75-00-3	Chloroethane	64.52	ND		14	
67-66-3	Chloroform	119.38	ND		14	
74-87-3	Chloromethane	50.49	ND	UJ	35	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		6.9	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		14	
110-82-7	Cyclohexane	84.16	ND		35	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-3-20210331 Lab Sample ID: 140-22610-3

Matrix: Air Lab File ID: SD12P109.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:19

Sample wt/vol: 10(mL) Date Analyzed: 04/12/2021 20:25

Soil Aliquot Vol: Dilution Factor: 3.47

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~J~~ UJ	14	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	14	
64-17-5	Ethanol	46.07	11000	J	350	
100-41-4	Ethylbenzene	106.17	ND		14	
87-68-3	Hexachlorobutadiene	260.76	ND	~~J~~ UJ	14	
110-54-3	Hexane	86.17	ND		35	
1634-04-4	Methyl tert-butyl ether	88.15	ND		28	
75-09-2	Methylene Chloride	84.93	ND		69	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		14	
91-20-3	Naphthalene	128.17	ND		35	
95-47-6	o-Xylene	106.17	ND		14	
100-42-5	Styrene	104.15	ND		14	
75-65-0	t-Butyl alcohol	74.12	ND		56	
127-18-4	Tetrachloroethene	165.83	ND		14	
108-88-3	Toluene	92.14	ND		21	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		14	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		14	
79-01-6	Trichloroethene	131.39	ND		6.2	
75-69-4	Trichlorofluoromethane	137.37	ND	~~J~~ UJ	14	
75-01-4	Vinyl chloride	62.50	ND		6.9	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	108		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-3-20210331 Lab Sample ID: 140-22610-3

Matrix: Air Lab File ID: SD12P109.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:19

Sample wt/vol: 10(mL) Date Analyzed: 04/12/2021 20:25

Soil Aliquot Vol: Dilution Factor: 3.47

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		76	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		95	
79-00-5	1,1,2-Trichloroethane	133.41	ND		76	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		110	
75-34-3	1,1-Dichloroethane	98.96	ND		56	
75-35-4	1,1-Dichloroethene	96.94	ND		28	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		100	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		68	
106-93-4	1,2-Dibromoethane	187.87	ND		110	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~UJ~~	83	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	56	
78-87-5	1,2-Dichloropropane	112.99	ND		64	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	97	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		68	
541-73-1	1,3-Dichlorobenzene	147.00	ND		83	
106-46-7	1,4-Dichlorobenzene	147.00	ND		83	
123-91-1	1,4-Dioxane	88.11	ND		130	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		160	
78-93-3	2-Butanone	72.11	ND		160	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		140	
71-43-2	Benzene	78.11	ND		44	
100-44-7	Benzyl chloride	126.58	ND	~~UJ~~	140	
75-27-4	Bromodichloromethane	163.83	ND		93	
75-25-2	Bromoform	252.75	ND	~~UJ~~	140	
74-83-9	Bromomethane	94.94	ND		54	
56-23-5	Carbon tetrachloride	153.81	ND	~~UJ~~	35	
108-90-7	Chlorobenzene	112.56	ND		64	
75-00-3	Chloroethane	64.52	ND		37	
67-66-3	Chloroform	119.38	ND		68	
74-87-3	Chloromethane	50.49	ND	UJ	72	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		28	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		63	
110-82-7	Cyclohexane	84.16	ND		120	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BAKERY-AI-3-20210331 Lab Sample ID: 140-22610-3

Matrix: Air Lab File ID: SD12P109.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:19

Sample wt/vol: 10(mL) Date Analyzed: 04/12/2021 20:25

Soil Aliquot Vol: Dilution Factor: 3.47

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~*+~~ UJ	120	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	69	
64-17-5	Ethanol	46.07	21000	J	650	
100-41-4	Ethylbenzene	106.17	ND		60	
87-68-3	Hexachlorobutadiene	260.76	ND	~~*+~~ UJ	150	
110-54-3	Hexane	86.17	ND		120	
1634-04-4	Methyl tert-butyl ether	88.15	ND		100	
75-09-2	Methylene Chloride	84.93	ND		240	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		60	
91-20-3	Naphthalene	128.17	ND		180	
95-47-6	o-Xylene	106.17	ND		60	
100-42-5	Styrene	104.15	ND		59	
75-65-0	t-Butyl alcohol	74.12	ND		170	
127-18-4	Tetrachloroethene	165.83	ND		94	
108-88-3	Toluene	92.14	ND		78	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		55	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		63	
79-01-6	Trichloroethene	131.39	ND		34	
75-69-4	Trichlorofluoromethane	137.37	ND	~~*+~~ UJ	78	
75-01-4	Vinyl chloride	62.50	ND		18	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	108		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BREWERY-AI-1-20210331 Lab Sample ID: 140-22610-4

Matrix: Air Lab File ID: SD12P110.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:39

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 21:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		3.6	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		3.6	
79-00-5	1,1,2-Trichloroethane	133.41	ND		3.6	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		3.6	
75-34-3	1,1-Dichloroethane	98.96	ND		3.6	
75-35-4	1,1-Dichloroethene	96.94	ND		1.8	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		3.6	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		3.6	
106-93-4	1,2-Dibromoethane	187.87	ND		3.6	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~+~~ UJ	3.6	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	3.6	
78-87-5	1,2-Dichloropropane	112.99	ND		3.6	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	3.6	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		3.6	
541-73-1	1,3-Dichlorobenzene	147.00	ND		3.6	
106-46-7	1,4-Dichlorobenzene	147.00	ND		3.6	
123-91-1	1,4-Dioxane	88.11	ND		9.1	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		9.1	
78-93-3	2-Butanone	72.11	ND		15	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		9.1	
71-43-2	Benzene	78.11	ND		3.6	
100-44-7	Benzyl chloride	126.58	ND	~~+~~ UJ	7.3	
75-27-4	Bromodichloromethane	163.83	ND		3.6	
75-25-2	Bromoform	252.75	ND	~~+~~ UJ	3.6	
74-83-9	Bromomethane	94.94	ND		3.6	
56-23-5	Carbon tetrachloride	153.81	ND	~~+~~ UJ	1.5	
108-90-7	Chlorobenzene	112.56	ND		3.6	
75-00-3	Chloroethane	64.52	ND		3.6	
67-66-3	Chloroform	119.38	ND		3.6	
74-87-3	Chloromethane	50.49	ND	UJ	9.1	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		1.8	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		3.6	
110-82-7	Cyclohexane	84.16	ND		9.1	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BREWERY-AI-1-20210331 Lab Sample ID: 140-22610-4

Matrix: Air Lab File ID: SD12P110.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:39

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 21:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~J~~ UJ	3.6	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	3.6	
64-17-5	Ethanol	46.07	2400	J	91	
100-41-4	Ethylbenzene	106.17	ND		3.6	
87-68-3	Hexachlorobutadiene	260.76	ND	~~J~~ UJ	3.6	
110-54-3	Hexane	86.17	ND		9.1	
1634-04-4	Methyl tert-butyl ether	88.15	ND		7.3	
75-09-2	Methylene Chloride	84.93	ND		18	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		3.6	
91-20-3	Naphthalene	128.17	ND		9.1	
95-47-6	o-Xylene	106.17	ND		3.6	
100-42-5	Styrene	104.15	ND		3.6	
75-65-0	t-Butyl alcohol	74.12	ND		15	
127-18-4	Tetrachloroethene	165.83	ND		3.6	
108-88-3	Toluene	92.14	ND		5.5	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		3.6	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		3.6	
79-01-6	Trichloroethene	131.39	ND		1.6	
75-69-4	Trichlorofluoromethane	137.37	ND	~~J~~ UJ	3.6	
75-01-4	Vinyl chloride	62.50	ND		1.8	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	111		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BREWERY-AI-1-20210331 Lab Sample ID: 140-22610-4

Matrix: Air Lab File ID: SD12P110.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:39

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 21:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		20	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		25	
79-00-5	1,1,2-Trichloroethane	133.41	ND		20	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		28	
75-34-3	1,1-Dichloroethane	98.96	ND		15	
75-35-4	1,1-Dichloroethene	96.94	ND		7.2	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		27	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		18	
106-93-4	1,2-Dibromoethane	187.87	ND		28	
95-50-1	1,2-Dichlorobenzene	147.00	ND	~~UJ~~ UJ	22	
107-06-2	1,2-Dichloroethane	98.96	ND	UJ	15	
78-87-5	1,2-Dichloropropane	112.99	ND		17	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND	UJ	25	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		18	
541-73-1	1,3-Dichlorobenzene	147.00	ND		22	
106-46-7	1,4-Dichlorobenzene	147.00	ND		22	
123-91-1	1,4-Dioxane	88.11	ND		33	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		42	
78-93-3	2-Butanone	72.11	ND		43	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		37	
71-43-2	Benzene	78.11	ND		12	
100-44-7	Benzyl chloride	126.58	ND	~~UJ~~ UJ	38	
75-27-4	Bromodichloromethane	163.83	ND		24	
75-25-2	Bromoform	252.75	ND	~~UJ~~ UJ	38	
74-83-9	Bromomethane	94.94	ND		14	
56-23-5	Carbon tetrachloride	153.81	ND	~~UJ~~ UJ	9.2	
108-90-7	Chlorobenzene	112.56	ND		17	
75-00-3	Chloroethane	64.52	ND		9.6	
67-66-3	Chloroform	119.38	ND		18	
74-87-3	Chloromethane	50.49	ND	UJ	19	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		7.2	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		17	
110-82-7	Cyclohexane	84.16	ND		31	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-BREWERY-AI-1-20210331 Lab Sample ID: 140-22610-4

Matrix: Air Lab File ID: SD12P110.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:39

Sample wt/vol: 11(mL) Date Analyzed: 04/12/2021 21:09

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48707 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND	~~J~~ UJ	31	
75-71-8	Dichlorodifluoromethane	120.91	ND	UJ	18	
64-17-5	Ethanol	46.07	4500	J	170	
100-41-4	Ethylbenzene	106.17	ND		16	
87-68-3	Hexachlorobutadiene	260.76	ND	~~J~~ UJ	39	
110-54-3	Hexane	86.17	ND		32	
1634-04-4	Methyl tert-butyl ether	88.15	ND		26	
75-09-2	Methylene Chloride	84.93	ND		63	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		16	
91-20-3	Naphthalene	128.17	ND		48	
95-47-6	o-Xylene	106.17	ND		16	
100-42-5	Styrene	104.15	ND		15	
75-65-0	t-Butyl alcohol	74.12	ND		44	
127-18-4	Tetrachloroethene	165.83	ND		25	
108-88-3	Toluene	92.14	ND		21	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		14	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		17	
79-01-6	Trichloroethene	131.39	ND		8.8	
75-69-4	Trichlorofluoromethane	137.37	ND	~~J~~ UJ	20	
75-01-4	Vinyl chloride	62.50	ND		4.6	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	111		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-AO-1-20210331 Lab Sample ID: 140-22610-5

Matrix: Air Lab File ID: HD10P116D.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:03

Sample wt/vol: 500(mL) Date Analyzed: 04/10/2021 23:46

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48708 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		0.080	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		0.080	
79-00-5	1,1,2-Trichloroethane	133.41	ND		0.080	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		0.080	
75-34-3	1,1-Dichloroethane	98.96	ND		0.080	
75-35-4	1,1-Dichloroethene	96.94	ND		0.040	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		0.080	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		0.080	
106-93-4	1,2-Dibromoethane	187.87	ND		0.080	
95-50-1	1,2-Dichlorobenzene	147.00	ND		0.080	
107-06-2	1,2-Dichloroethane	98.96	ND		0.080	
78-87-5	1,2-Dichloropropane	112.99	ND		0.080	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND		0.080	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		0.080	
541-73-1	1,3-Dichlorobenzene	147.00	ND		0.080	
106-46-7	1,4-Dichlorobenzene	147.00	ND		0.080	
123-91-1	1,4-Dioxane	88.11	ND		0.20	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		0.20	
78-93-3	2-Butanone	72.11	0.37		0.32	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		0.20	
71-43-2	Benzene	78.11	0.082		0.080	
100-44-7	Benzyl chloride	126.58	ND		0.16	
75-27-4	Bromodichloromethane	163.83	ND		0.080	
75-25-2	Bromoform	252.75	ND		0.080	
74-83-9	Bromomethane	94.94	ND		0.080	
56-23-5	Carbon tetrachloride	153.81	0.050		0.032	
108-90-7	Chlorobenzene	112.56	ND		0.080	
75-00-3	Chloroethane	64.52	ND		0.080	
67-66-3	Chloroform	119.38	ND		0.080	
74-87-3	Chloromethane	50.49	0.44		0.20	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		0.040	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		0.080	
110-82-7	Cyclohexane	84.16	ND		0.20	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-AO-1-20210331 Lab Sample ID: 140-22610-5

Matrix: Air Lab File ID: HD10P116D.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:03

Sample wt/vol: 500(mL) Date Analyzed: 04/10/2021 23:46

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48708 Units: ppb v/v

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND		0.080	
75-71-8	Dichlorodifluoromethane	120.91	0.24		0.080	
64-17-5	Ethanol	46.07	16		2.0	
100-41-4	Ethylbenzene	106.17	ND		0.080	
87-68-3	Hexachlorobutadiene	260.76	ND		0.080	
110-54-3	Hexane	86.17	ND		0.20	
1634-04-4	Methyl tert-butyl ether	88.15	ND		0.16	
75-09-2	Methylene Chloride	84.93	ND		0.40	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		0.080	
91-20-3	Naphthalene	128.17	ND		0.20	
95-47-6	o-Xylene	106.17	ND		0.080	
100-42-5	Styrene	104.15	ND		0.080	
75-65-0	t-Butyl alcohol	74.12	ND		0.32	
127-18-4	Tetrachloroethene	165.83	ND		0.080	
108-88-3	Toluene	92.14	0.17		0.12	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		0.080	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		0.080	
79-01-6	Trichloroethene	131.39	ND		0.036	
75-69-4	Trichlorofluoromethane	137.37	0.13		0.080	
75-01-4	Vinyl chloride	62.50	ND		0.040	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	84		60-140

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-AO-1-20210331 Lab Sample ID: 140-22610-5

Matrix: Air Lab File ID: HD10P116D.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:03

Sample wt/vol: 500(mL) Date Analyzed: 04/10/2021 23:46

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48708 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
71-55-6	1,1,1-Trichloroethane	133.41	ND		0.44	
79-34-5	1,1,2,2-Tetrachloroethane	167.85	ND		0.55	
79-00-5	1,1,2-Trichloroethane	133.41	ND		0.44	
76-13-1	1,1,2-Trichlorotrifluoroethane	187.38	ND		0.61	
75-34-3	1,1-Dichloroethane	98.96	ND		0.32	
75-35-4	1,1-Dichloroethene	96.94	ND		0.16	
120-82-1	1,2,4-Trichlorobenzene	181.45	ND		0.59	
95-63-6	1,2,4-Trimethylbenzene	120.20	ND		0.39	
106-93-4	1,2-Dibromoethane	187.87	ND		0.61	
95-50-1	1,2-Dichlorobenzene	147.00	ND		0.48	
107-06-2	1,2-Dichloroethane	98.96	ND		0.32	
78-87-5	1,2-Dichloropropane	112.99	ND		0.37	
76-14-2	1,2-Dichlorotetrafluoroethane	170.92	ND		0.56	
108-67-8	1,3,5-Trimethylbenzene	120.20	ND		0.39	
541-73-1	1,3-Dichlorobenzene	147.00	ND		0.48	
106-46-7	1,4-Dichlorobenzene	147.00	ND		0.48	
123-91-1	1,4-Dioxane	88.11	ND		0.72	
540-84-1	2,2,4-Trimethylpentane	114.23	ND		0.93	
78-93-3	2-Butanone	72.11	1.1		0.94	
108-10-1	4-Methyl-2-pentanone (MIBK)	100.16	ND		0.82	
71-43-2	Benzene	78.11	0.26		0.26	
100-44-7	Benzyl chloride	126.58	ND		0.83	
75-27-4	Bromodichloromethane	163.83	ND		0.54	
75-25-2	Bromoform	252.75	ND		0.83	
74-83-9	Bromomethane	94.94	ND		0.31	
56-23-5	Carbon tetrachloride	153.81	0.32		0.20	
108-90-7	Chlorobenzene	112.56	ND		0.37	
75-00-3	Chloroethane	64.52	ND		0.21	
67-66-3	Chloroform	119.38	ND		0.39	
74-87-3	Chloromethane	50.49	0.90		0.41	
156-59-2	cis-1,2-Dichloroethene	96.94	ND		0.16	
10061-01-5	cis-1,3-Dichloropropene	110.97	ND		0.36	
110-82-7	Cyclohexane	84.16	ND		0.69	

FORM I
AIR - GC/MS VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Client Sample ID: KB-AO-1-20210331 Lab Sample ID: 140-22610-5

Matrix: Air Lab File ID: HD10P116D.D

Analysis Method: TO 15 LL Date Collected: 03/31/2021 16:03

Sample wt/vol: 500(mL) Date Analyzed: 04/10/2021 23:46

Soil Aliquot Vol: Dilution Factor: 1

Soil Extract Vol.: GC Column: RTX-5 ID: 0.32(mm)

% Moisture: Level: (low/med) Low

Analysis Batch No.: 48708 Units: ug/m3

CAS NO.	COMPOUND NAME	MOLECULAR WEIGHT	RESULT	Q	RL	
124-48-1	Dibromochloromethane	208.28	ND		0.68	
75-71-8	Dichlorodifluoromethane	120.91	1.2		0.40	
64-17-5	Ethanol	46.07	30		3.8	
100-41-4	Ethylbenzene	106.17	ND		0.35	
87-68-3	Hexachlorobutadiene	260.76	ND		0.85	
110-54-3	Hexane	86.17	ND		0.70	
1634-04-4	Methyl tert-butyl ether	88.15	ND		0.58	
75-09-2	Methylene Chloride	84.93	ND		1.4	
179601-23-1	m-Xylene & p-Xylene	106.17	ND		0.35	
91-20-3	Naphthalene	128.17	ND		1.0	
95-47-6	o-Xylene	106.17	ND		0.35	
100-42-5	Styrene	104.15	ND		0.34	
75-65-0	t-Butyl alcohol	74.12	ND		0.97	
127-18-4	Tetrachloroethene	165.83	ND		0.54	
108-88-3	Toluene	92.14	0.62		0.45	
156-60-5	trans-1,2-Dichloroethene	96.94	ND		0.32	
10061-02-6	trans-1,3-Dichloropropene	110.97	ND		0.36	
79-01-6	Trichloroethene	131.39	ND		0.19	
75-69-4	Trichlorofluoromethane	137.37	0.71		0.45	
75-01-4	Vinyl chloride	62.50	ND		0.10	

CAS NO.	SURROGATE	%REC	Q	LIMITS
460-00-4	4-Bromofluorobenzene (Surr)	84		60-140

QC NONCONFORMANCE DOCUMENTATION

FORM VI

AIR - GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA

CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1 Analy Batch No.: 48699

SDG No.:

Instrument ID: MH GC Column: RTX-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/09/2021 18:11 Calibration End Date: 04/10/2021 02:45 Calibration ID: 3031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10		B	M1	M2								
Chlorobenzene	+++++ 0.9359	+++++ 0.8726	1.0963 0.7792	1.0270 0.7192	0.9987 0.6987	Ave		0.8909				16.6		30.0			
Ethylbenzene	+++++ 1.6250	+++++ 1.5177	2.1416 1.3451	2.0011 1.2662	1.7800 1.3141	Ave		1.6238				20.1		30.0			
m-Xylene & p-Xylene	+++++ 1.2563	2.1412 1.1687	1.6782 1.0201	1.5622 0.9554	1.4044 +++++	Lin1	0.1292	1.0097							0.9910		0.9900
Nonane	+++++ 1.0721	+++++ 0.9952	1.3645 0.9193	1.4080 0.8620	1.2208 0.8660	Ave		1.0885				20.1		30.0			
Styrene	+++++ 0.7633	+++++ 0.7239	1.2598 0.6363	1.0506 0.5972	0.8542 0.5906	Lin1	0.0719	0.6011							0.9970		0.9900
Bromoform	+++++ 0.7959	+++++ 0.8093	0.7633 0.7606	0.7680 0.7384	0.7710 0.7480	Ave		0.7693				3.0		30.0			
o-Xylene	+++++ 1.2410	+++++ 1.1279	1.7802 0.9758	1.6096 0.9170	1.4007 0.9817	Ave		1.2542				25.3		30.0			
1,1,2,2-Tetrachloroethane	+++++ 1.0745	+++++ 0.9397	1.8047 +++++	1.5883 +++++	1.3062 +++++	Ave		1.3427				26.6		30.0			
1,2,3-Trichloropropane	+++++ 0.2006	+++++ 0.1893	0.3480 +++++	0.3135 +++++	0.2640 +++++	Ave		0.2631				26.3		30.0			
Isopropylbenzene	+++++ 1.7496	+++++ 1.5429	2.8521 +++++	2.6492 +++++	2.1235 +++++	Ave		2.1835				25.8		30.0			
Propylbenzene	+++++ 0.4509	+++++ 0.3885	0.7174 +++++	0.7028 +++++	0.5552 +++++	Ave		0.5630				26.1		30.0			
2-Chlorotoluene	+++++ 0.3977	+++++ 0.3613	0.6533 0.3009	0.6026 +++++	0.4782 +++++	Ave		0.4657				29.9		30.0			
4-Ethyltoluene	+++++ 1.8199	+++++ 1.5489	+++++ 1.2689	2.6994 +++++	2.2705 +++++	Ave		1.9215				29.7		30.0			
1,3,5-Trimethylbenzene	+++++ 0.7341	+++++ 0.6068	1.1855 +++++	1.1471 +++++	0.9595 +++++	Ave		0.9266				27.3		30.0			
Alpha Methyl Styrene	+++++ 0.6955	+++++ 0.5929	+++++ 0.4962	0.9430 0.4536	0.8312 +++++	Ave		0.6687				28.7		30.0			
Decane	+++++ 1.6328	+++++ 1.3704	2.0042 1.1844	2.0749 1.0368	1.8773 0.9565	Ave		1.5172				29.1		30.0			
tert-Butylbenzene	+++++ 1.8734	+++++ 1.5718	2.8405 1.3300	2.7415 +++++	2.3335 +++++	Ave		2.1151				29.4		30.0			
1,2,4-Trimethylbenzene	+++++ 1.6958	+++++ 1.3524	2.9285 1.0723	2.7254 +++++	2.2368 +++++	Ave		2.0019				37.5	*	30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
AIR - GC/MS VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1 Analy Batch No.: 48699

SDG No.:

Instrument ID: MH GC Column: RTX-5 ID: 0.32(mm) Heated Purge: (Y/N) N

Calibration Start Date: 04/09/2021 18:11 Calibration End Date: 04/10/2021 02:45 Calibration ID: 3031

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF	%RSD	#	MAX %RSD	R^2 OR COD	#	MIN R^2 OR COD
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5 LVL 10		B	M1	M2								
sec-Butylbenzene	+++++ 2.7129	+++++ 2.1935	4.2248 +++++	4.1352 +++++	3.4383 +++++	Ave		3.3409				26.5		30.0			
1,3-Dichlorobenzene	+++++ 0.8329	+++++ 0.7718	1.2187 0.6745	1.1078 0.6429	0.9904 0.6188	Ave		0.8572				26.3		30.0			
Benzyl chloride	+++++ 0.7665	+++++ 0.7832	0.6784 0.7471	0.6940 0.6972	0.7632 0.6479	Ave		0.7222				6.8		30.0			
1,4-Dichlorobenzene	+++++ 0.6965	+++++ 0.6795	0.9910 0.6248	0.8590 0.6120	0.8146 0.5874	Ave		0.7331				19.3		30.0			
4-Isopropyltoluene	+++++ 2.4360	+++++ 2.0634	3.1537 1.6024	3.0919 +++++	2.8322 +++++	Ave		2.5299				24.3		30.0			
1,2,3-Trimethylbenzene	+++++ 1.7650	2.9691 1.3935	2.7252 +++++	2.7649 +++++	2.3118 +++++	QuaF		2.3072	-0.461016						0.9960		0.9900
Indane	+++++ 1.2224	2.4350 +++++	2.1468 +++++	2.0702 +++++	1.6172 +++++	Ave		1.8983				25.2		30.0			
1,2-Dichlorobenzene	+++++ 0.9046	+++++ 0.7565	1.6629 +++++	1.4825 +++++	1.1741 +++++	Ave		1.1961				31.8	*	30.0			
Butylbenzene	+++++ 2.5534	+++++ 2.2544	3.0304 1.8068	3.0092 +++++	2.7594 +++++	Ave		2.5689				18.4		30.0			
Indene	+++++ 1.0467	+++++ 0.8595	+++++ 0.6786	1.3970 +++++	1.3007 +++++	Ave		1.0565				28.3		30.0			
Undecane	+++++ 2.1258	+++++ 2.1557	2.1916 2.0566	2.3612 1.7922	2.1608 1.3547	Ave		2.0248				15.5		30.0			
1,2-Dibromo-3-Chloropropane	+++++ 0.6129	+++++ 0.6810	0.5392 0.6177	0.5631 0.5067	0.5948 0.3832	Ave		0.5623				16.0		30.0			
1,2,4,5-Tetramethylbenzene	+++++ 2.6044	+++++ 2.6396	3.0297 2.4041	2.9994 1.9528	2.7060 +++++	Ave		2.6194				14.0		30.0			
Dodecane	+++++ 1.9765	+++++ 2.0935	1.9094 2.1629	2.2683 2.0496	1.9891 1.6653	Ave		2.0143				9.0		30.0			
1,2,4-Trichlorobenzene	+++++ 0.4873	0.6445 0.6413	0.4090 0.7214	0.4078 0.7507	0.4048 0.7351	Ave		0.5780				25.9		30.0			
Naphthalene	+++++ 1.0069	1.3827 1.2698	0.9049 1.3310	0.8617 1.2225	0.8630 1.1088	Ave		1.1057				18.6		30.0			
Hexachlorobutadiene	+++++ 1.7365	+++++ 1.5922	2.5866 1.3895	2.4024 +++++	1.9207 +++++	Ave		1.9380				24.2		30.0			
1,2,3-Trichlorobenzene	+++++ 0.4839	+++++ 0.6028	0.5025 0.6640	0.4264 0.6792	0.4466 0.6349	Ave		0.5550				18.3		30.0			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VII

AIR - GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Lab Sample ID: CCVIS 140-48707/2 Calibration Date: 04/12/2021 08:30

Instrument ID: MS Calib Start Date: 02/22/2021 12:57

GC Column: RTX-5 ID: 0.32(mm) Calib End Date: 02/22/2021 22:12

Lab File ID: SCCVD12.D Conc. Units: ppb v/v Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Chlorodifluoromethane	Ave	2.643	2.848		2.16	2.00	7.8	30.0
Propene	Ave	1.319	1.151		1.75	2.00	-12.7	30.0
Dichlorodifluoromethane	Ave	3.867	5.216		2.70	2.00	34.9*	30.0
Chloromethane	Ave	0.4078	0.2785		1.37	2.00	-31.7*	30.0
1,2-Dichlorotetrafluoroethane	Ave	2.097	2.813		2.68	2.00	34.1*	30.0
Acetaldehyde	Ave	0.5093	0.3142		6.17	10.0	-38.3*	30.0
Vinyl chloride	Ave	1.171	1.022		1.75	2.00	-12.7	30.0
Butane	Ave	1.725	1.155		1.34	2.00	-33.0*	30.0
1,3-Butadiene	Ave	0.9249	0.6904		1.49	2.00	-25.4	30.0
Bromomethane	Ave	1.067	1.134		2.13	2.00	6.3	30.0
Chloroethane	Ave	0.4599	0.3629		1.58	2.00	-21.1	30.0
Ethanol	Lin2		0.3036		6.42	10.0	-35.8*	30.0
Vinyl bromide	Ave	1.428	1.328		1.86	2.00	-7.0	30.0
2-Methylbutane	Ave	2.008	1.639		1.63	2.00	-18.4	30.0
Trichlorofluoromethane	Ave	3.685	5.271		2.86	2.00	43.0*	30.0
Acrolein	Ave	0.5094	0.4829		1.90	2.00	-5.2	30.0
Acetonitrile	Ave	0.7542	0.6189		1.64	2.00	-17.9	30.0
Acetone	Ave	0.8844	0.6994		4.75	6.00	-20.9	30.0
Isopropyl alcohol	Ave	2.189	2.103		5.77	6.00	-3.9	30.0
Pentane	Ave	0.1771	0.1565		1.77	2.00	-11.6	30.0
Ethyl ether	Ave	1.993	1.373		1.38	2.00	-31.1*	30.0
1,1-Dichloroethene	Ave	1.469	1.311		1.79	2.00	-10.7	30.0
t-Butyl alcohol	Ave	2.456	2.829		2.30	2.00	15.2	30.0
Acrylonitrile	Ave	1.243	1.088		1.75	2.00	-12.5	30.0
1,1,2-Trichlorotrifluoroethane	Ave	3.100	3.380		2.18	2.00	9.0	30.0
Methylene Chloride	Ave	1.452	1.265		1.74	2.00	-12.9	30.0
3-Chloropropene	Ave	1.442	1.255		1.74	2.00	-12.9	30.0
Carbon disulfide	Ave	4.788	3.868		1.62	2.00	-19.2	30.0
trans-1,2-Dichloroethene	Ave	1.480	1.300		1.76	2.00	-12.2	30.0
2-Methylpentane	Ave	3.953	3.155		1.60	2.00	-20.2	30.0
Methyl tert-butyl ether	Ave	3.721	3.794		2.04	2.00	2.0	30.0
1,1-Dichloroethane	Ave	3.081	2.984		1.94	2.00	-3.1	30.0
Vinyl acetate	Ave	3.855	2.979		1.55	2.00	-22.7	30.0
2-Butanone	Ave	0.7987	0.5741		1.44	2.00	-28.1	30.0
Hexane	Ave	1.277	1.096		1.72	2.00	-14.2	30.0
Isopropyl ether	Ave	5.732	4.691		1.64	2.00	-18.2	30.0
cis-1,2-Dichloroethene	Ave	1.613	1.351		1.67	2.00	-16.3	30.0
Ethyl acetate	Ave	3.854	3.215		1.67	2.00	-16.6	30.0
Chloroform	Ave	3.364	3.684		2.19	2.00	9.5	30.0
Tert-butyl ethyl ether	Ave	4.802	4.715		1.96	2.00	-1.8	30.0

FORM VII
AIR - GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Lab Sample ID: CCVIS 140-48707/2 Calibration Date: 04/12/2021 08:30

Instrument ID: MS Calib Start Date: 02/22/2021 12:57

GC Column: RTX-5 ID: 0.32(mm) Calib End Date: 02/22/2021 22:12

Lab File ID: SCCVD12.D Conc. Units: ppb v/v Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Tetrahydrofuran	Ave	1.952	1.457		1.49	2.00	-25.4	30.0
1,1,1-Trichloroethane	Ave	3.123	3.983		2.55	2.00	27.5	30.0
1,2-Dichloroethane	Ave	0.4404	0.5729		2.60	2.00	30.1*	30.0
1-Butanol	Ave	0.1497	0.0968		1.29	2.00	-35.3*	30.0
Benzene	Ave	0.9938	0.8472		1.70	2.00	-14.8	30.0
Cyclohexane	Ave	0.1522	0.1209		1.59	2.00	-20.6	30.0
Carbon tetrachloride	Ave	0.5300	0.9283		3.50	2.00	75.2*	30.0
2,3-Dimethylpentane	Ave	0.2079	0.1679		1.62	2.00	-19.2	30.0
Thiophene	Ave	0.5470	0.4885		1.79	2.00	-10.7	30.0
2,2,4-Trimethylpentane	Ave	1.677	1.455		1.73	2.00	-13.3	30.0
Heptane	Ave	0.3137	0.2449		1.56	2.00	-21.9	30.0
1,2-Dichloropropane	Ave	0.4216	0.3743		1.78	2.00	-11.2	30.0
Trichloroethene	Ave	0.3818	0.3856		2.02	2.00	1.0	30.0
Dibromomethane	Ave	0.3852	0.4318		2.24	2.00	12.1	30.0
1,4-Dioxane	Ave	0.1461	0.1308		1.79	2.00	-10.4	30.0
Bromodichloromethane	Ave	0.6425	0.8064		2.51	2.00	25.5	30.0
Methyl methacrylate	Ave	0.4598	0.4201		1.83	2.00	-8.6	30.0
Methylcyclohexane	Ave	0.5825	0.4713		1.62	2.00	-19.1	30.0
4-Methyl-2-pentanone (MIBK)	Ave	0.8483	0.7152		1.69	2.00	-15.7	30.0
cis-1,3-Dichloropropene	Ave	0.5280	0.5267		1.99	2.00	-0.3	30.0
trans-1,3-Dichloropropene	Ave	0.5355	0.5768		2.15	2.00	7.7	30.0
Toluene	Ave	1.381	1.254		1.82	2.00	-9.2	30.0
1,1,2-Trichloroethane	Ave	0.4419	0.4177		1.89	2.00	-5.5	30.0
2-Hexanone	Ave	0.4546	0.3846		1.69	2.00	-15.4	30.0
Octane	Ave	0.3554	0.3206		1.80	2.00	-9.8	30.0
Dibromochloromethane	Ave	0.6641	0.9634		2.90	2.00	45.1*	30.0
1,2-Dibromoethane	Ave	0.7018	0.7605		2.17	2.00	8.4	30.0
Tetrachloroethene	Ave	0.4743	0.5400		2.28	2.00	13.8	30.0
2,3-Dimethylheptane	Ave	1.396	1.277		1.83	2.00	-8.5	30.0
Chlorobenzene	Ave	0.9603	1.016		2.12	2.00	5.8	30.0
Ethylbenzene	Ave	1.750	1.728		1.97	2.00	-1.3	30.0
m-Xylene & p-Xylene	Ave	1.369	1.467		4.28	4.00	7.1	30.0
Nonane	Ave	0.9529	0.8816		1.85	2.00	-7.5	30.0
Bromoform	Ave	0.5762	0.9338		3.24	2.00	62.1*	30.0
Styrene	Ave	0.9228	0.9839		2.13	2.00	6.6	30.0
o-Xylene	Ave	1.461	1.607		2.20	2.00	10.1	30.0
1,1,2,2-Tetrachloroethane	Ave	1.089	1.092		2.01	2.00	0.3	30.0
1,2,3-Trichloropropane	Ave	0.2177	0.2933		2.69	2.00	34.7*	30.0
Isopropylbenzene	Ave	1.857	2.012		2.17	2.00	8.4	30.0
Propylbenzene	Ave	0.4918	0.5141		2.09	2.00	4.5	30.0
2-Chlorotoluene	Ave	0.4606	0.5241		2.28	2.00	13.8	30.0

FORM VII
AIR - GC/MS VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Lab Sample ID: CCVIS 140-48707/2 Calibration Date: 04/12/2021 08:30

Instrument ID: MS Calib Start Date: 02/22/2021 12:57

GC Column: RTX-5 ID: 0.32(mm) Calib End Date: 02/22/2021 22:12

Lab File ID: SCCVD12.D Conc. Units: ppb v/v Heated Purge: (Y/N) N

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
4-Ethyltoluene	Ave	1.899	2.165		2.28	2.00	14.0	30.0
1,3,5-Trimethylbenzene	Ave	0.7248	0.8022		2.21	2.00	10.7	30.0
Alpha Methyl Styrene	Ave	0.7211	0.8265		2.29	2.00	14.6	30.0
Decane	Ave	1.265	1.332		2.11	2.00	5.3	30.0
tert-Butylbenzene	Ave	1.602	1.956		2.44	2.00	22.1	30.0
1,2,4-Trimethylbenzene	Ave	1.617	2.018		2.50	2.00	24.8	30.0
sec-Butylbenzene	Ave	2.339	2.679		2.29	2.00	14.5	30.0
1,3-Dichlorobenzene	Ave	0.9580	1.206		2.52	2.00	25.9	30.0
Benzyl chloride	Ave	1.099	1.528		2.78	2.00	39.0*	30.0
1,4-Dichlorobenzene	Ave	0.9437	1.197		2.54	2.00	26.8	30.0
4-Isopropyltoluene	Ave	1.843	2.323		2.52	2.00	26.0	30.0
1,2,3-Trimethylbenzene	Lin1		2.092		2.71	2.00	~~35.5~~*	30.0
Butylcyclohexane	Ave	1.407	1.507		2.14	2.00	7.1	30.0
1,2-Dichlorobenzene	Ave	0.9404	1.233		2.62	2.00	31.1*	30.0
Indane	Ave	1.482	1.822		2.46	2.00	22.9	30.0
Butylbenzene	Ave	2.040	2.505		2.46	2.00	22.8	30.0
Indene	Ave	1.232	1.549		2.51	2.00	25.7	30.0
Undecane	Ave	1.442	1.543		2.14	2.00	7.0	30.0
1,2-Dibromo-3-Chloropropane	Ave	0.4081	0.5939		2.91	2.00	~~45.5~~*	30.0
1,2,4,5-Tetramethylbenzene	Ave	1.881	2.411		2.56	2.00	28.1	30.0
Dodecane	Ave	1.479	1.606		2.17	2.00	8.6	30.0
1,2,4-Trichlorobenzene	Ave	0.6969	0.8973		2.58	2.00	28.8	30.0
Naphthalene	Ave	1.963	2.135		2.18	2.00	8.8	30.0
Hexachlorobutadiene	Ave	0.6298	1.041		3.31	2.00	65.3*	30.0
1,2,3-Trichlorobenzene	Ave	0.5691	0.7157		2.52	2.00	25.8	30.0
2-Methylnaphthalene	Ave	0.2828	0.6818		4.82	2.00	~~141.1~~*	50.0
1-Methylnaphthalene	Ave	0.3880	0.7010		3.61	2.00	~~80.7~~*	50.0
4-Bromofluorobenzene (Surr)	Ave	0.8356	1.021		5.67	4.64	22.2	30.0

FORM III

AIR - GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Matrix: Air Level: Low Lab File ID: SCCVD12-LCS.d

Lab ID: LCS 140-48707/1002 Client ID:

COMPOUND	SPIKE ADDED (ppb v/v)	LCS CONCENTRATION (ppb v/v)	LCS % REC	QC LIMITS REC	#
1,1,1-Trichloroethane	2.00	2.55	128	70-130	
1,1,2,2-Tetrachloroethane	2.00	2.01	100	70-130	
1,1,2-Trichloroethane	2.00	1.89	95	70-130	
1,1,2-Trichlorotrifluoroethane	2.00	2.18	109	70-130	
1,1-Dichloroethane	2.00	1.94	97	70-130	
1,1-Dichloroethene	2.00	1.79	89	70-130	
1,2,4-Trichlorobenzene	2.00	2.58	129	60-140	
1,2,4-Trimethylbenzene	2.00	2.50	125	70-130	
1,2-Dibromoethane	2.00	2.17	108	70-130	
1,2-Dichlorobenzene	2.00	2.62	131	70-130	*+
1,2-Dichloroethane	2.00	2.60	130	70-130	
1,2-Dichloropropane	2.00	1.78	89	70-130	
1,2-Dichlorotetrafluoroethane	2.00	2.68	134	60-140	
1,3,5-Trimethylbenzene	2.00	2.21	111	70-130	
1,3-Dichlorobenzene	2.00	2.52	126	70-130	
1,4-Dichlorobenzene	2.00	2.54	127	70-130	
1,4-Dioxane	2.00	1.79	90	60-140	
2,2,4-Trimethylpentane	2.00	1.73	87	70-130	
2-Butanone	2.00	1.44	72	60-140	
4-Methyl-2-pentanone (MIBK)	2.00	1.69	84	60-140	
Benzene	2.00	1.70	85	70-130	
Benzyl chloride	2.00	2.78	139	70-130	*+
Bromodichloromethane	2.00	2.51	126	70-130	
Bromoform	2.00	3.24	162	60-140	*+
Bromomethane	2.00	2.13	106	70-130	
Carbon tetrachloride	2.00	3.50	175	70-130	*+
Chlorobenzene	2.00	2.12	106	70-130	
Chloroethane	2.00	1.58	79	70-130	
Chloroform	2.00	2.19	109	70-130	
Chloromethane	2.00	1.37	68	60-140	
cis-1,2-Dichloroethene	2.00	1.67	84	70-130	
cis-1,3-Dichloropropene	2.00	1.99	100	70-130	
Cyclohexane	2.00	1.59	79	70-130	
Dibromochloromethane	2.00	2.90	145	70-130	*+
Dichlorodifluoromethane	2.00	2.70	135	60-140	
Ethanol	10.0	6.42	64	60-140	
Ethylbenzene	2.00	1.97	99	70-130	
Hexachlorobutadiene	2.00	3.31	165	60-140	*+
Hexane	2.00	1.72	86	70-130	
Methyl tert-butyl ether	2.00	2.04	102	60-140	
Methylene Chloride	2.00	1.74	87	70-130	
m-Xylene & p-Xylene	4.00	4.28	107	70-130	

Column to be used to flag recovery and RPD values

FORM III TO 15 LL

FORM III
AIR - GC/MS VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins TestAmerica, Knoxville Job No.: 140-22610-1

SDG No.:

Matrix: Air Level: Low Lab File ID: SCCVD12-LCS.d

Lab ID: LCS 140-48707/1002 Client ID:

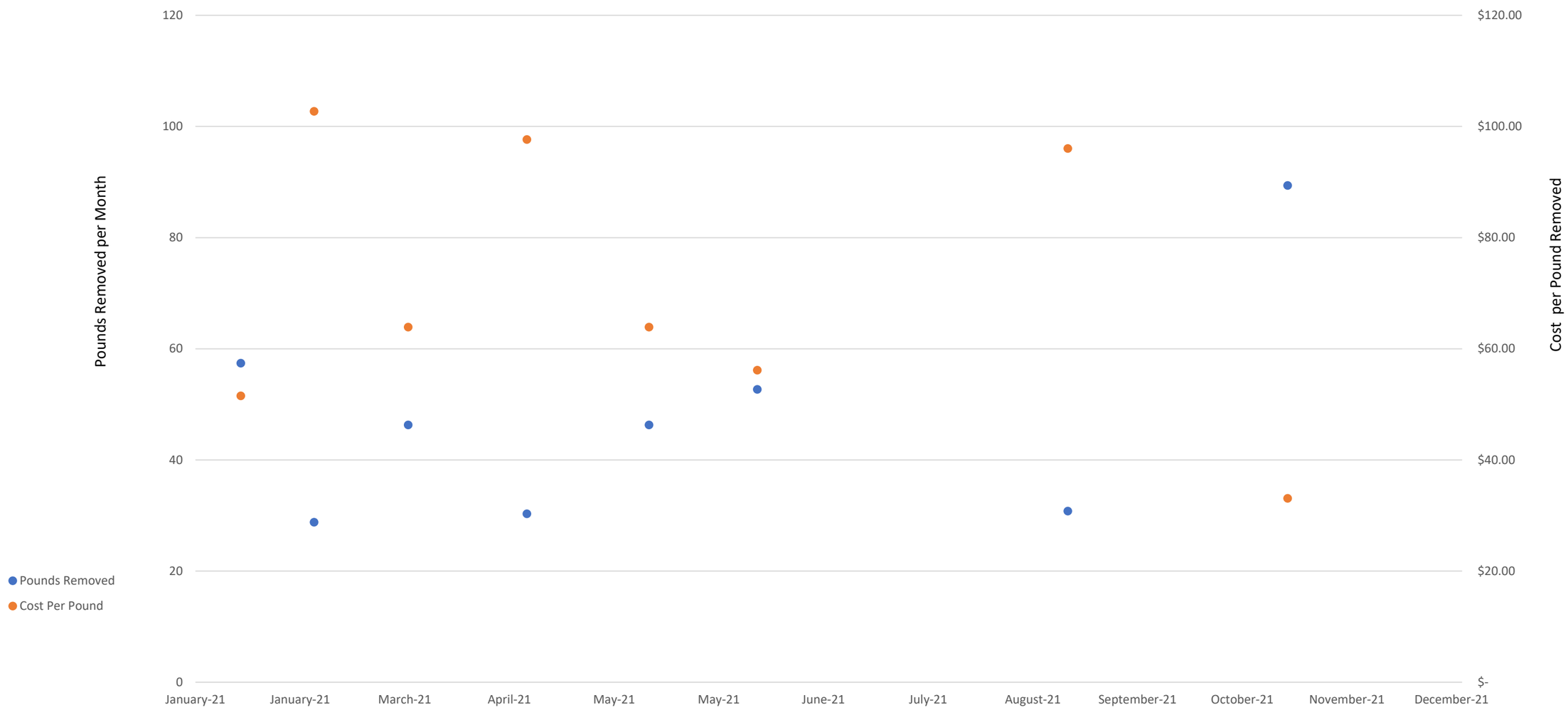
COMPOUND	SPIKE ADDED (ppb v/v)	LCS CONCENTRATION (ppb v/v)	LCS % REC	QC LIMITS REC	#
Naphthalene	2.00	2.18	109	60-140	
o-Xylene	2.00	2.20	110	70-130	
Styrene	2.00	2.13	107	70-130	
t-Butyl alcohol	2.00	2.30	115	60-140	
Tetrachloroethene	2.00	2.28	114	70-130	
Toluene	2.00	1.82	91	70-130	
trans-1,2-Dichloroethene	2.00	1.76	88	70-130	
trans-1,3-Dichloropropene	2.00	2.15	108	70-130	
Trichloroethene	2.00	2.02	101	70-130	
Trichlorofluoromethane	2.00	2.86	143	60-140	*+
Vinyl chloride	2.00	1.75	87	70-130	

Column to be used to flag recovery and RPD values

FORM III TO 15 LL

Appendix J

Appendix J
New York State Department of Environmental Conservation
SMP B - Kliegman Brothers - Site No. 241031
Periodic Review Report
Glendale, Queens, New York
Cost Summary of SVE System PCE Recovery



Notes
1. SVE influent sampling frequency was reduced to once every other month beginning in June 2021.
2. The SVE system was shut down on August 5, 2021 and could not be restarted until September 8, 2021.
3. Cost per pound of PCE removed calculated by dividing the total cost for the reporting period by 12 months, then dividing by the pounds of PCE removed that month.