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FOCUSED
REMEDIAL INVESTIGATION/
PRELIMINARY INTERIM REMEDIAL
MEASURES WORK PLAN

FOR THE

FORMER KLIEGMAN BROS. SITE

76-01 77TH AVENUE

GLENDALE, QUEENS, NY

PREPARED FOR

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March, 2001

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C	ACT Soil Sampling Data
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SECTION 1.0

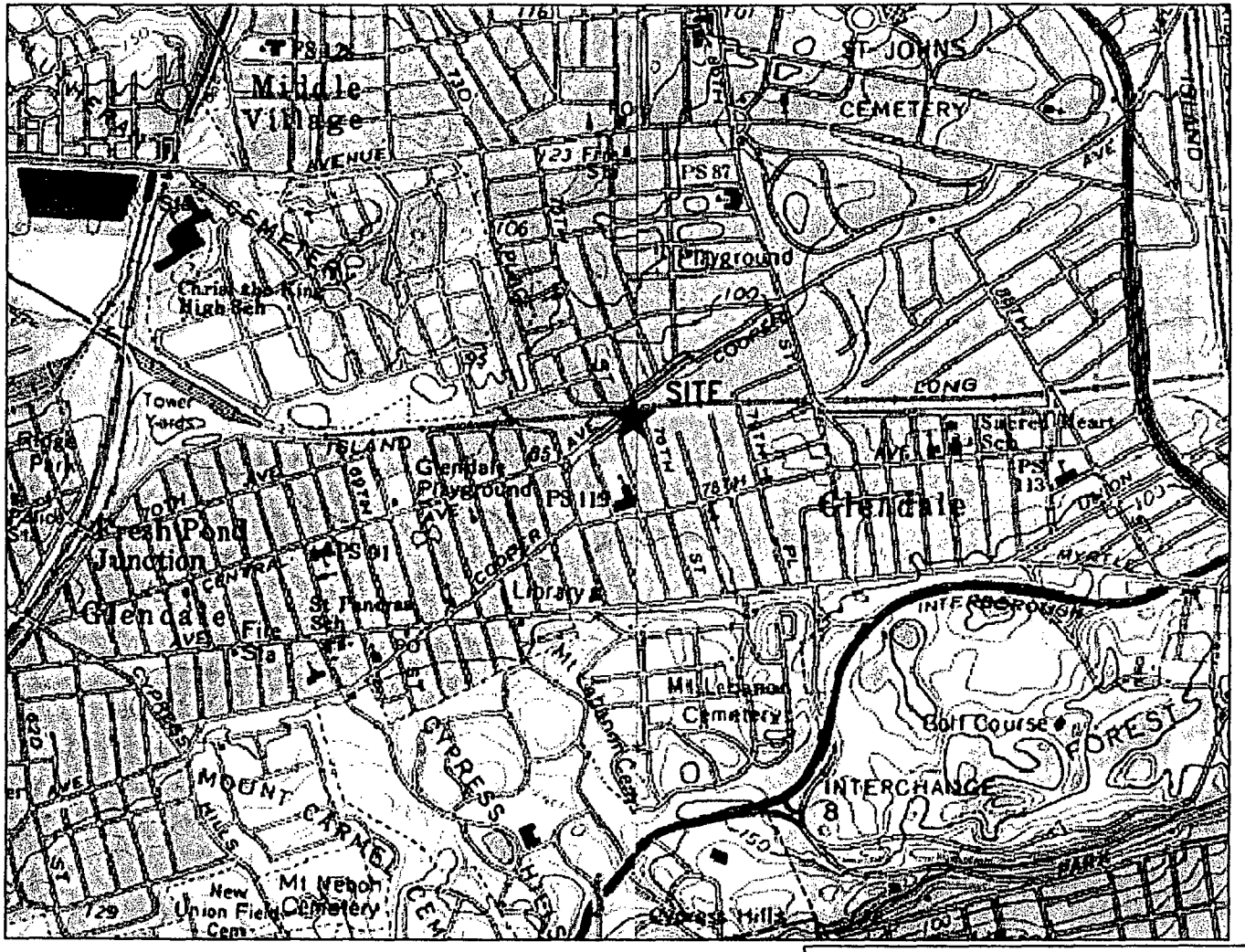
INTRODUCTION

This Focused Remedial Investigation/Interim Remedial Measures Work Plan has been prepared for the former Kliegman Bros., Inc. Site (the Site) located at 76-01 77th Avenue, Glendale, Queens, New York (see Figure 1.1 for Site location). Based on the U.S. Geological Survey Quadrangle Maps, the coordinates for the location of the Site are 40 degrees, 42 minutes North and 73 degrees, 52 minutes West.

Previous investigations at the Site performed by several consultants have all shown that the Site has been impacted by tetrachloroethylene (also known as perchloroethylene or PCE). PCE was found to be present in the Site soils at highly elevated levels. Perched water exists at the southern portion of the Site at a depth of approximately 12 feet below grade. Based on previous investigations, perched water does not appear to exist in the northern portion of the Site to a depth of at least 30 feet. The depth to the regional water table is expected to be approximately 85 feet.

The Site is located in a primarily residential area of Glendale, Queens. Residences are located adjacent to the Site on the south and west and are separated from the Site by roads. The Long Island Rail Road tracks are located adjacent to the northern boundary of the Site and residences and commercial properties exist adjacent and north of the tracks. On the east side of the site, a residence is attached to the Site building and the two buildings appear to share a common wall.

The purpose of this work plan is to delineate the on-Site soil contamination for the purpose of obtaining information to design a soil vapor extraction system or systems to remediate the on-Site soil and reduce or eliminate the potential for soil vapors to migrate off Site. In addition, the regional groundwater beneath the Site will be evaluated to determine if it has been impacted by past Site



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FIGURE 1.1
SITE LOCATION
FORMER KLIEGMAN BROS. SITE
GLENDALE, QUEENS, NEW YORK

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activities.

Following the investigation, a Final Interim Remedial Measure (IRM) Work Plan for the remediation of the soil will be prepared.

A health and safety plan is included in Appendix A which will be followed for all field activities.

SECTION 2.0

ENVIRONMENTAL SETTING

2.1 Hydrogeologic Setting

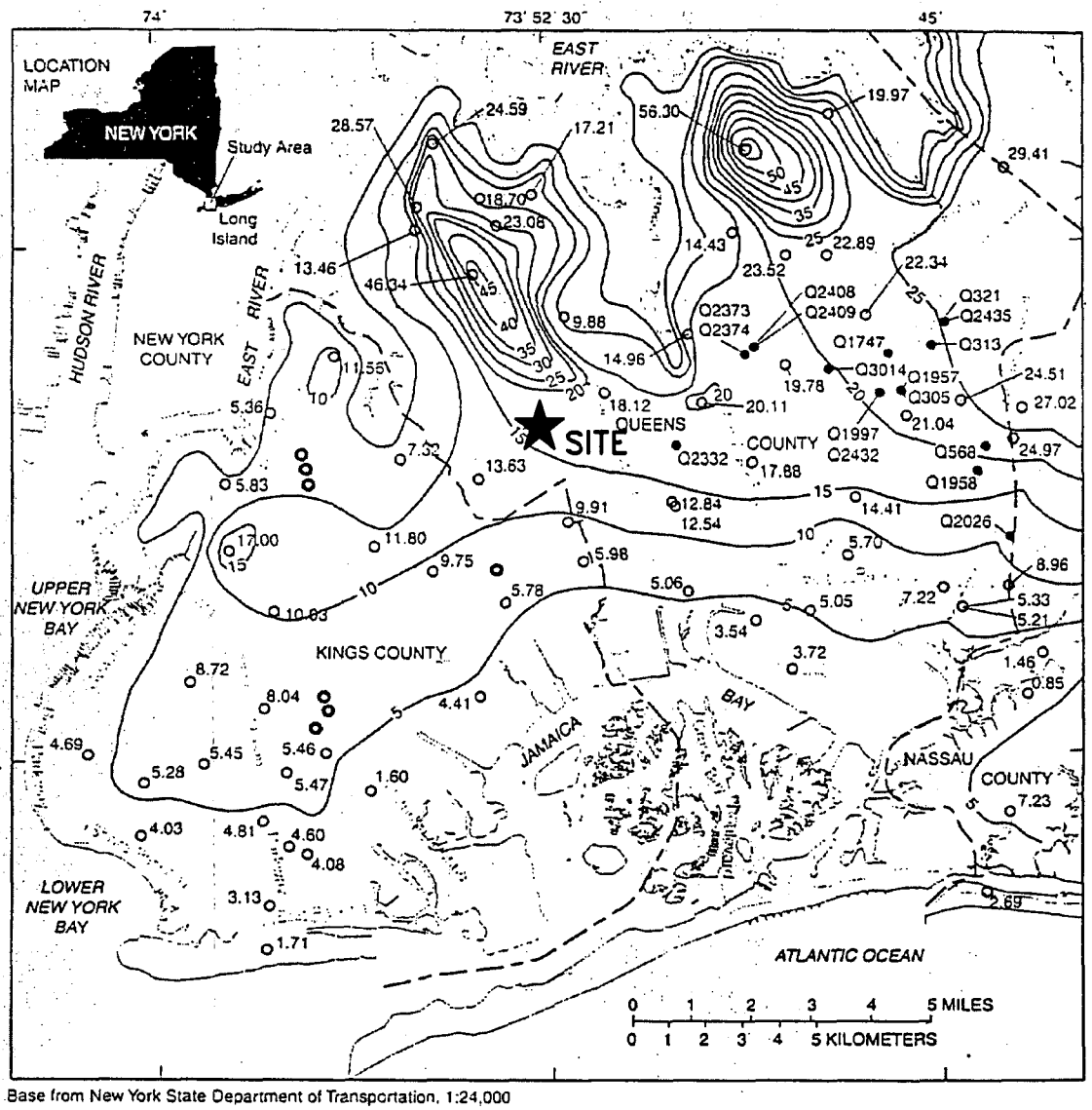
The regional geology of the Site area consists of a base of Precambrian crystalline bedrock predominantly comprised of schist and gneiss which is overlain by a series of unconsolidated deposits. The depth to bedrock at the Site is approximately 500 feet below grade. The bedrock is overlain by the Lloyd Sand which consists of light-colored sand and gravel.

The Raritan Clay overlies the Lloyd Sand and acts as a confining unit. The top of the Raritan Clay occurs at a depth of approximately 310 feet. The Raritan Clay is composed of multi-colored clay, silt, and some very fine-grained to fine-grained sand.

Overlying the Raritan Formation is the Magothy Formation which consists of non-fossiliferous beds and lenses of gray and white fine-grained quartz sand, clayey and silty sand, and clay. The Magothy Formation, if present beneath the Site, occurs at a depth of approximately 300 feet. The Upper Glacial Formation occurs from the surface to approximately 300 feet. The Gardiner's Clay is present beneath the Site and occurs at a depth of approximately 200 feet below grade. The Gardiners Clay is a marine interglacial deposit and is a dark-colored clay with lenses of green silt and very fine sand and thin layers of fine gravel.

The Gardiners Clay is overlain by upper Pleistocene glacial outwash deposits. These deposits are composed of stratified medium-to-coarse-grained sand and gravel.

The hydrogeology in the Site area was derived from the U.S. Geological Survey paper entitled "Water-Table Altitude in King and Queens Counties, New York, in March, 1997." Based on this information, the elevation of the water table in the Site area is approximately 15 feet above mean sea level (MSL) (see Figure 2.1.1 for regional groundwater elevations in the Site area). Based on



Base from New York State Department of Transportation, 1:24,000

EXPLANATION

—5— WATER-TABLE CONTOUR- Shows altitude of water table. Contour interval 5 feet. Datum is sea level.

o 22.76 OBSERVATION WELL- Number is water-level altitude, in feet above sea level.

●Q2435 PUBLIC-SUPPLY WELL PUMPING IN MARCH 1997

o DEWATERING SITE- Metropolitan Transit Authority subway

Fig. 1. Water-table configuration of Kings and Queens Counties, Long Island, N.Y., in March 1997

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FIGURE 2.1.1
REGIONAL GROUNDWATER ELEVATION
FORMER KLIEGMAN BROS. SITE
GLENDALE, QUEENS, NEW YORK

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the U.S. Geological Survey quadrangle map for the Site area, the surface elevation is approximately 100 feet. Therefore, the depth to water at the Site is estimated to be 85 feet. The regional groundwater in the vicinity of the Site is generally to the southwest. It should be noted that based on Site-specific borings, there is a perched water zone that is present in the southern portion of the Site but it apparently does not exist in the northern part of the Site.

Site-specific geological information was obtained from the boring logs from previous subsurface investigations at the Site. The depth of the borings did not exceed 32 feet. In general, the information obtained indicates that the shallow geology in the northern portion of the Site consists of fine to course sand with some areas of silt. There was limited areas of clay lenses described in some borings on the western edge of the Site.

2.2 Topography and Drainage

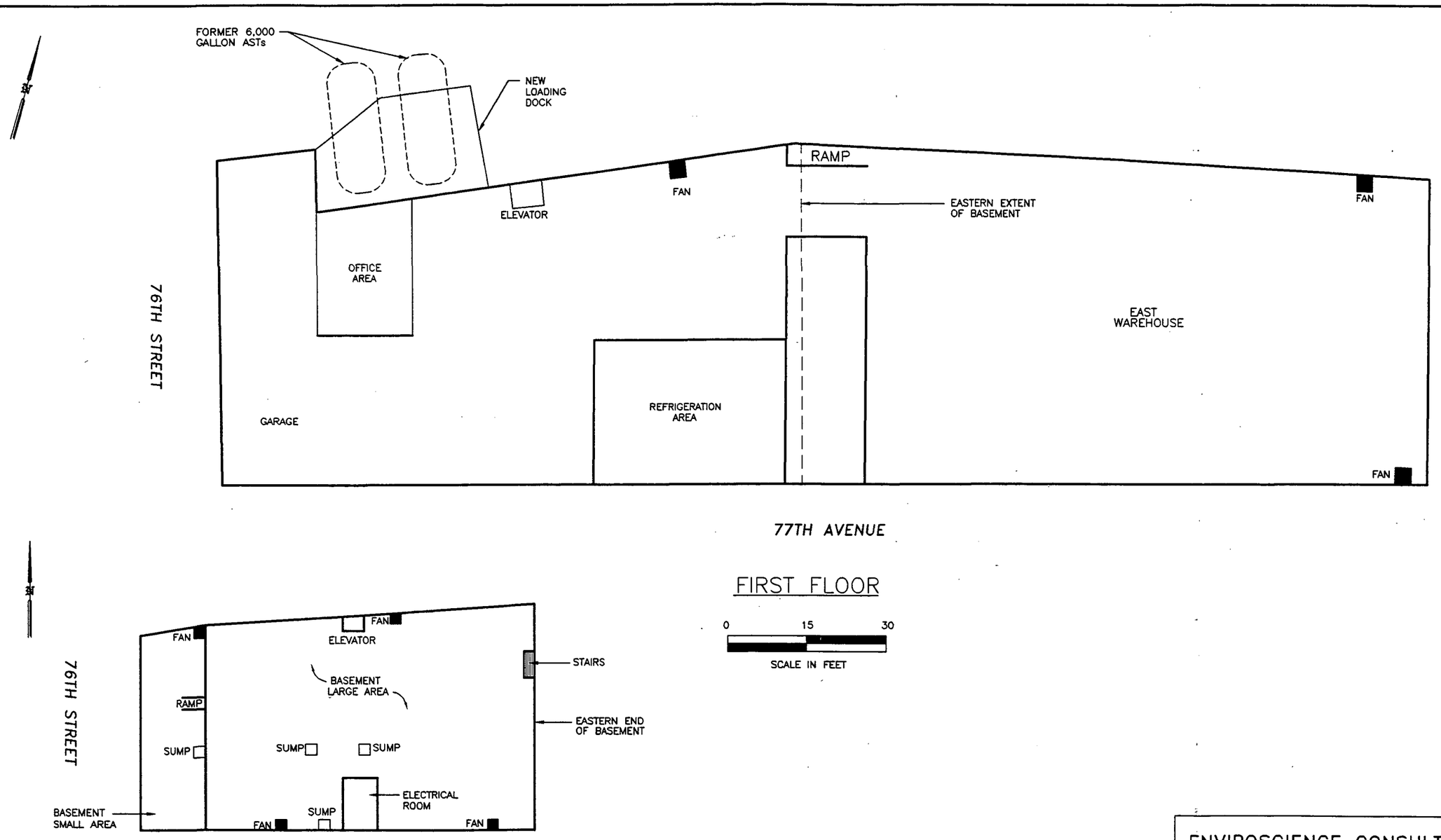
The elevation of the Site is approximately 100 feet above mean sea level (MSL). The grade at the Site is generally flat. No surface water bodies exist in the immediate area of the Site. The nearest surface water is several small ponds associated with a golf course which exists approximately one-half mile south of the Site.

SECTION 3.0

SITE BACKGROUND

The previous use at the Site was as a warehouse and distribution facility for laundry and dry-cleaning supplies and chemicals (see Figure 3.1 for Site layout). These activities have occurred since approximately 1940 and ceased prior to occupancy by the current owner. The previous owner of the Site was Kliegman Brothers, Inc. The contamination is likely to be primarily related to two former 6000-gallon aboveground storage tanks (ASTs) which are reported to have contained PCE. In addition, a spur from the Long Island Rail Road was reported to have formerly existed just north of the building and entering from the east and ending at the new loading dock. It is possible that transfers of PCE may have occurred from rail cars to the USTs and spillage along the area of the spur may have occurred. Finally, Mr. Joseph O'Connell of New York State Department of Environmental Conservation (NYSDEC) reported that USTs or ASTs may have existed in the area of the eastern end of the building. Enviroscience performed a site inspection and found no evidence of ASTs or USTs in this area.

Sanborn Insurance maps were evaluated for the years 1914, 1936, 1950, 1981, 1982, 1985, 1986, 1988, 1990, 1991, 1992, 1993, 1994, 1995, and 1996. Based on a review of these maps, the Site had not been constructed in 1914 as Edsall Avenue existed at the Site. The 1936 map shows that the Site has been developed and appears to be in the same configuration as it is today. The western half of the Site is shown to be occupied by Equitable Plumbing Supply Co. and the eastern half is occupied by Columbo Radiator Co. The 1950 map shows that the entire site is occupied by Kliegman Bros. The only other significant change shown in the maps after 1950 is the presence of the two above-ground storage tanks in the 1994 map. These two tanks are shown at the location of the two recently-removed 6000-gallon tanks. No other above or underground tanks or any other potential source areas were identified in any of the maps.



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FIGURE 3.1

BUILDING LAYOUT

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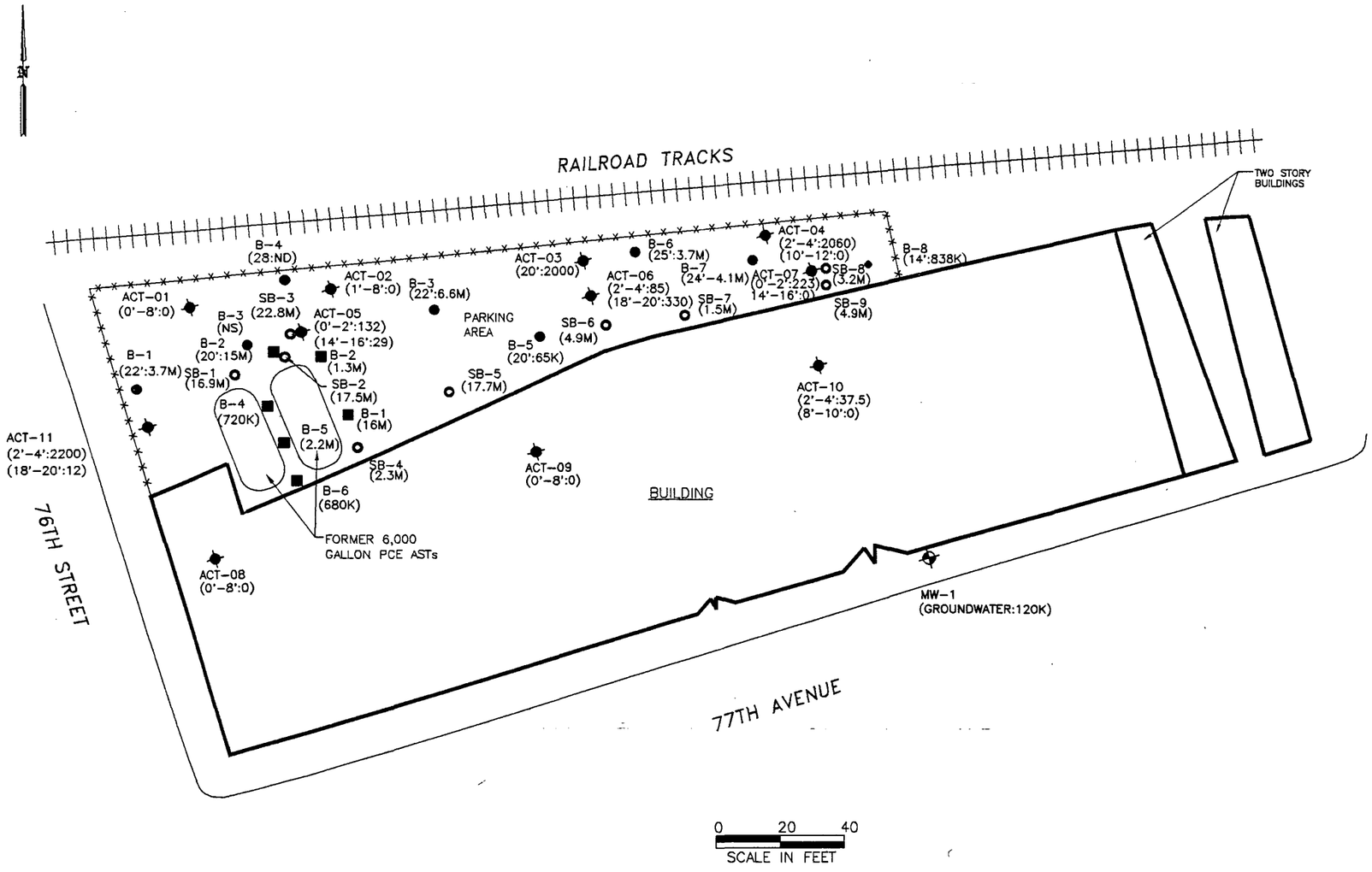
The current owner of the Site is Arimax Realty, LLC. A food importer began operations at the Site in November, 2000. The current operations at the Site involve the importing of bulk food products and repackaging the foods for resale. A loading dock was recently constructed in the area of the former ASTs (see Figure 3.1 for Site layout). On the first floor of the building, a garage and office area exist on the west side of the Site. In the central portion of the Site, a refrigeration area is present for the storage of food products. The eastern portion of the first floor is used for the warehousing of bulk food items. The basement exists only beneath the western portion of the building and is used for storage of bulk food items and as well as minor food processing activities.

3.1 Previous Investigations

Soil investigations were performed by various consultants including EEA, Inc., Tradewinds, ACT, URS, and Horizon Consultants. Figure 3.1.1 shows the approximate sampling locations and a summary of the PCE results at each of the sampling locations (the URS data is shown in Appendix B). The results of the investigation show that PCE (as well as PCE breakdown products) is present throughout the north parking area. The deepest boring performed at the Site (32 feet) showed significant contamination based on photoionization detector (PID) readings. Therefore, the vertical extent of contamination has not been delineated.

Soil gas samples were obtained from beneath the sidewalk in the area along the southern and western boundaries of the property. The results showed high levels of PCE and related volatile organic compounds (VOCs) along the entire southern boundary of the Site and significantly elevated readings along the western boundary. This may be due to the presence of a clay layer (which is known to exist on the southern portion of the Site based on the presence of perched water at 12 feet below grade at groundwater monitoring well MW-1).

One groundwater monitoring well (MW-1) exists at the Site. The well was installed following the removal of a 550-gallon fuel oil UST in January, 1992. Floating petroleum product



LEGEND

- ● EEA (DEPTH OF SOIL SAMPLE, CONCENTRATIONS IN ppb)
- ○ TRADEWINDS (CONCENTRATIONS IN ppb)
- ✸ ACT–ppm PID READINGS IN ppm (SELECTED SAMPLES SHOWN INCLUDING DEEPEST SAMPLE)
- ■ HORIZON (SAMPLES OBTAINED AT 1 TO 2 FEET) (CONCENTRATIONS IN ppb)
- ⊕ GROUNDWATER MONITORING WELL

NOTES:

NS– NO SAMPLE OBTAINED
ND– NOT DETECTED
LOCATIONS ARE APPROXIMATE
K–THOUSAND
M–MILLION

FORMER KLIEGMAN BROS. SITE GLENDALE, QUEENS, NEW YORK	Drawn By: L.G. Checked By: P.D.
FIGURE 3.1.1 PREVIOUS SAMPLING LOCATIONS	Scale: 1"=40' Date: 11/06/00
ENVIROSCIENCE CONSULTANTS, INC. Ronkonkoma New York	File Name: Drawing No. PLATE1 Sheet 1 of 2

had been detected in the well in the past, however, during the URS investigation in June, 2000, no floating product or DNAPL (dense non-aqueous phase liquid) was detected in the well. Recent sampling of the well has shown the presence of high levels of PCE and other VOCs in the well.

Three borings were performed beneath the building by ACT (the locations of the borings was shown in Figure 3.1.1). Continuous sampling was performed to a depth of up to 10 feet. No laboratory analysis of the samples was performed. All samples performed by ACT were field analyzed with a photoionization detector (PID). The highest concentration detected beneath the building was 37.5 ppm at location ACT-10(see Appendix C for the ACT results).

Copies of previous investigation reports were submitted to Mr. O'Connell.

3.2 Air Sampling Investigation Results

Enviroscience performed air sampling within the Site building on three occasions: November 9, 2000; December 14, 2000, and; January 16, 2001. The purpose of the air sampling was to determine the concentrations of PCE in the air within the building. All air sampling was performed using Summa canisters with a two-hour sampling period. The results of the first round of sampling were submitted to the NYSDOH in a report dated December 1, 2000 (see Appendix D for the report). The results of the first round of sampling showed that elevated levels of PCE as well as petroleum constituents were present in the large and small areas of the basement. The PCE (and its breakdown products) is likely to be emanating from the sumps (which contained a PCE odor) and, possibly, off-gassing through the concrete floor. Where possible, some of the sumps were sealed to reduce off-gassing into the building. The petroleum constituents are likely to be emanating from the epoxy paint which had been applied to the basement floor a few days before the air sampling took place (no significant concentrations of petroleum constituents were detected in the later two rounds). Based on this result, three exhaust fans (4000 cfm each) were installed in the basement to reduce the concentrations of PCE in the basement. The fans are operational 24 hours a day. After

the fans were operating for at least one week, the air was resampled. In addition, samples were obtained from the first floor office area and the east side of the warehouse. Results for PCE for the three rounds of sampling are summarized in Table 3.1.1 and the laboratory reports are found in Appendix E (results in the laboratory report are listed in parts per billion which is converted to micrograms per cubic meter by multiplying by 6.79). The results from the second round of sampling show a significant decrease in concentrations. However, it was found that the first floor also had elevated levels of PCE. Therefore, two exhaust fans were installed at the east end of the first floor and one intake fan was installed on the west side of the first floor. Also, a fan was installed in the small basement area. Several windows on the first floor were also permanently opened to provide make-up air to replace the exhausted air.

After the installation of all seven fans, and their operation for at least one week, the third round of sampling was performed. The results showed a further decline in PCE concentrations.

In addition to the investigation performed by Enviroscience within the Site building, the NYSDOH performed an investigation of the indoor air quality of numerous residences located adjacent to the Site. The sampling was performed on October 25th and 26th, 2000. The locations of the residences sampled and the results of the investigation are shown in Appendix F. The results show that one home was deemed by the NYSDOH to have elevated concentrations of PCE in a sample obtained in the basement of the residence located at 75-20 Edsall Avenue. However, it was noted that the probable pathway for PCE to enter the basement was through a floor drain. The floor drain has since been sealed and the NYSDOH plans to obtain another sample in the basement to determine if the levels of PCE have decreased.

TABLE 3.2.1
INDOOR AIR SAMPLING RESULTS FOR PCE
AT THE FORMER KLEIGMAN BROS. BUILDING
(all results in ug/m^3)

Date	Large Basement	Small Basement	First Floor Office Area	First Floor East Side	Outdoors
11/9/00	7,661	9,628	NS	NS	3
12/14/00	373	1,492	62	441	NS
1/16/01	353	536	14	95	NS

NS = not sampled

SECTION 4.0

WORK PLAN RATIONALE

4.1 Data Quality Objectives

The Data Quality Objectives (DQOs) for the Remedial Investigation will be applicable to all data-gathering activities at the Site. DQOs will be incorporated into sampling, analysis, and quality assurance tasks associated with the Remedial Investigation.

The primary data users for this project will be Enviroscience and the NYSDEC. No other data users are anticipated at this time.

Data to be collected during the Remedial Investigation are intended to characterize the nature and extent of soil and groundwater contamination at the Site. These data will allow for the evaluation and implementation of remedial alternatives or interim remedial measures (IRMs).

For this project, it is anticipated that field screening will be performed during any soil or groundwater sampling. Field screening includes monitoring for volatile organic compounds using a Photovac MicroTIP photoionization detector (PID) and visual observations of soil or groundwater characteristics. Selected samples will be analyzed by a New York State Department of Health (NYSDOH) ELAP-approved laboratory for VOCs.

The data will be used for Site characterization, possible risk assessment, evaluation of remedial alternatives or IRMs, and remedial design.

4.2 Work Plan Approach

The work plan approach is to present and evaluate previous Site data, as appropriate for the respective DQOs. The existing information will be incorporated into the tasks necessary for the completion of additional data gathering to evaluate potential remedial alternatives for the Site. Data previously collected will be supplemented by additional sampling and analysis. Based on the

findings of the investigation, remedial alternatives and IRMs may be evaluated and the most feasible alternative(s) will be identified.

4.3 Applicable or Relevant and Appropriate Requirements

The following applicable or relevant and appropriate requirements for the Site have been preliminarily identified:

- The NYSDEC Recommended Soil Cleanup Objectives (TAGM # 4046) will be used to compare soil samples.
- The NYSDEC Class "GA" Ambient Water Quality Standards 6 NYCRR Part 703.5 and the Division of Water Technical and Operational Guidance Series Ambient Water Quality Standards and Guidance Values will be used to compare the groundwater analytical results.

SECTION 5.0

FIELD SAMPLING PLAN

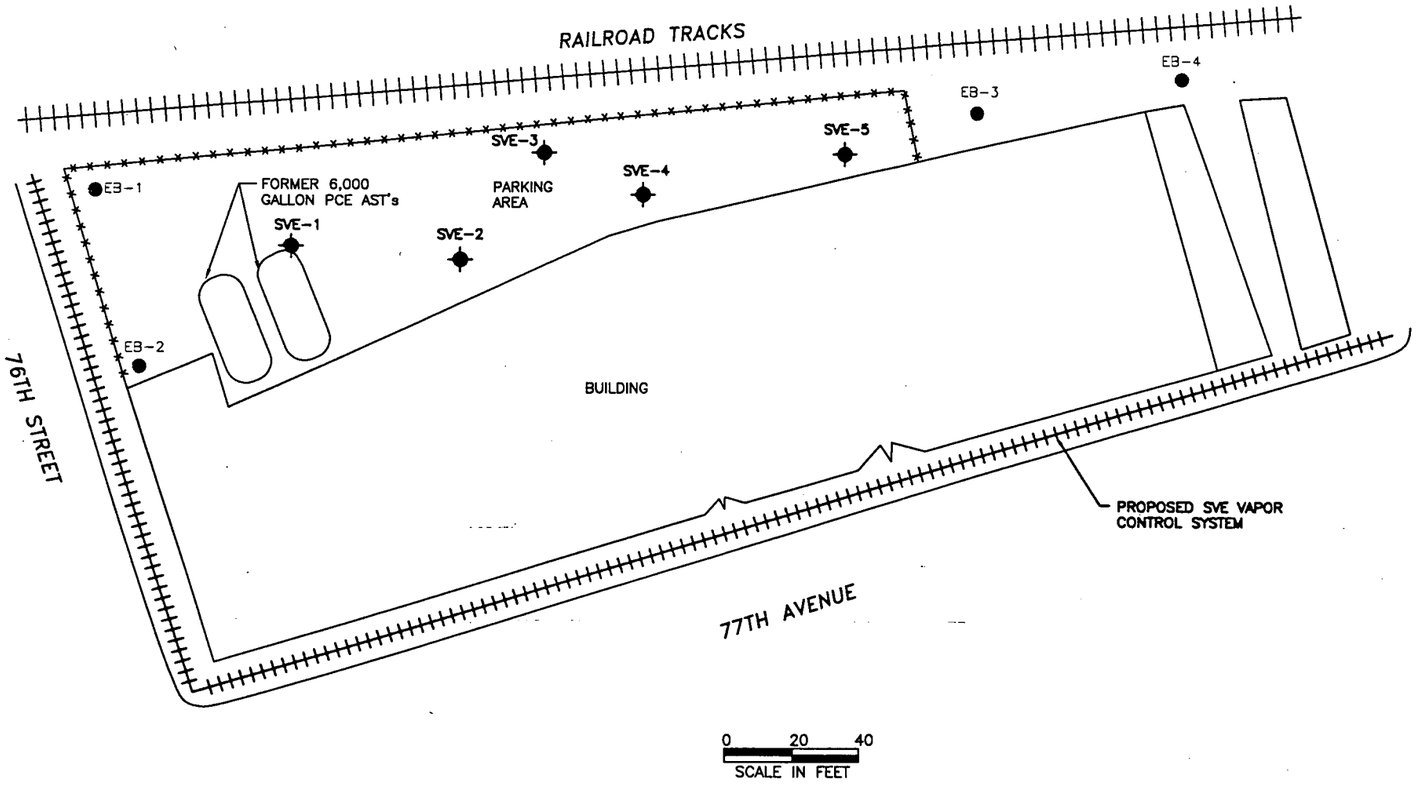
The field sampling plan has been prepared to further delineate the lateral and vertical extent of VOC contamination in the vadose zone at the Site. In addition, samples of the groundwater beneath the Site will be evaluated to determine if VOCs have impacted the groundwater.

5.1 Subsurface Investigation

Nine borings are proposed to be performed in the north yard area as shown on Figure 5.1.1. The locations of these borings were selected to further evaluate the lateral extent of contamination and to obtain information on the vertical extent of contamination, and to evaluate the geology of the vadose zone at the Site.

Borings SVE-1 through SVE-5 will be performed using hollow-stem auger drilling. At these borings, soil vapor extraction (SVE) wells will be installed following the completion of the borings since these are likely areas that will be part of an SVE system to remediate the Site soil. These borings will be advanced through the vadose zone and into the regional groundwater.

During the performance of borings SVE-1 and SVE-5, continuous split-spoon samples will be obtained. At all other boring locations, split-spoon soil samples will be obtained at five-foot intervals. All split-spoon samples will be evaluated using the USCS soil classification methods for grain size and color. In addition, all split-spoon soil samples will be evaluated using a PID to evaluate the potential presence of VOCs. At boring locations SVE-1 through SVE-5, three representative samples will be retained for laboratory analysis. In general, these samples will be obtained from depth intervals beyond 30 feet. Based on the previous investigations at the site, all five investigations concluded that the north parking area was significantly contaminated in most areas. However, all of the prior investigations evaluated the soil down to a depth of approximately



LEGEND

- PROPOSED BORING/SVE WELL LOCATIONS
- PROPOSED BORING LOCATIONS

FORMER KLIEGMAN BROS. SITE GLENDALE, QUEENS, NEW YORK	Drawn By: L.G.
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FIGURE 5.1.1 PROPOSED SAMPLING LOCATIONS AND PROPOSED LOCATION OF VAPOR CONTROL SYSTEM	Scale: 1"=40'
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ENVIROSCIENCE CONSULTANTS, INC. Ronkonkoma New York	File Name: Drawing No. PLATE2
	Sheet 2 of 2

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30 feet. No samples at the site have been obtained beyond this area. Therefore, since it can be concluded that the shallow soil is impacted in the north parking area and essentially the entire area will require remediation, no further characterization of the shallow soil is warranted. Samples for these five borings will therefore be confined to the soil interval from 30 feet to the water table (either the regional or a perched water table, whichever is encountered first) to characterize the deeper soil to allow for the appropriate design and operation of the soil remediation system. At each boring location, one sample will be obtained five feet above the water table and at two other locations which show the high PID readings. Finally, groundwater samples will be obtained from each of the SVE borings by utilizing a hydropunch sampler at each of the locations. Groundwater samples will be obtained at 0 to 5 feet below the water table and, if achievable by hollow-stem drilling, a second sample will be obtained at a depth of 25 to 30 feet below the water table (total depth of 110 to 115 feet). All groundwater samples will be analyzed for VOCs by USEPA Method 8260. It should be noted that Enviroscience is not recommending the installation of permanent groundwater monitoring wells at this time since the geology has not been adequately evaluated. However, it is understood that NYSDEC is likely to require a groundwater investigation at the Site in the future.

Following completion of the groundwater sampling, the augers will be withdrawn to a depth five feet above the water table (which may be adjusted depending on the vertical extent of contamination based on PID readings). The SVE well will be constructed by placing four 15 to 20 feet sections of one-inch diameter PVC pipe with a screened interval from five feet above the water table to five feet below grade so that the entire interval is screened and the sections of pipe can be operated independently as appropriate (the entire north parking area contains concrete at grade which will act to minimize infiltration of atmospheric air and maximize the radius of influence of each SVE well). The slot size of the screen will be 0.030 inches. The well will be gravel packed with Morie #2

gravel to a depth of one foot above the screened interval. The balance of the borehole will be grouted to grade and a vault box will be installed to accommodate the likely future connection of the wells to an SVE system.

Borings EB-1 through EB-4 will be performed to a depth of 30 feet below grade. The purpose of these borings is to further delineate the lateral extent of VOCs near the eastern and western boundary of the Site. Split-spoon soil samples will be obtained at five-foot intervals to obtain information on geology and the presence of VOCs. Two samples from each boring will be retained for laboratory analysis for VOCs. The samples will be selected based on the soil intervals with high PID readings. If the results of the shallow soil investigation show that significant contamination is present in the in any of the EB borings, additional investigation will be recommended which is likely to include the performance of deeper borings and may include the installation of additional SVE wells.

It should be noted that at all boring locations, no perched water layers will be pierced. If a low permeability layer is encountered in conjunction with saturated soil, the boring will be discontinued.

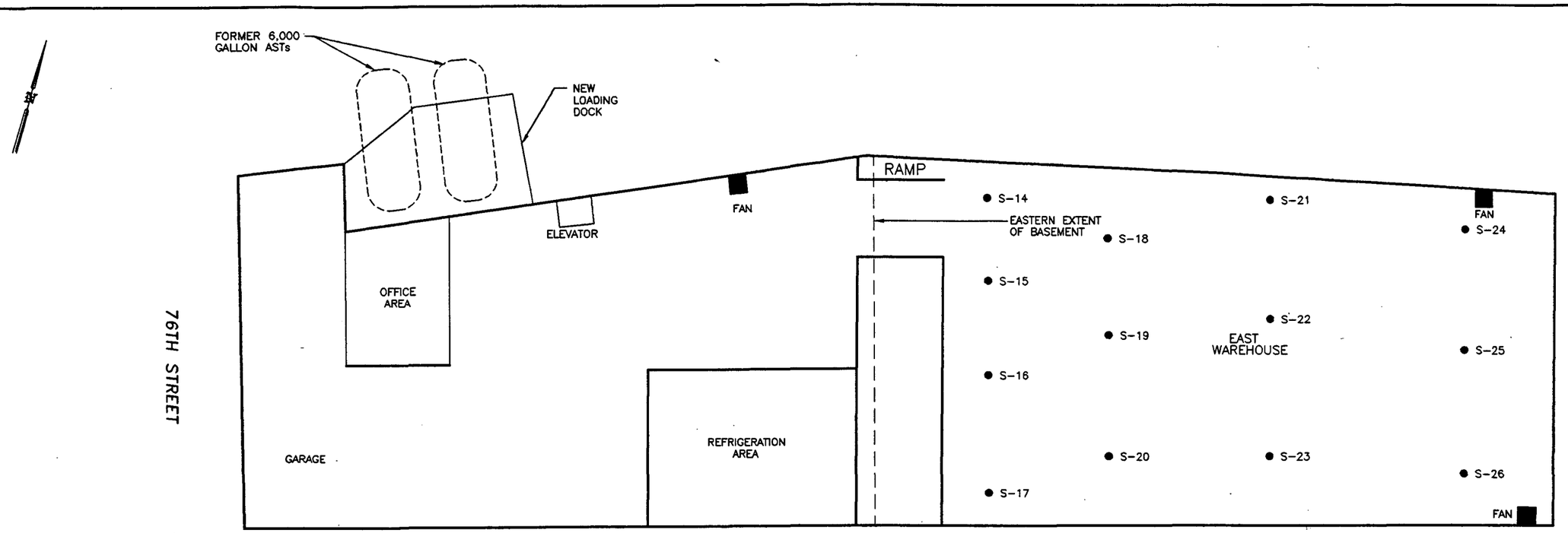
5.2 Geophysical Investigation

A geophysical investigation will be used to evaluate the presence of subsurface utilities at proposed boring and sampling locations. In addition, the geophysical survey will be performed within the building and in the north parking area to evaluate the potential presence of underground storage tanks or other subsurface structures that have the potential to be source areas of contamination. Should additional potential source areas of contamination be identified, the NYSDEC will be notified and additional investigation of these areas may be proposed.

5.3 Building Subfloor Investigation

As a result of the air sampling in the interior of the building and the odors noted in the sump in the basement of the building, it appears that contamination exists in the soil beneath the building. To further evaluate this issue, Enviroscience proposes to obtain samples from beneath the floor of the basement and in the eastern portion of the first floor (see Figure 5.3.1). A total of 26 samples will be obtained: 13 from the basement and 13 from the east side of the first floor. In general, the samples will be obtained by using a concrete corer to create a four-inch hole in the concrete. A decontaminated hand auger will then be used to obtain a soil sample from approximately 0 to 12 inches below the surface of the soil. The samples will be analyzed for VOCs by Method 8260. The three sumps in the large basement area are accessible and contain sediment(the sump in the small basement area does not appear to contain sediment). A sediment sample will be obtained from each of the three sumps in the large basement area.

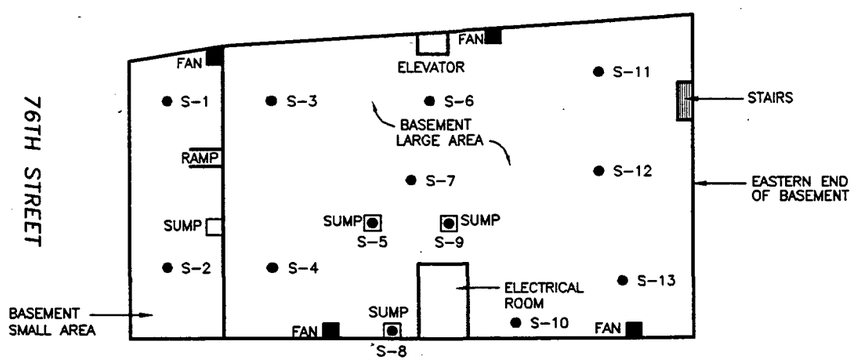
If the results of the sampling show that the sumps are impacted (as is suspected), recommendations will be made to perform an Interim Remedial Measure (IRM) to remediate the sumps which may include the removal of impacted sediment from the sumps. If the results also show that the subfloor is impacted, Enviroscience will likely recommend an IRM for the installation of an SVE system which will include the installation of horizontal perforated pipe in source areas of contamination. The purpose of the system will be to remediate the PCE in the shallow subsurface (the system's vertical extent is estimated to be a minimum of 20 feet), to reduce or eliminate vapors from entering the building, and to reduce or eliminate the off-Site migration of vapors. The recommendation for the subfloor remediation system is likely to include the vertical delineation of PCE in the source areas and pilot testing of the system.



FIRST FLOOR

0 15 30

SCALE IN FEET



BASEMENT

0 20 40

SCALE IN FEET

LEGEND

● S-1 PROPOSED SUBFLOOR SOIL SAMPLING LOCATIONS.

ENVIROSCIENCE CONSULTANTS, INC.

FIGURE 5.3.1
PROPOSED
SUBFLOOR SAMPLE LOCATIONS

Drawn By: L.G.	Checked By: P.D.	Date: 01/18/01

SECTION 6.0

QUALITY ASSURANCE PROJECT PLAN

6.1 Sampling Equipment Decontamination Procedures

All non-disposable downhole equipment used during the drilling and sampling will be decontaminated prior to use at each location to prevent cross contamination. All non-disposable equipment will be steam cleaned or decontaminated. The decontamination procedures are as follows:

1. Equipment will be scrubbed in a bath of potable water and low-phosphate detergent;
2. Potable water rinse;
3. A methanol rinse followed by a hexane rinse;
4. Deionized water rinse;
5. Air dry.

6.2 Chain-of-Custody Procedures

For each day of sampling, a chain-of-custody sheet will be completed and submitted to the laboratory (a copy of the chain-of-custody will be retained by Enviroscience). The chain-of-custody sheet will include the project name, the sampler's signature, the sampling locations, intervals, and analysis parameters requested.

6.3 QA/QC Samples

QA/QC samples will be obtained during the soil and groundwater sampling. During soil and groundwater sampling, one field blank per 20 samples per matrix sampled will be prepared by pouring laboratory-supplied, deionized water through the sampling apparatus and into a set of sample containers. The field blank will be tested for the same analytes as the matrices to be

sampled. The field blank results will be reviewed to evaluate the potential for field or laboratory contamination and will attest to the quality of the decontamination procedures.

During groundwater or soil sampling, one trip blank will be provided by the laboratory for each set of samples to be submitted to the laboratory for VOC analysis. The trip blanks will be prepared from analyte-free, deionized water by the laboratory and will remain in the coolers in which the samples are stored. Trip blanks will be analyzed for VOCs only. The purpose of trip blanks are to ensure that no cross-contamination of VOCs occurs in the sample cooler and to attest to laboratory water quality.

A matrix spike and matrix spike duplicate for groundwater and soil samples will be submitted to the laboratory by obtaining an extra volume of selected groundwater samples which are to be analyzed for VOCs. The frequency of matrix spike and matrix spike duplicates will be one per 20 samples. The purpose of the matrix spike and matrix spike duplicates are to confirm the accuracy and precision of the laboratory.

In addition, blind duplicate samples for each matrix will be obtained at a frequency of at least five percent of the total number of samples obtained to attest to the precision of the laboratory.

6.4 Sample Analysis

All samples will be submitted to a New York State ELAP-approved laboratory. Laboratory testing and data reporting will be performed by a subcontracted laboratory. The proposed subcontractor laboratory is York Analytical Laboratories.

All samples will be analyzed for TCL VOCs using EPA Method 8260, NYSDEC ASP Category B deliverables.

6.5 Data Evaluation

Data collected during the Remedial Investigation will be assembled, reviewed, and evaluated to assure satisfaction of the Remedial Investigation objectives.

The data collected will be organized and analyzed to identify the nature and extent of contamination in the Site soil and groundwater and to further identify potential on-Site sources of contaminants. The soil and water quality data will be evaluated and mapped to illustrate the areal and vertical extent of the contaminants detected. The distribution of soil and groundwater contaminants detected will be considered to evaluate potential sources of contaminants.

Maps and tables of the data from the previous sampling programs and from the Remedial Investigation will be used to assist in the analysis. The results of the data evaluation will be discussed in the Remedial Investigation Report.

6.6 Assessment of Potential Remedial Alternatives

After existing and newly-acquired data are evaluated, the potential remedial objectives and alternatives will be developed.

6.7 Focused Remedial Investigation Report Outline

After completion of the field investigation, sample analysis, data evaluation, and assessment of potential remedial alternatives, Enviroscience will prepare a Focused Remedial Investigation Report. The report will contain a summary of results from previous sampling events as well as the data and analyses performed as part of this Focused Remedial Investigation. Also, the report will include all soil boring logs and SVE construction details.

6.8 Estimated Schedule of the Remedial Investigation Activities

Table 6.8.1 presents the estimated schedule for the execution of the Remedial Investigation activities.

6.9 Miscellaneous

The laboratory results and method detection limits for each analyte in each matrix will be as per NYSDEC ASP 1995 Revision Category B requirements. Table 6.9.1 shows the number of samples to be collected, matrices, holding time, analytical protocols, and estimated number of QA/QC samples.

TABLE 6.8.1
ESTIMATED TIME SCHEDULE FOR THE REMEDIAL INVESTIGATION

TIME IN WEEKS

TASK DESCRIPTION	1	2	3	4	5	6	7	8	9	10	11	12
Geophysical Investigation												
Soil/Groundwater Sampling												
Installation of SVE System												
Laboratory Analysis												
Report Preparation and Submittal to NYSDEC												

TABLE 6.9.1
SAMPLE CONTAINERS, PRESERVATION, HOLDING TIMES, AND ANALYSIS METHODS

Sample Matrix	Number of Samples	Parameters	Container Type	Preservation	Holding Time	NYSDEC Analysis Method
Soil	51	VOCs	Glass jar with Teflon Liner	4°C	7 Days	EPA Method 8260
Groundwater	10	VOCs	Glass Jar with Teflon Liner	4°C Zero Headspace	7 Days	EPA Method 8260
QA/QC	26	VOCs	Glass Jar with Teflon Liner	4°C Zero Headspace	7 Days	EPA Method 8260

Notes:

1. Field blanks and trip blanks will be obtained at a rate of one per 20 samples taken.

2. Holding times begin on the date the sample is received by the laboratory. Samples must be received by the laboratory within 48 hours of sampling.

APPENDIX A

HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

FOR THE

REMEDIAL INVESTIGATION

AT THE

FORMER KLIEGMAN BROS. SITE

PREPARED FOR

McMILLAN, RATHER, BENNETT & RIGANO, P.C.

ENVIROSCIENCE CONSULTANTS, INC.
2150 SMITHTOWN AVENUE
RONKONKOMA, NEW YORK 11779

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ATTACHMENTS

1	Emergency Telephone Numbers, Enviroscience Contact Personnel, Directions from the Site to the Hospital

SITE WORKER

HEALTH AND SAFETY STATEMENT

I have read the Health and Safety Plan (HASP) for the Remedial Investigation Work Plan at the former Kliegman Bros. Site, Glendale, Queens, New York and I have reviewed and understand the potential hazards and the precautions/contingencies of each potential hazard.

I agree to abide by the stipulations of this HASP and further agree to hold Enviroscience Consultants, Inc. harmless from, and indemnify against, any accidents which may occur as a result of activities at the Site regardless of whether or not they were covered in the HASP.

Name: _____ Representing: _____

_____ Date: _____

Sign

Name: _____ Representing: _____

_____ Date: _____

Sign

Name: _____ Representing: _____

_____ Date: _____

Sign

Name: _____ Representing: _____

_____ Date: _____

Sign

SECTION 1.0

INTRODUCTION

This Health and Safety Plan (HASP) has been written for compliance with "OSHA Hazardous Waste Operations Standards (29 CFR 1910.120)", the guidance documents, "Standard Operating Safety Guidelines (Office of Solid Waste and Emergency Response, 1988)" and the "Occupational Safety and Health Guidance Manual for Hazardous Waste Activities" (U.S. Department of Health and Human Services, 1985).

1.1 Scope and Applicability of the HASP

This HASP is designed to be applicable to locations where soil and groundwater sampling and soil vapor extraction activities at the Site by all parties that either perform or witness the activities on Site. This HASP may also be modified or amended to meet specific needs of the work proposed. This HASP will detail the Site safety procedures, Site background, and safety monitoring. Contractors will be required to adopt this HASP in full.

The Health and Safety Officer (HSO) will be present at the Site to inspect the implementation of the HASP, however, it is the sole responsibility of the contractor(s) to comply with the HASP.

The HASP has been formulated as a guide to complement professional judgment and experience. The appropriateness of the information presented should always be evaluated with respect to unforeseen Site conditions which may arise.

1.2 Site Work Zone and Visitors

The Site work zone (a.k.a. exclusion zone) will be defined as a 30-foot radius about the work location. This work zone may be extended if, in the judgment of the health and safety officer (HSO), Site conditions warrant a larger work zone.

No visitors will be permitted within the work zone without the consent of the HSO. All visitors will be required to be familiar with, and comply with, the HASP. The HSO will deny access to those whose

presence within the work zone is unnecessary or those who are deemed by the HSO to be in non-compliance with the HASP.

All Site workers including the contractors will be required to have 40-hour hazardous material training (eight-hour refresher courses annually), respirator fit test certification, and medical surveillance as stated in 29 CFR 1910.120. Copies of documentation certifying the above-listed requirements will be kept at the Site in the possession of the HSO.

The HSO will also give an on-Site health and safety discussion to all Site personnel, including the contractors, prior to initiating the Site work. Workers not in attendance during the health and safety talk will be required to have the discussion with the HSO prior to entering the work zone.

Emergency telephone numbers and directions to the nearest hospital are found in Attachment 1.

SECTION 2.0

KEY PERSONNEL AND RESPONSIBILITIES

The project manager and HSO for this project will be Peter Dermody. Contractor personnel may also be present during Site activities. Contractor personnel will be provided with health and safety information by the HSO.

SECTION 3.0

SITE BACKGROUND

3.1 Site History and Known Chemical Constituents at the Site

The Site is located at 76-01 77th Street, Glendale, Queens New York. Soil and groundwater at the Site are impacted with chemicals related to the previous industrial use at the Site. The primary chemicals known to be present at the Site are presented in Table 3.1.1.

TABLE 3.1.1
PRIMARY CHEMICALS WITH THRESHOLD LIMIT VALUES AT THE SITE

Contaminant	**Short Term Exposure Limit (STEL) 15 Minutes**	**Time-Weighted Average 8-Hour Exposure Limit**
Perchloroethylene (PCE)	200 ppm 1,357 mg/m^3	50 ppm 339 mg/m^3
Trichloroethylene (TCE)	200 ppm 1,070 mg/m^3	50 ppm 269 mg/m^3
Trichloroethane (TCA)	450 ppm 2,460 mg/m^3	350 ppm 1,910 mg/m^3
cis-1,2-dichloroethene	-	200 ppm 793 mg/m^3

SECTION 4.0

TASK/OPERATION HEALTH AND SAFETY ANALYSIS

This section will present health and safety analyses for the sampling and SVE system installation tasks.

4.1 Drilling and Sampling Safety Analysis

Based on the Site history, it has been determined that known potential chemical concerns consist of volatile organic compounds in the soil and groundwater at Site. A list of these compounds with associated threshold limit values was presented in Table 3.1.1.

Organic vapor concentrations will be monitored in the work zone by utilizing a Photovac MicroTIP Photoionization Detector (PID). The PID will be "zeroed" by exposing the PID to ambient air outside of the work zone. The upper range will be calibrated by exposing the PID to calibration gas of known concentration (generally isobutylene at 95 ppm). Background organic vapor concentrations will then be established in the work zone prior to Site activities and recorded in the HSO field book.

Upon commencement of site activities, PID readings will be obtained in the workers' breathing zone and at the downwind side of the work zone. A PID reading will be taken in the work zone at these locations approximately every 30 minutes thereafter. At the discretion of the HSO, PID readings may be obtained more frequently. All readings and observations will be recorded in the HSO field book. PID air monitoring will be conducted by Enviroscience Consultants, Inc. personnel.

Steady-state PID readings greater than five ppm in the worker's breathing zone will require upgrading to Level C personal protective equipment. Steady-state readings, for this purpose, will be defined as readings exceeding five ppm above background for a minimum of ten seconds. Readings will be obtained at points approximately one foot above and then around the borehole. These points will define the worker's breathing zone during the performance of borings.

Upon encountering PID levels greater than five ppm above background in the worker's breathing zone, all personnel will be evacuated from the work zone in the upwind direction (if applicable). Specific evacuation routes will be discussed prior to commencement of work at each location based on work location and wind direction. In addition, an evacuation meeting place will be determined. Level C personal protection will be implemented including full-face air-purifying respirators with dust and organic vapor cartridges (personal protective equipment will be described in greater detail in Section 7.0). All Enviroscience Consultants, Inc. personnel and contractors must be properly trained and fit tested prior to donning respirators. If, at any time, PID readings exceed steady-state levels greater than 50 ppm above background, or any conditions exist which the HSO determines will require Level B personal protective equipment, all work at the Site will cease immediately and all personnel will evacuate the work zone. Evacuation will occur in the upwind direction if discernable. Level B conditions are not anticipated to be encountered; however, if level B conditions arise, no Site work will be performed by Enviroscience or contractors and a complete evaluation of the operation will be performed and this HASP will be modified.

All personnel who may directly contact soil will be required to wear chemical-resistant gloves (such as butyl or nitrile) when the potential for dermal contact with the soil is possible.

4.2 SVE System Installation Analysis

An SVE system may be installed along the southern and western borders of the Site. All safety considerations discussed in Section 4.1 will be applicable to this task.

4.3 Other Safety Considerations

4.3.1 Noise

During soil removal, SVE system installation, operation of generators, or any other operation which may generate potentially harmful levels of noise, the HSO will monitor noise levels with a Realistic[tm] hand-held sound level meter. Noise levels will be monitored in decibels (dBs) in the A-weighted,

slow-response mode. Noise level readings that exceed the 29 CFR 1910.95 permissible noise exposure limits will require hearing protection (see Table 4.3.1.1 for permissible noise exposures).

Hearing protection will be available to all Site workers. The hearing protection will consist of foam, expansion-fit earplugs (or other approvable hearing protection) with an Environmental Protection Agency noise reduction rating of at least 29 dB. Hearing protection must alleviate worker exposure to noise to an eight-hour time-weighted average of 85 dB or below. In the event that the hearing protection is inadequate, work will cease until a higher level of hearing protection can be incorporated.

4.3.2 Slip/Trip/Fall Preventative Measures

To reduce the potential for slipping, tripping, or falling, the work zone will be kept clear of unnecessary equipment. All Site workers will be required to wear work boots with adequate tread to reduce the potential for slipping (work boots must be leather or chemical-resistant and contain steel toes and steel shanks).

4.3.3 Insects and Ticks

Insect and tick problems are expected to be minimal. Potential insect problems include, but are not limited to, bees, wasps, and hornets. Prior to commencement of work, each work area will be surveyed for nests and hives to reduce the possibility of disturbing these insects. In addition, each Site worker will be asked to disclose any allergies related to insect stings or bites. The worker will be requested to keep his or her anti-allergy medicine on Site.

Tick species native to Long Island consist of the pinhead-sized deer tick and the much-larger dog tick. All Site workers will be advised to avoid walking through tall grassy areas where possible and will be advised to check for ticks on clothing periodically.

TABLE 4.3.1.1
PERMISSIBLE NOISE EXPOSURES*

Duration Per Day Hours	Sound Level dBA Slow Response
8	90
6	92
4	95
3	97
2	100
1 ½	102
1	105
½	110
1/4 or less	115

Notes:

When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. If the sum of the following fractions: $C_1/T_1+C_2/T_2$ C_6/T_6 exceeds unity, then, the mixed exposure should be considered to exceed the limit value. Cn indicates the total time of exposure at a specified noise level, and Tn indicates the total time of exposure permitted at that level.

Exposure to impulsive or impact noise should not exceed 140 dB peak sound pressure level.

* Standards derived from 29 CFR 1910.95

4.3.4 Heat/Cold Stress

Heat stress may become a concern especially if protective clothing is donned which will decrease natural ventilation. To assist in reducing heat stress the following measures will be taken:

- An adequate supply of water or other liquids will be brought on Site. To prevent dehydration, personnel will be encouraged to drink generous amounts of water even if not thirsty.
- A shady rest area will be designated (such as beneath the trees in the northeast corner of the property) to provide shelter during sunny days.
- In hot weather, workers wearing protective clothing may be rotated.

When the temperature is over 70 degrees Fahrenheit and personnel are wearing protective clothing, heat stress monitoring may be implemented as follows:

- Heart rate may be measured by counting the radial pulse for 30 seconds at the beginning of the rest period. The heart rate should not exceed 110 beats per minute. If the rate is higher, the next work period will be shortened by ten minutes (or 33%). If the pulse rate is 100 beats per minute at the beginning of the next rest period, the following work cycle will be shortened by 33%. The HSO will decide on the length of work periods and rest periods based on Site conditions.
- Body temperature may be measured, if deemed necessary, at the beginning of the rest period. Oral temperature should not exceed 99 degrees Fahrenheit. If it does, the next work period will be shortened by ten minutes (or 33%). However, if the oral temperature exceeds 99.7 degrees Fahrenheit at the beginning of the next period, the following work cycle will be further shortened by 33%. Work will not re-commence until by temperature has dropped below 99 degrees Fahrenheit.

Indications of heat stress range from mild (fatigue, irritability, anxiety, decreased concentration, dexterity or movement) to fatal. Medical help will be obtained for serious conditions. Heat-related problems are:

- Heat rash: caused by continuous exposure to heat and humid air and aggravated by chafing clothes. Decreases ability to tolerate heat as well as being a nuisance.
- Heat cramps: caused by profuse perspiration with inadequate fluid intake and chemical replacement (especially salts). Signs: muscle spasm and pain in the extremities and abdomen.
- Heat exhaustion: caused by increased stress on various organs to meet increased demands to cool the body. Signs: shallow breathing; pale, cool, moist skin; profuse sweating; dizziness and lassitude.
- Heat stroke: the most severe form of heat stress. Can be fatal. Medical help must be obtained immediately. Body must be cooled immediately to prevent severe injury and/or death. Signs: red, hot, dry skin; no perspiration; nausea; dizziness and confusion; strong, rapid pulse; coma.

Cold exposure is a concern if work is conducted during cold weather or marginally cold weather during precipitation periods or moderate to high wind velocity periods. To assist in reducing cold exposure the following measures will be taken:

- All personnel will be required to wear adequate and appropriate clothing. This will include head gear to prevent the high percentage loss of heat that occurs in this area (thermal liners for hard hats if hard hats are required).
- Provide a readily available warm shelter near each work zone.
- Carefully schedule work and rest periods to account for the current temperature and wind velocity conditions.
- Monitor work patterns and physical condition of workers and rotate personnel, as necessary.

Indications of cold exposure range from shivering, dizziness, numbness, confusion, weakness, impaired judgement, impaired vision to drowsiness. Medical help will be obtained for serious conditions if they occur. Cold exposure-related problems are:

- Frost bite: Ice crystal formation in body tissues. The restricted blood flow to the injured part results in local tissue destruction.
- Hypothermia: Severe exposure to cold temperature resulting in the body losing heat at a rate faster than the body can generate heat. The stages of hypothermia are shivering, apathy, loss of consciousness, decreasing pulse rate and breathing rate and death.

4.3.5 Potential Electrical Hazards

Potential electric hazards consist primarily of underground power lines. Potential underground electrical hazards will be minimized by having a utility markout performed for the Site. In addition, available as-built Site blueprints will be used to avoid contact with subsurface utility lines or structures.

There is also the potential for electrical hazard associated with the SVE system installation. To avoid these potential electrical hazards, all SVE system electrical work will be performed by a licensed electrician. The electrician shall utilize standard industry procedures and practices for avoiding electrical hazards.

4.3.6 The Buddy System

All activities in contaminated or potentially contaminated areas will be conducted by pairing off the Site workers in groups of two (or three if necessary). Each person (buddy) will be able to:

- Provide his or her partner with assistance.
- Observe his or her partner for signs of chemical or heat exposure.
- Periodically check the integrity of his or her partner's protective clothing.
- Notify the HSO or others if emergency help is needed.

The buddy system will be instituted at the beginning of each workday. If new workers arrive on Site, a buddy will be chosen prior to the new worker entering the work zone.

4.3.7 Site Communications

Two sets of communication systems will be established at the Site: internal communication among personnel on-Site, and external communication between on-Site and off-Site personnel.

Internal communication will be used to:

- Alert team members to emergencies.
- Pass along safety information such as heat stress check, protective clothing check, etc.
- Communicate changes in the work to be accomplished.
- Maintain Site control.

Due to ambient noise, verbal communications may be difficult at times. The HSO will carry a whistle (and compressed air horn if respirators are donned) to signal Site workers. A single whistle blast will be the signal to immediately evacuate the work zone through the access control point. This signal will be discussed with all Site workers prior to commencement of work.

An external communication system between on-Site and off-Site personnel will be established to:

- Coordinate emergency response
- Report to the Project Manager
- Maintain contact with essential off-Site personnel

A field telephone will be available at all times in the HSO's vehicle. In addition, the nearest stationary phone will be identified prior to the commencement of Site operations and this location will be relayed to all Site workers.

4.3.8 General Safe Work Practices

Standing orders applicable during Site operations are as follows:

- No smoking, eating, drinking, or application of cosmetics in the work zone.
- No matches or lighters in the work zone.
- All Site workers will enter/exit work zone through the Site access point.

- Any signs of contamination, radioactivity, explosivity, or unusual condition such as dead animals will require evacuating the Site immediately and reporting the information to the HSO.
- Loose fitting clothing or loose long hair will be prohibited in the work zone during drilling operations.
- A signal person will direct the backing of work vehicles.
- Equipment operators will be instructed to check equipment for abnormalities such as oozing liquids, frayed cables, unusual odors, etc.

SECTION 5.0

PERSONNEL TRAINING REQUIREMENTS

All Enviroscience Consultants, Inc. personnel and contractor personnel will receive adequate training prior to entering the Site. Enviroscience and contractor's personnel will, at a minimum, have completed OSHA-approved, 40-hour hazardous materials Site safety training and OSHA-approved, eight-hour safety refresher course within one year prior to commencing field work. The HSO will have received the OSHA-approved, eight-hour course on managing hazardous waste operations. In addition, each worker must have a minimum of three days field experience under the direct supervision of a trained, experienced supervisor.

Prior to Site fieldwork, the HSO will conduct an in-house review of the project with respect to health and safety with all Enviroscience personnel who will be involved with fieldwork at the Site. The review will include discussions of signs and symptoms of chemical exposure and heat stress that indicate potential medical emergencies presented in Table 5.1. In addition, review of personal protective equipment will be conducted to include the proper use of air-purifying respirators.

TABLE 5.1
SIGNS AND SYMPTOMS OF EXPOSURE TO CHEMICALS

Type of Hazard	Signs and Symptoms
Chemical Hazard	Behavioral changes Breathing difficulties Changes in complexion of skin color Confusion Coordination difficulties Coughing Depression Dermatitis Dilated Pupils Dizziness Euphoria Fatigue and/or weakness Flushed face and/or neck Insomnia Irregular heartbeat Irritability Irritation of eyes, nose, respiratory tract, skin or throat Headache Lacrimation Light-Headedness Muscle Fatigue Nausea Nervousness Numbness in limbs Paresthesia Sleepiness Tingling Tremors Vertigo Visual disturbance Vomiting

TABLE 5.1 - CONTINUED
SIGNS AND SYMPTOMS OF EXPOSURE TO CHEMICALS

Type of Hazard	Signs and Symptoms
Heat Exhaustion	Clammy skin Confusion Dizziness Fainting Fatigue Heat rash Light-headedness Nausea Profuse sweating Slurred speech Weak pulse
Heat Stroke (may be fatal)	Confusion Convulsions Hot skin, high temperature (yet may feel chilled) Incoherent speech Staggering gait Sweating stops (yet residual sweat may be present) Unconsciousness

SECTION 6.0

MEDICAL SURVEILLANCE PROGRAM

All workers at the Site must participate in a medical surveillance program in accordance with 29 CFR 1910.120. A medical examination and consultation must have been performed within the last twelve months to be eligible for fieldwork.

The content of the examination and consultation will include a medical and work history with special emphasis on symptoms related to the handling of hazardous substances, health hazards, and fitness for duty including the ability to wear required personal protective equipment under conditions (i.e., temperature extremes) that may be expected at the work Site. All medical examinations and procedures shall be performed by, or under the supervision of, a licensed physician.

The physician shall furnish a written opinion containing:

- The results of the medical examination and tests.
- The physician's opinion as to whether the employee has any detected medical conditions that would place the worker at increased risk of material impairment of the employee's health from work in hazardous waste operations.
- The physician's recommended limitations upon the worker assigned to the work.
- A statement that the worker has been informed by the physician of the results of the medical examination and any further examination or treatment.

An accurate record of the medical surveillance will be retained. The record will consist of at least the following information:

- The name and social security number of the employee.
- Physician's written opinions, recommended limitations, and results of examinations and tests.
- Any worker medical complaints related to exposure to hazardous substances.

SECTION 7.0

PERSONAL PROTECTIVE EQUIPMENT

7.1 General Considerations

The two basic objectives of the personal protective equipment (PPE) are to protect the wearer from safety and health hazards, and to prevent the wearer from incorrect use and/or malfunction of the PPE.

Potential Site hazards were discussed previously in Section 4.0. The duration of Site activities is estimated to be several months. All work is expected to be performed during daylight hours and workdays, in general, are expected to be eight to ten hours in duration. Any work performed beyond daylight hours will require the permission of the HSO. This decision will be based on the adequacy of artificial illumination and the type and necessity of the task being performed.

Personal protection levels for the Site activities, based on past investigations, are anticipated to be Level D with the possibility of upgrading to Level C. The equipment included for each level of protection is provided as follows:

Level C Protection

Personnel protective equipment:

- Air-purifying respirator, full-face
- Chemical-resistant clothing includes: Tyvek[tm] (spunbonded olefin fibers) for particulate and limited splash protection or Saranex[tm] (plastic film-laminated Tyvek) for permeation resistance to solvents.
- Coveralls*, or
- Long cotton underwear*
- Gloves (outer), chemical-resistant
- Gloves (inner), chemical-resistant
- Boots (outer), leather or chemical-resistant, steel toe and shank.

- Boot covers (outer), chemical-resistant (disposable)*
- Hard hat (face shield)*
- Escape mask*
- 2-way radio communications (inherently safe)*

(*) optional

Criteria for Selection of Level C Protection

Meeting all of these criteria permits use of Level C Protection:

- Oxygen concentrations are not less than 19.5% by volume.
- Measured air concentrations of identified substances will be reduced by the respirator below the substance's threshold limit value (TLV).
- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect any body area left unprotected by chemical-resistant clothing.
- Job functions do not require self-contained breathing apparatus.
- Direct readings are below 50 ppm on the PID.

Level D Protection

Personnel protective equipment:

- Coveralls
- Gloves*
- Boots/shoes, leather or chemical-resistant, steel toe and shank.
- Safety glasses or chemical splash goggles*
- Hard hat (face shield*)
- Escape mask*

(*) optional

Criteria for Selection of Level D Protection

Meeting any of these criteria allows use of Level D Protection:

- No contaminant levels above 5 ppm organic vapors or dusty conditions are present.
- Work functions preclude splashes, immersion, or the reasonable potential for unexpected inhalation of any chemicals above the TLV.

Additional Considerations for Selecting Levels of Protection

Other factors which will be considered in selecting the appropriate level of protection are heat and physical stress. The use of protective clothing and respirators increases physical stress, in particular, heat stress on the wearer. Chemical protective clothing greatly reduces natural ventilation and diminishes the body's ability to regulate its temperature. Even in moderate ambient temperatures, the diminished capacity of the body to dissipate heat can result in one or more heat-related problems.

All chemical protective garments can be a contributing factor to heat stress. Greater susceptibility to heat stress occurs when protective clothing requires the use of a tightly fitted hood against the respirator face piece, or when gloves or boots are taped to the suit. As more body area is covered, less cooling takes place, increasing the probability of heat stress.

Wearing protective equipment also increases the risk of accidents. It is heavy, cumbersome, decreases dexterity, agility, interferes with vision, and is fatiguing to wear. These factors all increase physical stress and the potential for accidents. In particular, the necessity of selecting a level of protection will be balanced against the increased probability of heat stress and accidents.

7.2 Donning and Doffing Ensembles

Donning an Ensemble

A routine will be established and practiced periodically for donning a Level C ensemble. Assistance may be provided for donning and doffing since these operations are difficult to perform alone.

Table 7.2.1 lists sample procedures for donning a Level C ensemble. These procedures should be modified depending on the particular type of suit and/or when extra gloves and/or boots are used.

Doffing an Ensemble

Exact procedures for removing Level C ensembles must be established and followed to prevent contaminant migration from the work area and transfer of contaminants to the wearer's body, the doffing assistant, and others.

Doffing procedures are provided in Table 7.2.2. These procedures should be performed only after decontamination of the suited worker. They require a suitably attired assistant. Throughout the procedures, both worker and assistant should avoid any direct contact with the outside surface of the suit.

7.3 Respirator Fit Testing

The fit or integrity of the facepiece-to-face seal of a respirator affects its performance. Most facepieces fit only a certain percentage of the population; thus each facepiece must be tested on the potential wearer in order to ensure a tight seal. Facial features such as scars, hollow temples, very prominent cheekbones, deep skin creases, dentures or missing teeth, and the chewing of gum and tobacco may interfere with the respirator-to-face seal. A respirator shall not be worn when such conditions prevent a good seal. The worker's diligence in observing these factors shall be evaluated by periodic checks. Fit testing will comply with 29 CFR 1910.1025 regulations.

7.4 Inspection

The PPE inspection program will entail five different inspections:

- Inspection and operational testing of equipment received from the factory or distributor.
- Inspection of equipment as it is issued to workers.
- Inspection after use.
- Periodic inspection of stored equipment.

TABLE 7.2.1
SAMPLE DONNING PROCEDURES

1. Inspect the clothing and respiratory equipment before donning (see Inspection in subsection 7.4).

2. Adjust hard hat or headpiece if worn, to fit user's head.

3. Standing or sitting, step into the legs of the suit; ensure proper placement of the feet within the suit; then gather the suit around the waist.

4. Put on chemical-resistant safety boots over the feet of the suit. Tape the leg cuff over the tops of the boots.

5. Don the respirator and adjust it to be secure, but comfortable.

6. Perform negative and positive respirator facepiece seal test procedures.

   - To conduct a negative-pressure test, close the inlet part with the palm of the hand or squeeze the breathing tube so it does not pass air, and gently inhale for about 10 seconds. Any inward rushing of air indicates a poor fit. Note that a leaking facepiece may be drawn tightly to the face to form a good seal, giving a false indication of adequate fit.

   - To conduct a positive-pressure test, gently exhale while covering the exhalation valve to ensure that a positive pressure can be built up. Failure to build a positive pressure indicates a poor fit.

7. Depending on type of suit:

   - Put on inner gloves (surgical gloves).

   - Additional overgloves, worn over attached suit gloves, may be donned later.

8. Put on hard hat

9. Have assistant observe the wearer for a period of time to ensure that the wearer is comfortable, psychologically stable, and that the equipment is functioning properly.

TABLE 7.2.2
DOFFING PROCEDURES

1. Remove any extraneous or disposable clothing, boot covers, outer gloves, and tape.

2. Remove respirator by loosening straps and pulling straps over the top of the head and move mask away from head. Do not pull mask over the top of the head.

3. Remove arms, one at a time, from suit, avoiding any contact between the outside surface of the suit and wearer's body and lay the suit out flat behind the wearer. Leave internal gloves on, if any.

4. Sitting, if possible, remove both legs from the suit.

5. After suit is removed, remove internal gloves by rolling them off the hand, inside out.

- Periodic inspection when a question arises concerning the appropriateness of the selected equipment, or
- When problems with similar equipment arise.

The inspection checklist is provided in Table 7.4.1. Records will be kept of all inspection procedures. Individual identification numbers will be assigned to all reusable pieces of equipment and records should be maintained by that number. At a minimum, each inspection should record the ID number, date, inspector, and any unusual conditions or findings. Periodic review of these records may indicate an item or type of item with excessive maintenance costs or a particularly high level of down-time.

7.5 Storage

Clothing and respirators will be stored properly to prevent damage or malfunction due to exposure to dust, moisture, sunlight, damaging chemicals, extreme temperatures, and impact. Storage procedures are as follows:

Clothing:

- Potentially contaminated clothing will be stored in an area separate from street clothing.
- Potentially contaminated clothing will be stored in a well-ventilated area, with good air flow around each item, if possible.
- Different types and material of clothing and gloves will be stored separately to prevent issuing the wrong material by mistake.
- Protective clothing will be folded or hung in accordance with manufacturer's recommendations.

Respirators:

- Air-purifying respirators should be dismantled, washed, and placed in sealed plastic bags.

TABLE 7.4.1
PPE INSPECTION CHECKLIST

CLOTHING

Before use:

- Determine that the clothing material is correct for the specified task at hand.
- Visually inspect for:
  - imperfect seams
  - non-uniform coatings
  - tears
  - malfunctioning closures
- Hold up to light and check for pinholes.
- Flex product:
  - Observe for cracks
  - Observe for other signs of shelf deterioration
- If the product has been used previously, inspect inside and out for signs of chemical attack:
  - discoloration
  - swelling
  - stiffness

During the work task, periodically inspect for:

- Evidence of chemical attack such as discoloration, swelling, stiffening, and softening. Keep in mind, however, that chemical permeation can occur without any visible effects.
- Closure failure
- Tears
- Punctures
- Seam discontinuities

TABLE 7.4.1 - CONTINUED
PPE INSPECTION CHECKLIST

GLOVES

Before use:

- Pressurize glove to check for pinholes. Either blow into glove, then roll gauntlet toward fingers or inflate glove and hold under water. In either case, no air should escape.

AIR-PURIFYING RESPIRATORS

- Inspect air-purifying respirators:
  - before each use to be sure they have been adequately cleaned
- Check material conditions for:
  - signs of pliability
  - signs of deterioration
  - signs of distortion
- Examine cartridges to ensure that:
  - they are the proper type for the intended use
  - the expiration date has not been passed
  - they have not been opened or used previously
- Check faceshields and lenses for:
  - cracks
  - crazing
  - fogginess
- Air purifying respirators will be stored individually in resealable plastic bags.

7.6 Maintenance

Specialized maintenance will be performed only by the factory or an authorized repair person. Routine maintenance, such as cleaning, will be performed by the personnel to whom the equipment is assigned. Respirators will be cleaned at the end of each day with alcohol pads or, preferably, by washing with warm soapy water.

7.7 Decontamination Methods

All personnel, clothing, equipment, and samples leaving the contaminated (work zone) area of the Site must be decontaminated to remove any harmful chemicals or infectious organisms that may have adhered to them. Decontamination methods either (1) physically remove contaminants (2) inactivate contaminants by chemical detoxification or disinfection/sterilization, or (3) remove contaminants by a combination of both physical and chemical means. In many cases, gross contamination can be removed by physical means involving dislodging/displacement, rinsing, wiping off, and evaporation. Contaminants that can be removed by physical means include dust, vapors, and volatile liquids. All reusable equipment will be decontaminated by rinsing in a bath of detergent and water (respirators, gloves to be reused). Monitoring equipment will be decontaminated by wiping with paper towels and water.

The effectiveness of the decontamination will be evaluated near the beginning of Site activities and will be modified if determined to be ineffective. Visual observation will be used for this purpose. The HSO will inspect decontaminated materials for discoloration, stains, corrosive effects, visible dirt, or other signs of possible residual contamination.

All disposable PPE will be discarded following use. All used PPE to be discarded will be placed in an appropriate receptacle for disposal.

SECTION 8.0

DECONTAMINATION PROCEDURES FOR SAMPLING AND EXCAVATION EQUIPMENT

All sampling equipment shall be decontaminated prior to, and following, use at each sampling location. Decontamination procedures shall consist of the following:

1. Scrub equipment in a bath of low-phosphate detergent and potable water.
2. Potable water rinse.
3. 1% nitric acid rinse.
4. Potable water rinse.
5. Methanol followed by hexane rinse.
6. Distilled water rinse, air dry.
7. Aluminum foil wrap, shiny side out, for transport.

Personal protective equipment decontamination has been discussed in Subsection 7.7.

All excavation equipment and other equipment which has contacted Site soil or groundwater will be decontaminated prior to leaving the Site. Decontamination of this equipment will consist of physically removing adhering soil using hand tools followed by rinsing the equipment with potable water. Decontamination will be performed either above the roll-off containers (in this case the removed soil and rinseate will be disposed with the excavated soil) or in the immediate vicinity of the soil excavation area so that the removed soil and rinseate will be discharged in the area undergoing remediation.

SECTION 9.0

CALIBRATION PROCEDURES, FREQUENCIES, AND MAINTENANCE

This section will present the calibration procedures, frequencies, and maintenance for the health and safety field monitoring instruments. The use of the monitoring equipment is presented as follows (the manufacturer's owner's manuals for all equipment used will be present at the Site):

Photovac MicroTIP - this instrument is a photoionization detector (PID) that measures the concentration of airborne ionizable gases and vapors. The MicroTIP does not distinguish between individual compounds and will not read methane. The calibration will be performed using ambient air to "zero" the instrument and a 95 ppm cylinder of isobutylene to calibrate the span. The calibration will be performed as follows:

1. Connect the supplied regulator to the Span Gas cylinder. Hand-tighten the fittings.
2. Open the valve on the gas bag by turning the valve stem fully counter clockwise.
3. Attach the gas bag adapter nut to the regulator. Hand-tighten the fittings.
4. Turn the regulator knob counter clockwise about half turn to start the flow of gas.
5. Fill the gas bag about half full and then close the regulator fully clockwise to turn off the flow of gas.
6. Disconnect the bag from the adapter and empty it. Flush the bag a few times with the Span Gas and then fill it.
7. Close the gas bag by turning the valve clockwise.
8. Press SETUP and select the desired Cal Memory with arrow keys and press ENTER. Press EXIT to leave Setup.
9. Press CAL and expose MicroTIP to ambient air. Press ENTER and MicroTIP sets its zero point.

10. MicroTIP then asks for the Span Gas concentration. Enter the Known Span Gas concentration and then connect the Span Gas bag adapter to the inlet.

11. Press ENTER and MicroTIP sets its sensitivity.

12. When MicroTIP's display reverts to normal, MicroTIP is calibrated and ready for use. Remove the Span Gas bag from the inlet.

The instrument will be calibrated prior to the commencement of each day's work. The instrument will be charged overnight prior to each day's work.

SECTION 10.0

EMERGENCY RESPONSE PLAN

This section will present the Emergency Response Plan (ERP) for the Site. Pre-emergency planning will consist of reviewing the ERP with all workers at the Site prior to initiation of work.

Personnel Roles

It is anticipated that during activities at the Site, in general, several persons will be on the Site. Should an emergency situation arise at the Site, the HSO will assume control and decision-making. The HSO will also resolve all disputes concerning health and safety requirements and precautions. The HSO will also:

- Be authorized to seek and purchase supplies as necessary.
- Have control over activities of everyone entering the Site.

The HSO will communicate, by field telephone or other, with off-Site personnel to include the Project Manager to evaluate data and assist in the decision-making process. Emergency phone numbers are listed in Attachment A of this document. The directions to the hospital, along with the hospital's emergency room phone number are presented in Attachment 1. Copies of Attachment 1 will be available at the Site and will be placed in all vehicles of personnel involved in activities at the Site.

Internal communications will consist of a single whistle (or compressed air horn if Level C is donned) blast. This blast will signal all workers to evacuate the work zone by the nearest exit.

Response Follow-Up

Following an emergency, or incident, a detailed report will be generated by the HSO. All equipment will be restored to pre-emergency conditions. The HASP will be reviewed following an emergency to determine if it provides adequate information to assist in dealing with the emergency. The HASP may be revised to incorporate additional information as needed.

Emergency Recognition and Prevention

Before daily work assignments begin, each day a brief on-Site meeting will be held by the HSO which will address health and safety issues related to the day's work. Prior to initiation of work, a detailed on-Site health and safety meeting will be held to review all potential hazards, contingencies, and safety measures.

Safe Distances and Places of Refuge

The main potential cause of work zone evacuation is a significant vapor release. Vapor release evacuation will be discussed prior to subsurface activities at the Site and in general will be in the upwind direction. Wind direction will be monitored at each work location and all workers will be notified of the direction of evacuation prior to commencement of work. Safe distances will be discussed at each location and determined by the HSO. The PID will be used to determine if workers have evacuated a sufficient distance.

At all times, vehicles which may be utilized in an emergency for transport to the hospital (or other destination) will have clear access to leave the Site. The HSO will assure that an emergency vehicle does not become blocked-in by other vehicles.

Site Security and Control

The HSO will control entry of personnel into the work zone. No unnecessary persons shall be permitted in the work zone.

Decontamination Procedures During Emergencies

In the event of a medical emergency, decontamination will be performed if it does not interfere with essential treatment. Decontamination will be performed by washing, rinsing, and/or cutting off protective clothing and equipment.

If decontamination cannot be performed, the victim will be wrapped in plastic to reduce contamination to other personnel. Emergency and off-Site medical personnel will be alerted to the potential contamination.

Emergency Medical Treatment and First Aid

Medical emergencies will be treated, in general, by medical experts by transporting the victim to the nearby hospital. A first aid kit will be present on Site for minor medical treatment.

SECTION 11.0
COMMUNITY AIR MONITORING PLAN

This section includes procedures to address potential community health and safety issues associated with investigation and remediation at the Site.

Air Monitoring

A community air monitoring plan will be implemented at the Site by Enviroscience during investigation and remediation activities. Under the community air monitoring plan, organic vapor concentrations will be monitored at the Site on a continuous basis. It will be the responsibility of the HSO to implement the plan and to ensure that proper action is taken in the event that any of the established action levels are exceeded.

To monitor organic vapors, a PID will be used. Calibration of the PID will be performed according to manufacturer s instructions. Background levels of organic vapors will be measured at the Site prior to beginning work and upwind of the work area periodically using a PID. Organic vapors will be monitored at the downwind perimeter of the work area daily at two-hour intervals. Monitoring may be performed more frequently of the discretion of the HSO.

PID readings will be recorded in the field logbook for both background and work area perimeter. Logbook recordings will include the time, location, and PID readings observed. Downwind perimeter levels will be recorded in the log whenever the level reaches 5 ppm above the background along with the action(s) taken to mitigate the level. If the level of organic vapors exceeds 5 ppm above the background at the downwind perimeter of the work area, work activities will be halted and monitoring continued. The vapor emission response plan will then be implemented.

The vapor emission response plan includes the following trigger levels and responses:

- Greater than 5 ppm at perimeter:

  In the event the level of organic vapors exceeds 5 ppm above the background at the

downwind perimeter of the work area, activities will be halted and monitoring continued. If the organic vapor level then decreases to below 5 ppm above background, work activities can resume but organic vapor readings will be obtained more frequently as directed by the CHSO.

- 5 ppm to 50 ppm at perimeter and less than 5 ppm at the property boundary:

If the level of organic vapors is greater than 5 ppm but less than 50 ppm over background at the downwind perimeter of the work area, activities will be resumed provided the level at the downwind or closest property boundary or half the distance to the nearest residential or commercial structure, whichever is less, is below 5 ppm over background and more frequent intervals of monitoring are performed as directed by the HSO.

- Above 50 ppm at perimeter of the work area:

  If the level of organic vapors is above 50 ppm at the perimeter of the work area, activities will be shut down. Should such a shutdown be necessary, downwind air monitoring will continue as directed by the HSO to ensure that vapor emission does not impact the nearest residential or commercial structure at levels exceeding those specified in the major vapor emission section.

The following trigger levels and responses are applicable for a major vapor emission:

- If any PID readings exceeding 5 ppm over background are identified at the downwind or closest property boundary or half the distance to the nearest residential or commercial property, whichever is less, all work activities must be halted;
- If, following the cessation of the work activities or as a result of an emergency, organic vapor levels persist above 5 ppm over background at the downwind or closest property boundary or half the distance to the nearest residential or commercial property from the

work area, then the air quality must be monitored within 20 feet of the perimeter of the nearest residential or commercial structure (20-foot zone).

The Major Vapor Emission Response Plan shall automatically be placed into effect if:

- Efforts to abate the emission source are unsuccessful and levels above 5 ppm persist for more than 30 minutes in the 20-foot zone; or
- The vapor levels are greater than 10 ppm above background in the 20-foot zone.

Upon activation of the Major Vapor Emission Response Plan, the following activities will be undertaken:

- Emergency response contacts as listed in the Safety and Health Plan may be notified;
- Local officials may be contacted by the HSO and advised of the situation; and
- Air monitoring will be conducted at 30-minute intervals within the 20-foot zone. If two successive readings below action levels are measured, air monitoring will be halted or modified as directed by the HSO.

If dusty conditions are encountered, dust monitoring will be performed with a Miniram personal monitor. The Miniram readings will be obtained in the downwind area at least once per hour, or more frequently if appropriate, and the HSO will record the readings in the field logbook. If the downwind particulate level exceeds the upwind level by more than 150 micrograms per cubic meter, then dust suppression techniques may be employed.

Noise Monitoring

Due to the use of heavy equipment at the Site during the investigation and remediation, there is the potential for noise to impact the Site workers and the surrounding community.

Since the facility is vacant, there is no potential that Site employees will be impacted by noise. In addition, work will be performed only during daytime hours. If appropriate, the HSO may

periodically monitor noise levels at the work zone boundary and the closest property boundary with a Realistic[tm] hand-held sound level meter. Noise levels will be monitored in dBs in the A-weighted, slow-response mode. If noise complaints are received, the HSO will take appropriate measures to reduce noise exposure beyond these boundaries..

Transportation Issues

There is the potential, although small, for community exposure to wastes originating from the Site during transportation of wastes (if necessary) from the Site to the disposal facilities. To address these concerns, the wastes will be placed in secure containers and will be covered to minimize the potential for releases from the containers during transport. In addition, the exterior of each container will be observed by an Enviroscience representative prior to the container leaving the Site. Any adhering waste materials will be removed prior to the container leaving the Site.

In the event that wastes are staged at the Site prior to loading into containers for transportation, then clean loading techniques will be used. These techniques include covering the exterior vehicle sides and ground around the vehicle with plastic sheeting during loading. The used plastic sheeting is then disposed with the solid waste.

ATTACHMENT 1

EMERGENCY TELEPHONE NUMBERS, ENVIROSCIENCE CONTACT PERSONNEL, DIRECTIONS FROM THE SITE TO THE HOSPITAL

Emergency Telephone Numbers

New York City Police	911
Ambulance	911
Poison Control Center	516-542-2323
New York State Department of Health	631-348-2900
New York State Department of Environmental Conservation	631-444-0320
Hospital Emergency	718-936-7391

Enviroscience Contact Personnel (631-580-3191)

Peter Dermody, Senior Hydrogeologist

Directions to the Hospital 718-936-7391

Wyckoff Medical Center: from the site, head west on 77th Avenue to Cooper Avenue. Take Cooper Avenue west to Myrtle Avenue west. Take fork to right on Wyckoff Avenue. Take Wyckoff Aveue to corner of Wyckoff Avenue and Stockholm Street (right side). See map on following page.

APPENDIX B

URS SOIL GAS DATA SUMMARY

N

SG-03 (6')
1,1,1-Trichloroethane, 10800
Tetrachloroethene, 5620000
Trichloroethene, 1700
cis-1,2-Dichloroethene, 500
trans-1,2-Dichloroethene, 1250

SG-03 (10')
1,1,1-Trichloroethane, 19800
Tetrachloroethene, 20240000
Trichloroethene, 1780
cis-1,2-Dichloroethene, 750
trans-1,2-Dichloroethene, 750

SG-02 (6')
1,1,1-Trichloroethane, 2590
Tetrachloroethene, 2450000
Trichloroethene, 2150
cis-1,2-Dichloroethene, 250

SG-02 (10')
1,1,1-Trichloroethane, 4280
Tetrachloroethene, 2830000
Trichloroethene, 2280
cis-1,2-Dichloroethene, 250

SG-04 (6')
1,1,1-Trichloroethane, 63600
Tetrachloroethene, 23900000
Trichloroethene, 2650
cis-1,2-Dichloroethene, 2400

SG-04 (10')
Tetrachloroethene, 777000

SG-17/PZ-03 (6')
1,1,1-Trichloroethane, 1650
Tetrachloroethene, 5442000
Trichloroethene, 113000
trans-1,2-Dichloroethene, 7020

SG-17/PZ-03 (10')
Tetrachloroethene, 173000
Trichloroethene, 1300

SG-17/PZ-03 (14')
Tetrachloroethene, 339000
Trichloroethene, 3520

SG-01 (6')
1,1,1-Trichloroethane, 1370
Tetrachloroethene, 1088000
Trichloroethene, 2110

SG-01 (10')
1,1,1-Trichloroethane, 2130
Tetrachloroethene, 1146000
Trichloroethene, 3400
cis-1,2-Dichloroethene, 250

SB-02

SB-01

2 STORY
BRICK BUILDINGS

78-07

78-09

SG-16 (6')
1,1,1-Trichloroethane, 21400
1,1-Dichloroethene, 250
1,2-Dichloroethane, 5890
Tetrachloroethene, 5600000
Toluene, 260
Trichloroethene, 28100
Vinyl chloride, 385
cis-1,2-Dichloroethene, 750
trans-1,2-Dichloroethene, 115000

SG-16 (10')
1,1,1-Trichloroethane, 17300
1,2-Dichloroethane, 5890
Tetrachloroethene, 5000000
Toluene, 260
Trichloroethene, 32000
Vinyl chloride, 385
cis-1,2-Dichloroethene, 750
trans-1,2-Dichloroethene, 83000

EDSALL AVE.

SG-08 (6')
Tetrachloroethene, 98273

SG-08 (10')
Tetrachloroethene, 4390000
Toluene, 260
Trichloroethene, 19000
cis-1,2-Dichloroethene, 250
trans-1,2-Dichloroethene, 1000

SG-08 (14')
1,1,1-Trichloroethane, 4940
Tetrachloroethene, 5130000
Trichloroethene, 13900
cis-1,2-Dichloroethene, 250
trans-1,2-Dichloroethene, 1000

SG-11 (6')
1,1,1-Trichloroethane, 22600
Tetrachloroethene, 42700
Trichloroethene, 39400

SG-11 (10')
1,1,1-Trichloroethane, 6755
Tetrachloroethene, 53100
Trichloroethene, 5920
trans-1,2-Dichloroethene, 500

SG-11 (14')
1,1-Dichloroethene, 1250
Tetrachloroethene, 682000
Trichloroethene, 4260
trans-1,2-Dichloroethene, 6010

SG-14 (6')
Tetrachloroethene, 3520

SG-14 (10')
Tetrachloroethene, 2350

SG-14 (14')
1,1,1-Trichloroethane, 5270
Tetrachloroethene, 282000
Trichloroethene, 944
cis-1,2-Dichloroethene, 6500

SB-05

SG-05 (6')
1,1,1-Trichloroethane, 607
Tetrachloroethene, 1350000
Trichloroethene, 1280

SG-05 (10')
1,1,1-Trichloroethane, 758
Tetrachloroethene, 1440000
Trichloroethene, 1700

SG-12/SB-04 (6')
Tetrachloroethene, 45500
Trichloroethene, 8330
trans-1,2-Dichloroethene, 7270

SG-12/SB-04 (10')
Tetrachloroethene, 85700
Trichloroethene, 8510
trans-1,2-Dichloroethene, 5260

SG-13 (6')
Tetrachloroethene, 2640

SG-13 (10')
Ethylbenzene, 230
Tetrachloroethene, 35500
Toluene, 260
Xylene (total), 230

SG-15 (6')
Tetrachloroethene, 7630

SG-15 (8')
1,1,1-Trichloroethane, 360
Tetrachloroethene, 45100
Trichloroethene, 2400

76TH ST.

78TH ST.

77TH AVE.

SG-06 (6')
1,1,1-Trichloroethane, 165
Tetrachloroethene, 403000
Trichloroethene, 900
trans-1,2-Dichloroethene, 1350

SG-06 (10')
1,1,1-Trichloroethane, 330
Tetrachloroethene, 664000
Trichloroethene, 1520
trans-1,2-Dichloroethene, 3680

SG-07 (6')
1,1-Dichloroethene, 500
Tetrachloroethene, 2930000
Trichloroethene, 27000
Vinyl chloride, 8390
cis-1,2-Dichloroethene, 1000
trans-1,2-Dichloroethene, 220000

SG-07 (10')
1,1-Dichloroethene, 250
Tetrachloroethene, 2770000
Trichloroethene, 19000
Vinyl chloride, 5700
cis-1,2-Dichloroethene, 500
trans-1,2-Dichloroethene, 142000

SG-07 (14')
Tetrachloroethene, 3110000
Trichloroethene, 18900
Vinyl chloride, 4230
cis-1,2-Dichloroethene, 500
trans-1,2-Dichloroethene, 134000

SG-09 (6')
Tetrachloroethene, 57500

SG-09 (10')
1,1,1-Trichloroethane, 165
Tetrachloroethene, 157000
Trichloroethene, 550
trans-1,2-Dichloroethene, 750

SG-10 (6')
Tetrachloroethene, 29600

SG-10 (10')
Tetrachloroethene, 58200
cis-1,2-Dichloroethene, 500

Legend

- ■ Soil Boring
- ⊙ Soil Gas Probe
- ▲ Soil Gas Probe/Piezometer

SG-14 (6')
Tetrachloroethene, 3520

Location ID (Sample Depth) | Parameter | Concentration

All results are reported in ppbv.

40 0 40 Feet

KLIEGMAN BROTHERS, INC.
ONSITE FIELD MEASUREMENTS - SAMPLE LOCATIONS AND DETECTIONS

URS Greiner Woodward Clyde

FIGURE 3

J:\35787 00\dd\GIS\chemical\soil gas\SOIL GAS ANALYTICAL RESULTS 7/17/2000

APPENDIX C

ACT SOIL SAMPLING DATA

Memorandum

To : 1236-GDNY File
From : Mark
Re : Subsurface Investigation Evaluation
Date : August 26, 1998

Ground Surface to 6 Feet

Figure 1 provides a diagram of the maximum PID results from ground surface to 6 feet below ground surface. As Figure 1 indicates, two areas of high levels of soil contamination are present at this depth. One area is in the immediate vicinity of the railroad tracks, where a PID reading of 2,060 parts per million (ppm) was identified from 2 feet to 4 feet in soil boring ACT-04. The contamination then radiates out to the west and south, where 1,060 ppm was identified from 4 to 6 feet in boring ACT-03 and 225 ppm was identified from ground surface to 2 feet in boring ACT-07.

The other area is located along the western property boundary, in the immediate vicinity of the aboveground storage tanks. The 2 to 4 foot depth in boring ACT-11 was found to contain a PID reading of 2,200 ppm. The PID readings decrease rapidly over a relatively short distance from ACT-11. Soil boring ACT-05 was found to contain a PID reading of 132 ppm at both the ground surface to 2 foot and 2 foot to 4 foot depths. Both soil borings ACT-01 and ACT-08 were found to contain no detectable PID readings for the entire 6 foot range.

6 Feet to 12 Feet

Figure 2 provides a diagram of the maximum PID results from 6 feet to 12 feet below ground surface. As Figure 2 indicates, one area of high levels of soil contamination was identified. This are is located along the railroad tracks in the vicinity of soil boring ACT-03, where 2,321 ppm was identified from 6 to 8 feet.

The PID readings then decrease radially ACT-03. No detectable PID readings for the entire 6 foot range were identified in boring ACT-02. A reading of 7 ppm was identified in boring ACT-06 at 10 to 12 feet and 40 ppm was identified from 6 to 8 feet in boring ACT-04. No detectable PID readings were identified in ACT-04 below the 6 to 8 foot depth.

12 Feet to 18 Feet

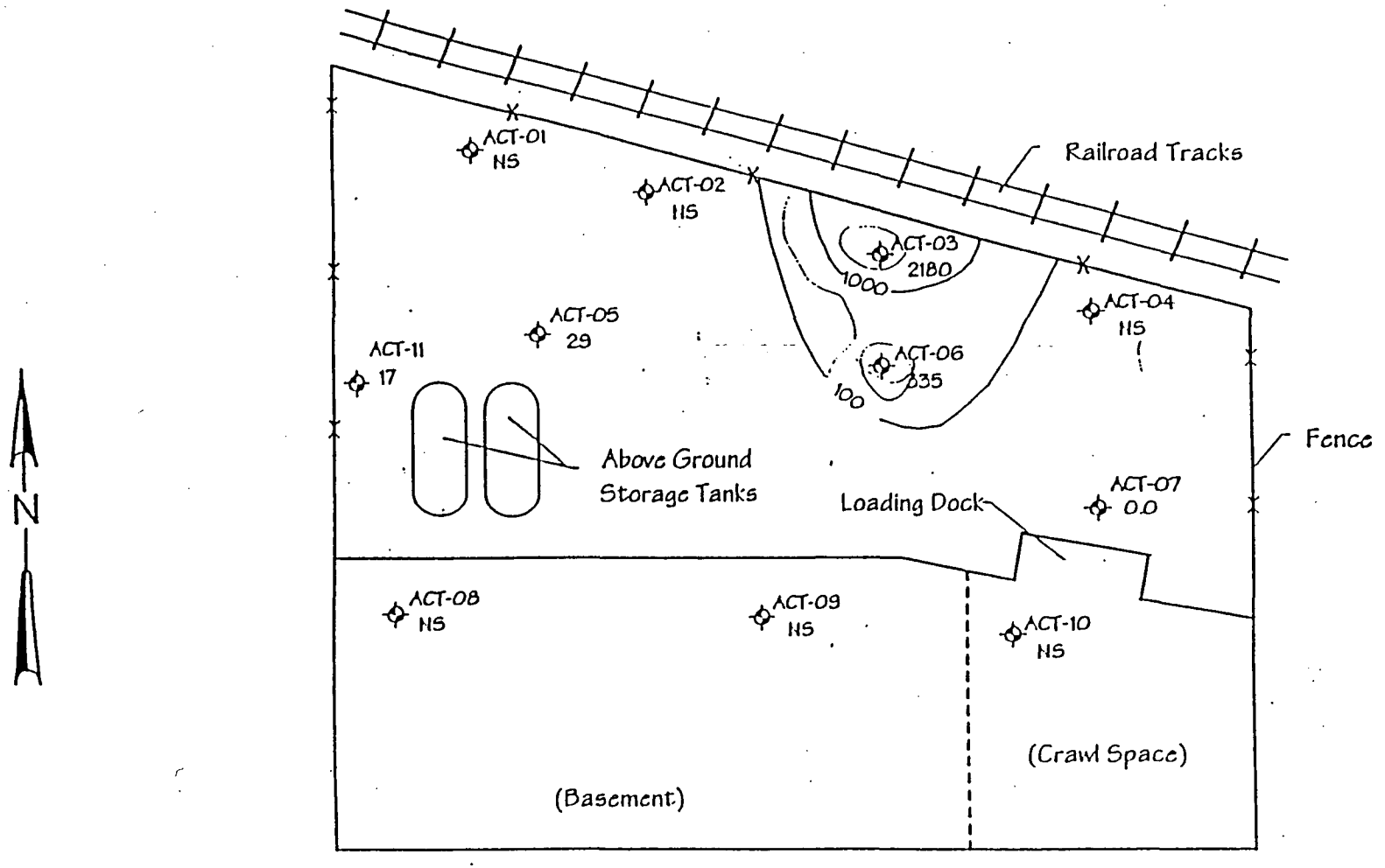
Figure 3 provides a diagram of the maximum PID results from 12 feet to 18 feet below ground surface. As Figure 3 indicates, one area of high levels of soil contamination was identified. As with the 6 to 12 foot range, this are is located along the railroad tracks in the vicinity of soil boring ACT-03. A PID reading of 2,180 ppm was identified from 12 to 14 feet. The remaining readings in ACT-03 to the depth of 18 feet are all greater than 2,000 ppm.

Boring ACT-06 was found to contain a PID reading of 335 ppm from 16 to 18 feet. Borings ACT-02 and ACT-04 were not sampled from the 12 to 18 foot range due to consecutive PID readings of 0.0 ppm at the shallower depths.

PID Results
Glendale, New York

Soil Boring	Sampling Depth	PID Result (ppm)
ACT-01	0 to 2	0.0
	2 to 4	0.0
	4 to 6	0.0
	6 to 8	0.0
ACT-02	1 to 3	0.0
	3 to 5	0.0
	5 to 8	0.0
ACT-03	0 to 2	163
	2 to 4	697
	4 to 6	1060
	6 to 8	2321
	8 to 10	2090
	10 to 12	2160
	12 to 14	2180
	14 to 16	2200
	16 to 18	2200
	18 to 20	2000
ACT-04	0 to 2	1550
	2 to 4	2060
	4 to 6	70
	6 to 8	40
	8 to 10	0.0
	10 to 12	0.0
ACT-05	0 to 2	132
	2 to 4	132
	4 to 6	45
	6 to 8	50
	8 to 10	70
	10 to 12	25
	12 to 14	5.6
	14 to 16	29

Soil Boring	Sampling Depth	PID Result (ppm)
ACT-06	0 to 2	9
	2 to 4	85
	4 to 6	90
	6 to 8	0.0
	8 to 10	0.0
	10 to 12	7
	12 to 14	245
	14 to 16	91
	16 to 18	335
	18 to 20	330
ACT-07	0 to 2	225
	2 to 4	44
	4 to 6	27
	6 to 8	0.0
	8 to 10	0.0
	10 to 12	0.0
	12 to 14	0.0
	14 to 16	0.0
ACT-08	0 to 2	No recovery
	2 to 4	0.0
	4 to 6	0.0
	6 to 8	0.0
ACT-09	0 to 2	No recovery
	2 to 4	7.4
	4 to 6	0.0
	6 to 8	0.0
ACT-10	0 to 2	No recovery
	2 to 4	37.5
	4 to 6	0.0
	6 to 8	0.0
	8 to 10	0.0
ACT-11	0 to 2	No recovery
	2 to 4	2200.0
	4 to 6	680.0
	6 to 8	10.0
	8 to 10	5.5
	10 to 12	43.0
	12 to 14	9.2
	14 to 16	9.4
	16 to 18	17.0
	18 to 20	12.0



Legend

ACT-01 Soil Boring Location

0.0 Total VOCs (ppm)

NS - Not Sampled

100 Contamination Contour
12 Feet to 18 Feet

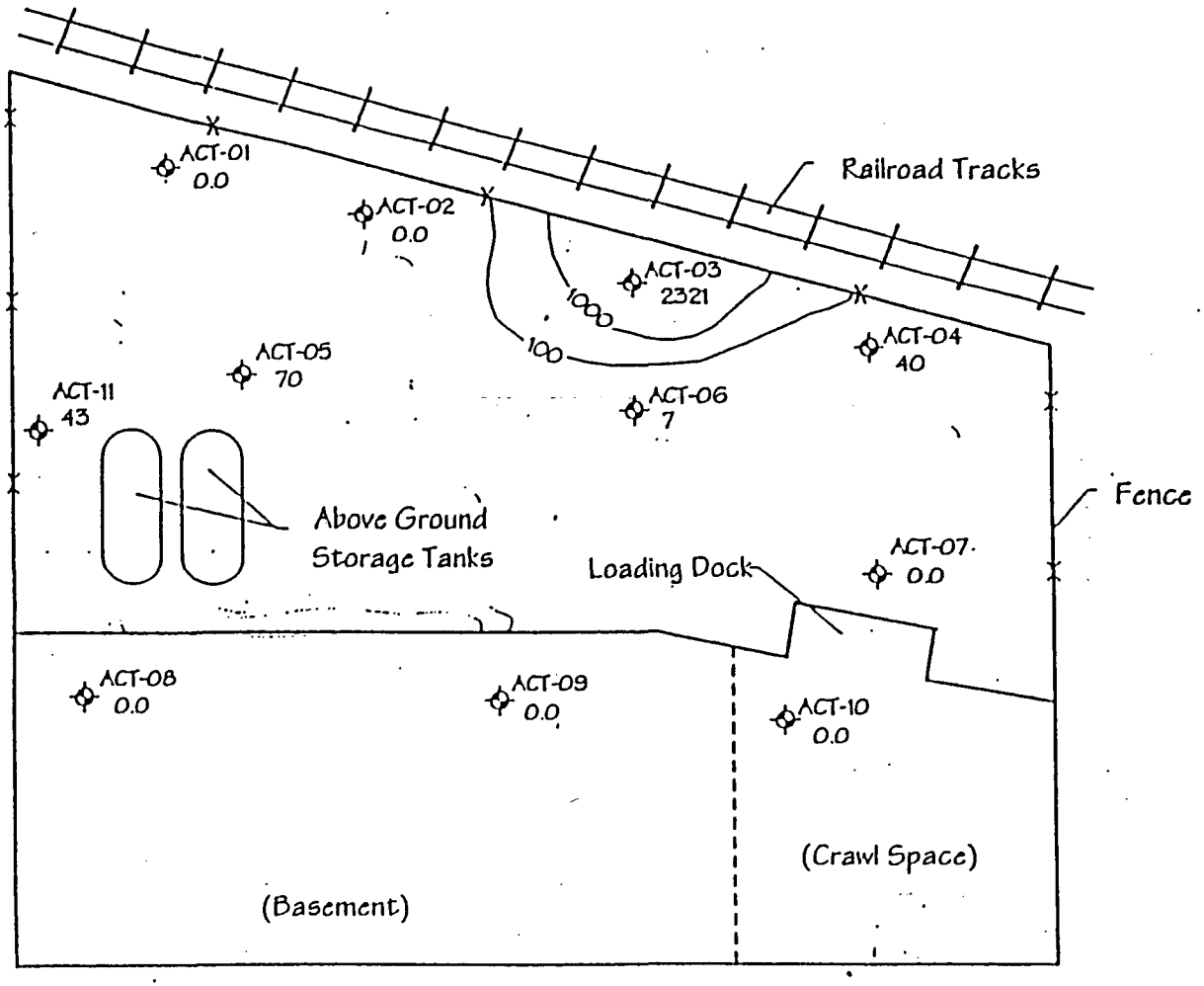
Advanced Cleanup Technologies, Inc.

ENVIRONMENTAL CONSULTANTS

Figure 3

Soil Contamination 12 Feet to 18 Feet

Job No. 1236-GDNY	Date: 8/25/98
Drawing No. 1236-03	Scale: 1" = 25'
Drawn by: C. Korzenko	App. by: Mark Robbins



N

Legend

ACT-01 0.0 Soil Boring Location
Total VOCs (ppm)

100 Contamination Contour
6 Feet to 12 Feet

Advanced Cleanup Technologies, Inc.
ENVIRONMENTAL CONSULTANTS

Figure 2

Soil Contamination 6 Feet to 12 Feet

Job No. 1236-GDNY	Date: 8/25/98
Drawing No. 1236-02	Scale: 1" = 25'
Drawn by: C. Korzenko	App. by: Mark Robbins

APPENDIX D

DECEMBER 1, 2000 AIR SAMPLING REPORT

ENVIROSCIENCE CONSULTANTS, INC.

2150 SMITHTOWN AVENUE
RONKONKOMA, NEW YORK 11779
PHONE: (631) 580-3191 • FACSIMILE: (631) 580-3195

B. GALLAGHER
C. GILBERT, PH.D
T. KLUENDER
G. NEUSCHWENDER

J. DRISCOLL
L. SAVARESE

December 1, 2000

Mr. John Olm
Public Health Specialist III
New York State Department of Health
Flanigan Square
547 River Street, Room 300
Troy, NY 12180-7859

Re: **Former Kliegman Bros. Site**
76-01 77th Ave. Glendale, Queens, NY
Enviroscience File No. 00-10295

Dear Mr. Olm:

As per the air sampling work plan submitted to and approved by your office, Enviroscience Consultants is submitting the results of the indoor air sampling investigation at the above-referenced site.

The sampling was performed on November 9, 2000. Three Summa Canisters were obtained by Enviroscience from York Analytical Laboratories in Stamford, Conn. (an ELAP-approved laboratory) on the morning of the sampling. The sampling was conducted at the site using three canisters which were calibrated by the laboratory for a two-hour sampling period. Samples were obtained at three locations from approximately 11:30am to 1:30pm. Samples were obtained from two locations in the basement of the site building and one location outdoors in the parking area north of the building (as shown on Figure 1). Each canister was placed on the floor or ground during the sampling period. The canisters were delivered by Enviroscience to the laboratory the same day.

The results show that several volatile organic compounds were detected in the basement area (see Table 1 for a summary of the results and Attachment 1 for the laboratory report). The detected compounds include tetrachloroethylene and minor concentrations of tetrachloroethylene breakdown

products as well as various petroleum constituents. It is likely that most of the petroleum-related concentrations are due to the painting of the basement floor the previous weekend with an epoxy paint which, at a minimum, contains xylenes based on a review of the Material Safety Data Sheet for the paint.

The detected chemicals were compared to the OSHA Permissible Exposure Limits (PELs). All concentrations detected were significantly below the PELs.

On November 14, 2000, Enviroscience again visited the site to further evaluate the site conditions. The basement exists beneath the western two-thirds of the building. Within the basement, there is a large area and a small area. The two areas are separated by a wall and the only airflow connection is one open entryway. The volume of air in the small area is approximately 15,000 cubic feet and 74,000 cubic feet in the large area. Enviroscience has recommended to the site owner that three ventilation fans be installed in the large area This configuration is intended to minimize "dead air" spaces and to provide adequate air changes to minimize the concentrations of VOCs in the basement. During the operation of the fans, fresh air will infiltrate the basement from the first floor of the building through an entryway at the east end of the basement. No fans were recommended for the small area since there are no windows in which to install the fans. Each fan will have a rated capacity of 2800 cubic feet per minute.

Enviroscience also performed a photoionization detector (PID) survey in the building. The results of the survey showed that airspace throughout the basement contained total VOC concentrations ranging between 9 and 12 parts per million. However, there was still an odor of epoxy paint and, therefore, the majority of the PID readings are likely to be attributable to the paint. There are numerous floor drains and at least four sumps that are present in the basement floor. Some of the sumps and floor drains contained VOC readings as high as 222 ppm. The airspace on the first floor of the building contained no detectable concentrations of VOCs (using the PID). However, minor concentrations of VOCs were detected in two of the floor drains on the first floor.

Enviroscience has recommended that all floor drains that are not needed for the new operations be sealed. In addition, the sumps should be sealed if they do no contain sump pumps. The two sumps that contain pumps should be sealed at the surface to inhibit the off-gassing of VOCs.

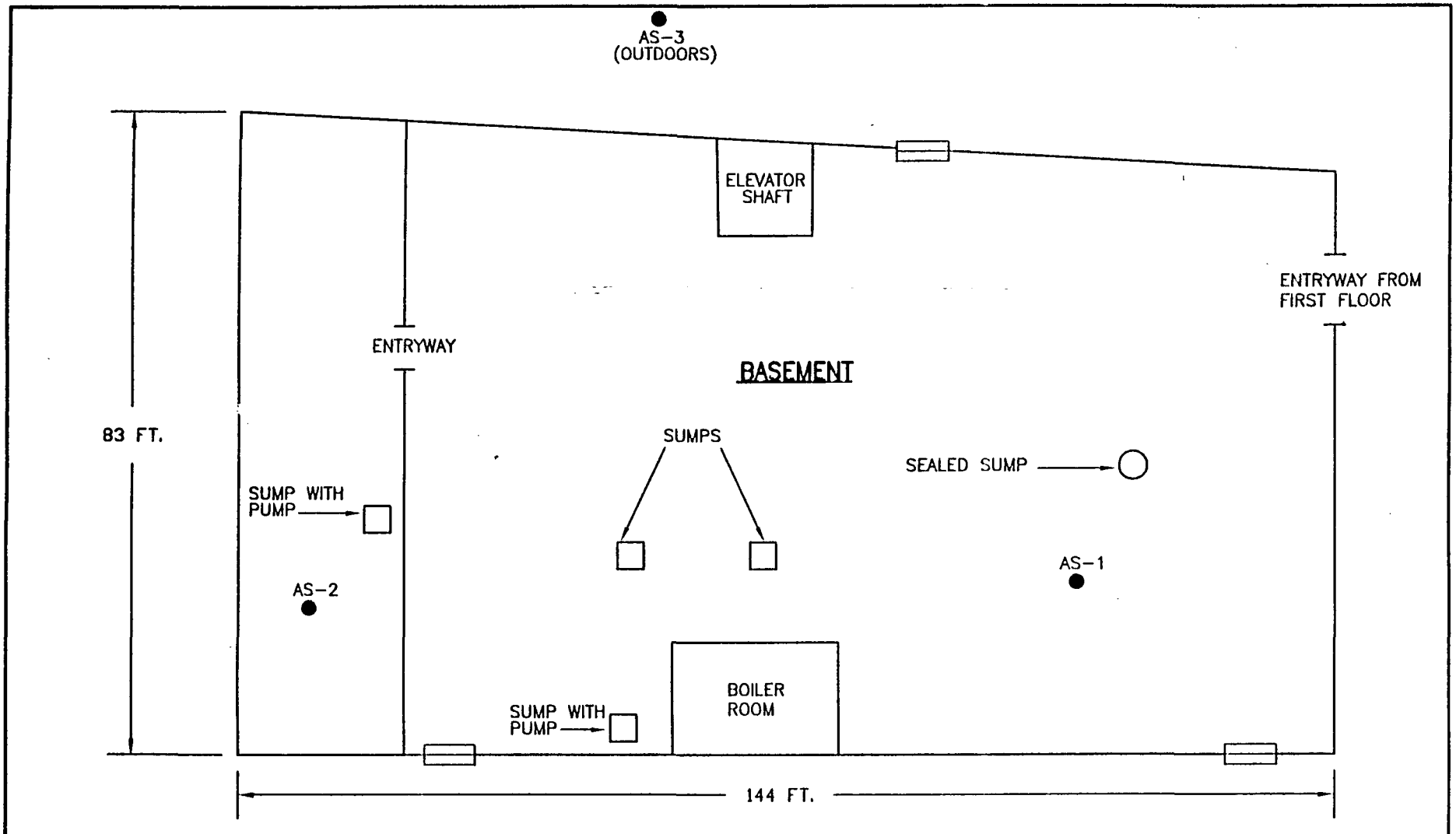
After the drains and sumps are sealed and the fans have been installed and have been operating for at least one week, Enviroscience will obtain follow-up Summa Canister samples in the two areas of the basement to evaluate the effectiveness of the vapor reduction measures. It should also be noted that a soil vapor extraction system is expected to be installed at the site following additional subsurface investigation. It is expected that this system will further reduce or eliminate the vapors in the basement. Upon completion of the follow-up sampling, a report will be prepared and submitted to your office.

Should you have any questions, please do not hesitate to call.

Very truly yours,

Peter Dermody

cc: Barry Cohen
arimaxolm1



LEGEND

AS-1 — LOCATION OF AIR SAMPLE LOCATION

LOCATION OF BASEMENT WINDOW AT WHICH EXHAUST FANS WILL BE INSTALLED

0 10 20
SCALE IN FEET

ENVIROSCIENCE CONSULTANTS, INC.

FIGURE 1
BASEMENT LAYOUT
FORMER KLIEGMAN BROS. SITE
GLENDALE, QUEENS, NEW YORK

Drawn By:L.G.	Checked By:P.D.	Date: 11/18/00

J:\basement.dwg, 11/21/00 08:50:04 AM

TABLE 1
SUMMARY OF DETECTED COMPOUNDS IN AIR SAMPLES AT THE FORMER KLEIGMAN BROS. SITE

(All results and standards in parts per billion)

Detected Parameter	AS-1	AS-2	AS-3	OSHA PEL(1)
1,1,1-Trichloroethane	1.7	1.9	ND	350,000
1,2,4-Trimethylbenzene	8.2	8.8	ND	NS
1,3,5-Trimethylbenzene	2.2	2.6	ND	NS
Benzene	1.7	1.8	ND	10,000
Chloroethane	32	33	ND	1,000,000
Ethylbenzene	750	800	2.1	100,000
total Xylenes	2,170	2,140	6.3	100,000
Tetrachlorethylene	1,130	1,420	3.0	100,000
Toluene	83	84	2.9	200,000
Trichloroethylene	1.6	1.6	ND	100,000

Notes:

ND = Not detected
NS = No standard
(1) = Occupational Safety and Health Administration Permissible Exposure Limits from 29 CFR 1910.1000, Tables Z-1 and Z-2

table1

ATTACHMENT A

YORK
ANALYTICAL LABORATORIES, INC.

Technical Report

prepared for

Enviroscience Consultants, Inc.
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Report Date: 11/10/2000
Re: Client Project ID: ARIMAX
York Project No.: 00110240

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

PAGE 06
YORK
2033570166
11/10/2000 11:42

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.
ENVIROSCIENCE	PETER DERMODY	SAME	ARIMAX

Samples Collected By (Signature)

PETER DERMODY
Name (Printed)

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
1	AS-1	11/9/00			✓		VOCs (TO14)	Summa
2	AS-2	"			✓		VOCs	Canisters
3	AS-3	"			✓		VOCs	

ENVIROSCIENCE CONSULTANTS, INC.
2150 SMITHTOWN AVENUE
RONKONKOMA, NEW YORK 11779
WWW.ENVIROHEALTH.ORG

PETER DERMODY
SENIOR HYDROGEOLOGIST

PHONE: (631) 580-3191
FAX: (631) 580-3195
EMAIL: PDERMODY@ENVIROHEALTH.ORG

ENVIRONMENTAL & INDUSTRIAL HYGIENE CONSULTANTS

2-Day Rush
50%
TO-14: $225.00

TO-14 $35 Controllers

Chain-of-Custody Record

Bottles Relinquished from Lab by	Date/Time	Sample Relinquished by	Date/Time
Peter Dermody	10/9/00 1030A	Peter Dermody	11/9/00 1238P
Bottles Received in Field by	Date/Time	Sample Relinquished by	Date/Time
		Donna Rebellar	240 PM 11-9-00
		Sample Received in LAB by	Date/Time
		J. [illegible]	11-9-00 1440

Comments/Special Instructions

Turn-Around Time
___Standard ___RUSH(define)_____

Report Date: 11/10/2000
Client Project ID: ARIMAX

York Project No.: 00110240

Enviroscience Consultants, Inc.
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 11/09/00. The project was identifed as your project "ARIMAX ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			AS-1		AS-2	
York Sample ID			00110240-01		00110240-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---	---	---
1,1,1-Trichloroethane			1.7	1.0	1.9	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0	Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0	Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0	Not detected	1.0
1,2,4-Trimethylbenzene			8.2	1.0	8.8	1.0
1,2-Dibromoethane			Not detected	1.0	Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,2-Dichloroethane			Not detected	1.0	Not detected	1.0
1,2-Dichloropropane			Not detected	1.0	Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0	Not detected	1.0
1,3,5-Trimethylbenzene			2.2	1.0	2.6	1.0
1,3-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0	Not detected	1.0
3-Chloropropene			Not detected	1.0	Not detected	1.0
4-Ethyltoluene			Not detected	1.0	Not detected	1.0
Benzene			1.7	1.0	1.8	1.0

Client Sample ID			AS-1		AS-2	
York Sample ID			00110240-01		00110240-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Benzyl Chloride			Not detected	1.0	Not detected	1.0
Bromomethane			Not detected	1.0	Not detected	1.0
Carbon Tetrachloride			Not detected	1.0	Not detected	1.0
Chlorobenzene			Not detected	1.0	Not detected	1.0
Chloroethane			32	1.0	33	1.0
Chloroform			Not detected	1.0	Not detected	1.0
Chloromethane			Not detected	1.0	Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0	Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Dichlorodifluoromethane			Not detected	1.0	Not detected	1.0
Ethylbenzene			750	1.0	800	1.0
Freon-113			Not detected	1.0	Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0	Not detected	1.0
Methylene Chloride			Not detected	1.0	Not detected	1.0
o-Xylene			670	1.0	740	1.0
p- & m-Xylenes			1500	1.0	1400	1.0
Styrene			Not detected	1.0	Not detected	1.0
Tetrachloroethylene			1130	1.0	1420	1.0
Toluene			83	1.0	84	1.0
trans-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Trichloroethylene			1.6	1.0	1.6	1.0
Trichlorofluoromethane			Not detected	1.0	Not detected	1.0
Vinyl Chloride			Not detected	1.0	Not detected	1.0

Client Sample ID			AS-3	
York Sample ID			00110240-03	
Matrix			AIR	
Parameter	Method	Units	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---
1,1,1-Trichloroethane			Not detected	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0
1,1-Dichloroethane			Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0
1,2,4-Trimethylbenzene			Not detected	1.0
1,2-Dibromoethane			Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0
1,2-Dichloroethane			Not detected	1.0
1,2-Dichloropropane			Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0
1,3,5-Trimethylbenzene			Not detected	1.0
1,3-Dichlorobenzene			Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0
3-Chloropropene			Not detected	1.0
4-Ethyltoluene			Not detected	1.0
Benzene			Not detected	1.0
Benzyl Chloride			Not detected	1.0
Bromomethane			Not detected	1.0

YORK

11/10/2000 11:42 2033570166 YORK PAGE 04

Client Sample ID			AS-3	
York Sample ID			00110240-03	
Matrix			AIR	
Parameter	**Method**	**Units**	**Results**	**MDL**
Carbon Tetrachloride			Not detected	1.0
Chlorobenzene			Not detected	1.0
Chloroethane			Not detected	1.0
Chloroform			Not detected	1.0
Chloromethane			Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0
Dichlorodifluoromethane			Not detected	1.0
Ethylbenzene			2.1	1.0
Freon-113			Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0
Methylene Chloride			Not detected	1.0
o-Xylene			2.3	1.0
p- & m-Xylenes			4.0	1.0
Styrene			Not detected	1.0
Tetrachloroethylene			3.0	1.0
Toluene			2.9	1.0
trans-1,3-Dichloropropylene			Not detected	1.0
Trichloroethylene			Not detected	1.0
Trichlorofluoromethane			Not detected	1.0
Vinyl Chloride			Not detected	1.0

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: _____ **Date:** 11/10/2000

Robert Q. Bradley
Managing Director

YORK

11/10/2000 11:42 2033570166 YORK PAGE 05

APPENDIX E

AIR SAMPLING LABORATORY REPORTS

YORK
ANALYTICAL LABORATORIES, INC.

Technical Report

prepared for

Enviroscience Consultants, Inc.
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Report Date: 11/10/2000
Re: Client Project ID: ARIMAX
York Project No.: 00110240

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 11/10/2000
Client Project ID: ARIMAX

York Project No.: 00110240

Enviroscience Consultants, Inc.
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 11/09/00. The project was identifed as your project "ARIMAX ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			AS-1		AS-2	
York Sample ID			00110240-01		00110240-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---	---	---
1,1,1-Trichloroethane			1.7	1.0	1.9	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0	Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0	Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0	Not detected	1.0
1,2,4-Trimethylbenzene			8.2	1.0	8.8	1.0
1,2-Dibromoethane			Not detected	1.0	Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,2-Dichloroethane			Not detected	1.0	Not detected	1.0
1,2-Dichloropropane			Not detected	1.0	Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0	Not detected	1.0
1,3,5-Trimethylbenzene			2.2	1.0	2.6	1.0
1,3-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0	Not detected	1.0
3-Chloropropene			Not detected	1.0	Not detected	1.0
4-Ethyltoluene			Not detected	1.0	Not detected	1.0
Benzene			1.7	1.0	1.8	1.0

YORK

Client Sample ID			AS-1		AS-2	
York Sample ID			00110240-01		00110240-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Benzyl Chloride			Not detected	1.0	Not detected	1.0
Bromomethane			Not detected	1.0	Not detected	1.0
Carbon Tetrachloride			Not detected	1.0	Not detected	1.0
Chlorobenzene			Not detected	1.0	Not detected	1.0
Chloroethane			32	1.0	33	1.0
Chloroform			Not detected	1.0	Not detected	1.0
Chloromethane			Not detected	1.0	Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0	Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Dichlorodifluoromethane			Not detected	1.0	Not detected	1.0
Ethylbenzene			750	1.0	800	1.0
Freon-113			Not detected	1.0	Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0	Not detected	1.0
Methylene Chloride			Not detected	1.0	Not detected	1.0
o-Xylene			670	1.0	740	1.0
p- & m-Xylenes			1500	1.0	1400	1.0
Styrene			Not detected	1.0	Not detected	1.0
Tetrachloroethylene			1130	1.0	1420	1.0
Toluene			83	1.0	84	1.0
trans-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Trichloroethylene			1.6	1.0	1.6	1.0
Trichlorofluoromethane			Not detected	1.0	Not detected	1.0
Vinyl Chloride			Not detected	1.0	Not detected	1.0

Client Sample ID			AS-3	
York Sample ID			00110240-03	
Matrix			AIR	
Parameter	Method	Units	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---
1,1,1-Trichloroethane			Not detected	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0
1,1-Dichloroethane			Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0
1,2,4-Trimethylbenzene			Not detected	1.0
1,2-Dibromoethane			Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0
1,2-Dichloroethane			Not detected	1.0
1,2-Dichloropropane			Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0
1,3,5-Trimethylbenzene			Not detected	1.0
1,3-Dichlorobenzene			Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0
3-Chloropropene			Not detected	1.0
4-Ethyltoluene			Not detected	1.0
Benzene			Not detected	1.0
Benzyl Chloride			Not detected	1.0
Bromomethane			Not detected	1.0

YORK

Client Sample ID			AS-3	
York Sample ID			00110240-03	
Matrix			AIR	
Parameter	Method	Units	Results	MDL
Carbon Tetrachloride			Not detected	1.0
Chlorobenzene			Not detected	1.0
Chloroethane			Not detected	1.0
Chloroform			Not detected	1.0
Chloromethane			Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0
Dichlorodifluoromethane			Not detected	1.0
Ethylbenzene			2.1	1.0
Freon-113			Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0
Methylene Chloride			Not detected	1.0
o-Xylene			2.3	1.0
p- & m-Xylenes			4.0	1.0
Styrene			Not detected	1.0
Tetrachloroethylene			3.0	1.0
Toluene			2.9	1.0
trans-1,3-Dichloropropylene			Not detected	1.0
Trichloroethylene			Not detected	1.0
Trichlorofluoromethane			Not detected	1.0
Vinyl Chloride			Not detected	1.0

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: _____ **Date:** 11/10/2000

Robert Q. Bradley
Managing Director

YORK

YORK
ANALYTICAL LABORATORIES, INC.

Technical Report

prepared for

Enviro Science Consultants
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Report Date: 12/15/2000
Re: Client Project ID: Arimax
York Project No.: 00120294

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 12/15/2000
Client Project ID: Arimax

York Project No.: 00120294

Enviro Science Consultants
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 12/14/00. The project was identifed as your project "Arimax ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			AS-4		AS-5	
York Sample ID			00120294-01		00120294-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---	---	---
1,1,1-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0	Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0	Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0	Not detected	1.0
1,2,4-Trimethylbenzene			1.3	1.0	1.6	1.0
1,2-Dibromoethane			Not detected	1.0	Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,2-Dichloroethane			Not detected	1.0	Not detected	1.0
1,2-Dichloropropane			Not detected	1.0	Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0	Not detected	1.0
1,3,5-Trimethylbenzene			Not detected	1.0	Not detected	1.0
1,3-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0	Not detected	1.0
3-Chloropropene			Not detected	1.0	Not detected	1.0
4-Ethyltoluene			Not detected	1.0	Not detected	1.0
Benzene			Not detected	1.0	1.1	1.0
Benzyl Chloride			Not detected	1.0	Not detected	1.0
Bromomethane			Not detected	1.0	Not detected	1.0
Carbon Tetrachloride			Not detected	1.0	Not detected	1.0
Chlorobenzene			Not detected	1.0	Not detected	1.0

YORK

Client Sample ID			AS-4		AS-5	
York Sample ID			00120294-01		00120294-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Chloroethane			5.0	1.0	1.4	1.0
Chloroform			Not detected	1.0	Not detected	1.0
Chloromethane			Not detected	1.0	Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0	Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Dichlorodifluoromethane			Not detected	1.0	Not detected	1.0
Ethylbenzene			4.4	1.0	1.9	1.0
Freon-113			Not detected	1.0	Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0	Not detected	1.0
Methylene Chloride			Not detected	1.0	Not detected	1.0
o-Xylene			5.1	1.0	2.4	1.0
p- & m-Xylenes			8.1	1.0	3.6	1.0
Styrene			Not detected	1.0	Not detected	1.0
Tetrachloroethylene			9.1	1.0	65	1.0
Toluene			12	1.0	4.9	1.0
trans-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Trichloroethylene			Not detected	1.0	Not detected	1.0
Trichlorofluoromethane			Not detected	1.0	Not detected	1.0
Vinyl Chloride			Not detected	1.0	Not detected	1.0

Client Sample ID			AS-6		AS-7	
York Sample ID			00120294-03		00120294-04	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---	---	---
1,1,1-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0	Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0	Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0	Not detected	1.0
1,2,4-Trimethylbenzene			1.0	1.0	Not detected	1.0
1,2-Dibromoethane			Not detected	1.0	Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,2-Dichloroethane			Not detected	1.0	Not detected	1.0
1,2-Dichloropropane			Not detected	1.0	Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0	Not detected	1.0
1,3,5-Trimethylbenzene			Not detected	1.0	Not detected	1.0
1,3-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0	Not detected	1.0
3-Chloropropene			Not detected	1.0	Not detected	1.0
4-Ethyltoluene			Not detected	1.0	Not detected	1.0
Benzene			Not detected	1.0	Not detected	1.0
Benzyl Chloride			Not detected	1.0	Not detected	1.0
Bromomethane			Not detected	1.0	Not detected	1.0
Carbon Tetrachloride			Not detected	1.0	Not detected	1.0
Chlorobenzene			Not detected	1.0	Not detected	1.0
Chloroethane			2.3	1.0	3.7	1.0
Chloroform			Not detected	1.0	Not detected	1.0
Chloromethane			Not detected	1.0	Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0	Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0

YORK

Client Sample ID			AS-6		AS-7	
York Sample ID			00120294-03		00120294-04	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Dichlorodifluoromethane			Not detected	1.0	Not detected	1.0
Ethylbenzene			3.2	1.0	9.3	1.0
Freon-113			Not detected	1.0	Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0	Not detected	1.0
Methylene Chloride			Not detected	1.0	Not detected	1.0
o-Xylene			3.7	1.0	11	1.0
p- & m-Xylenes			5.8	1.0	17	1.0
Styrene			Not detected	1.0	Not detected	1.0
Tetrachloroethylene			55	1.0	220	1.0
Toluene			8.6	1.0	8.7	1.0
trans-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Trichloroethylene			Not detected	1.0	Not detected	1.0
Trichlorofluoromethane			Not detected	1.0	Not detected	1.0
Vinyl Chloride			Not detected	1.0	Not detected	1.0

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: _____ **Date:** 12/15/2000

Robert Q. Bradley
Managing Director

YORK

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

J0120294

Page 1 of 1

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	
ENVIROSCIENCE	PETER DERMODY	SAME	ARIMAX	Samples Collected By (Signature)
				Name (Printed)

Sample No.	Location/ID	Date Sampled	Sample Matrix				ANALYSES REQUESTED	Container Description(s)
			Water	Soil	Air	OTHER		
AS-4		12/14/00			X		VOCs	Summa Canister
AS-5		↓			X		↓	↓
AS-6		↓			X		↓	↓
AS-7		↓			X			

Chain-of-Custody Record

Bottles Relinquished from Lab by	Date/Time	Sample Relinquished by	12/14/00 2:00PM Date/Time	Sample Received by	12-14-00 2:05 pm Date/Time
Bottles Received in Field by	Date/Time	Sample Relinquished by	Date/Time	Sample Received in LAB by	12-14-00 1405 Date/Time

Comments/Special Instructions

Turn-Around Time

X Standard ___ RUSH(define)_____

YORK
ANALYTICAL LABORATORIES, INC.

Technical Report

prepared for

Enviroscience Consultants, Inc.
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Report Date: 1/23/2001
Re: Client Project ID: Airmax Former Kliegman
York Project No.: 01010282

CT License No. PH-0723 New York License No. 10854 Mass. License No. M-CT106 Rhode Island License No. 93 EPA I.D. No. CT00106

ONE RESEARCH DRIVE STAMFORD, CT 06906 (203) 325-1371 FAX (203) 357-0166

Report Date: 1/23/2001
Client Project ID: Airmax Former Kliegman

York Project No.: 01010282

Enviroscience Consultants, Inc.
2150 Smithtown Avenue
Ronkonkoma, NY 11779
Attention: Mr. Peter Dermody

Purpose and Results

This report contains the analytical data for the sample(s) identified on the attached chain-of-custody received in our laboratory on 01/16/01. The project was identifed as your project "Airmax Former Kliegman ".

The analysis was conducted utilizing appropriate EPA, Standard Methods, and ASTM methods as detailed in the data summary tables .

The results of the analysis are summarized in the following table(s).

Analysis Results

Client Sample ID			AS-1		AS-2	
York Sample ID			01010282-01		01010282-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---	---	---
1,1,1-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0	Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0	Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0	Not detected	1.0
1,2,4-Trimethylbenzene			3.6	1.0	Not detected	1.0
1,2-Dibromoethane			Not detected	1.0	Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,2-Dichloroethane			Not detected	1.0	Not detected	1.0
1,2-Dichloropropane			Not detected	1.0	Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0	Not detected	1.0
1,3,5-Trimethylbenzene			1.1	1.0	Not detected	1.0
1,3-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0	Not detected	1.0
3-Chloropropene			Not detected	1.0	Not detected	1.0
4-Ethyltoluene			Not detected	1.0	Not detected	1.0
Benzene			Not detected	1.0	Not detected	1.0
Benzyl Chloride			Not detected	1.0	Not detected	1.0
Bromomethane			Not detected	1.0	Not detected	1.0
Carbon Tetrachloride			Not detected	1.0	Not detected	1.0
Chlorobenzene			Not detected	1.0	Not detected	1.0

YORK

Client Sample ID			AS-1		AS-2	
York Sample ID			01010282-01		01010282-02	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Chloroethane			4.5	1.0	1.5	1.0
Chloroform			Not detected	1.0	Not detected	1.0
Chloromethane			Not detected	1.0	Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0	Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Dichlorodifluoromethane			Not detected	1.0	Not detected	1.0
Ethylbenzene			4.2	1.0	4.2	1.0
Freon-113			Not detected	1.0	Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0	Not detected	1.0
Methylene Chloride			Not detected	1.0	Not detected	1.0
o-Xylene			5.6	1.0	5.2	1.0
p- & m-Xylenes			8.1	1.0	7.9	1.0
Styrene			Not detected	1.0	Not detected	1.0
Tetrachloroethylene			52	1.0	79	1.0
Toluene			14	1.0	7.2	1.0
trans-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Trichloroethylene			Not detected	1.0	Not detected	1.0
Trichlorofluoromethane			Not detected	1.0	Not detected	1.0
Vinyl Chloride			Not detected	1.0	Not detected	1.0

Client Sample ID			AS-3		AS-4	
York Sample ID			01010282-03		01010282-04	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Volatiles(TO-14 list)	EPA TO14	ppbv	---	---	---	---
1,1,1-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1,2,2-tetrachloroethane			Not detected	1.0	Not detected	1.0
1,1,2-Trichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethane			Not detected	1.0	Not detected	1.0
1,1-Dichloroethylene			Not detected	1.0	Not detected	1.0
1,2,4-Trichlorobenzene			Not detected	1.0	Not detected	1.0
1,2,4-Trimethylbenzene			Not detected	1.0	Not detected	1.0
1,2-Dibromoethane			Not detected	1.0	Not detected	1.0
1,2-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,2-Dichloroethane			Not detected	1.0	Not detected	1.0
1,2-Dichloropropane			Not detected	1.0	Not detected	1.0
1,2-Dichlorotetrafluoroethane			Not detected	1.0	Not detected	1.0
1,3,5-Trimethylbenzene			Not detected	1.0	Not detected	1.0
1,3-Dichlorobenzene			Not detected	1.0	Not detected	1.0
1,4-Dichlorobenzene			Not detected	1.0	Not detected	1.0
3-Chloropropene			Not detected	1.0	Not detected	1.0
4-Ethyltoluene			Not detected	1.0	Not detected	1.0
Benzene			Not detected	1.0	Not detected	1.0
Benzyl Chloride			Not detected	1.0	Not detected	1.0
Bromomethane			Not detected	1.0	Not detected	1.0
Carbon Tetrachloride			Not detected	1.0	Not detected	1.0
Chlorobenzene			Not detected	1.0	Not detected	1.0
Chloroethane			3.6	1.0	Not detected	1.0
Chloroform			Not detected	1.0	Not detected	1.0
Chloromethane			Not detected	1.0	Not detected	1.0
cis-1,2-Dichloroethylene			Not detected	1.0	Not detected	1.0
cis-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0

YORK

Client Sample ID			AS-3		AS-4	
York Sample ID			01010282-03		01010282-04	
Matrix			AIR		AIR	
Parameter	Method	Units	Results	MDL	Results	MDL
Dichlorodifluoromethane			Not detected	1.0	Not detected	1.0
Ethylbenzene			2.1	1.0	Not detected	1.0
Freon-113			Not detected	1.0	Not detected	1.0
Hexachloro-1,3-Butadiene			Not detected	1.0	Not detected	1.0
Methylene Chloride			Not detected	1.0	Not detected	1.0
o-Xylene			2.5	1.0	1.0	1.0
p- & m-Xylenes			4.0	1.0	1.3	1.0
Styrene			Not detected	1.0	Not detected	1.0
Tetrachloroethylene			2.0	1.0	14	1.0
Toluene			1.2	1.0	4.1	1.0
trans-1,3-Dichloropropylene			Not detected	1.0	Not detected	1.0
Trichloroethylene			Not detected	1.0	Not detected	1.0
Trichlorofluoromethane			Not detected	1.0	Not detected	1.0
Vinyl Chloride			Not detected	1.0	Not detected	1.0

Units Key:

For Waters/Liquids: mg/L = ppm ; ug/L = ppb For Soils/Solids: mg/kg = ppm ; ug/kg = ppb

Notes:

1. The MDL (Minimum Detectable Limit) reported is adjusted for any dilution necessary due to the levels of target and/or non-target analytes and matrix interference. If dilution factor is reported at the end of the compound list, the MDL is determined by multiplying the MDL times the listed dilution factor.
2. Samples are retained for a period of thirty days after submittal of report, unless other arrangements are made.
3. York's liability for the above data is limited to the dollar value paid to York for the referenced project.

Approved By: Robert Q. Bradley
Managing Director

Date: 1/23/2001

YORK

0101028 2

Page 1 of 1

YORK
ANALYTICAL LABORATORIES, INC.
ONE RESEARCH DRIVE
STAMFORD, CT 06906
(203) 325-1371 FAX (203) 357-0166

Field Chain-of-Custody Record

Company Name	Report To:	Invoice To:	Project ID/No.	Samples Collected By (Signature) / Name (Printed)
Enviroscience	Peter Dermody	Peter Dermody	Former Air-max Kliegman	~~Scott Stehlik~~ Scott Stehlik

Sample No.	Location/ID	Date Sampled	Sample Matrix: Water	Soil	Air	OTHER	ANALYSES REQUESTED	Container Description(s)
AS-1		1/16/01			✓			SUMA
AS-2		"			✓			"
AS-3		"			✓			"
AS-4		"			✓			"

Chain-of-Custody Record

	Date/Time		Date/Time		Date/Time
Bottles Relinquished from Lab by		Scott Stehlik	1/16/01 1430	Sample Received by	
Bottles Received in Field by		Sample Relinquished by		Sample Received in LAB by	1-16-01 1430

Comments/Special Instructions

Turn-Around Time

___Standard ___RUSH(define)_____

APPENDIX F

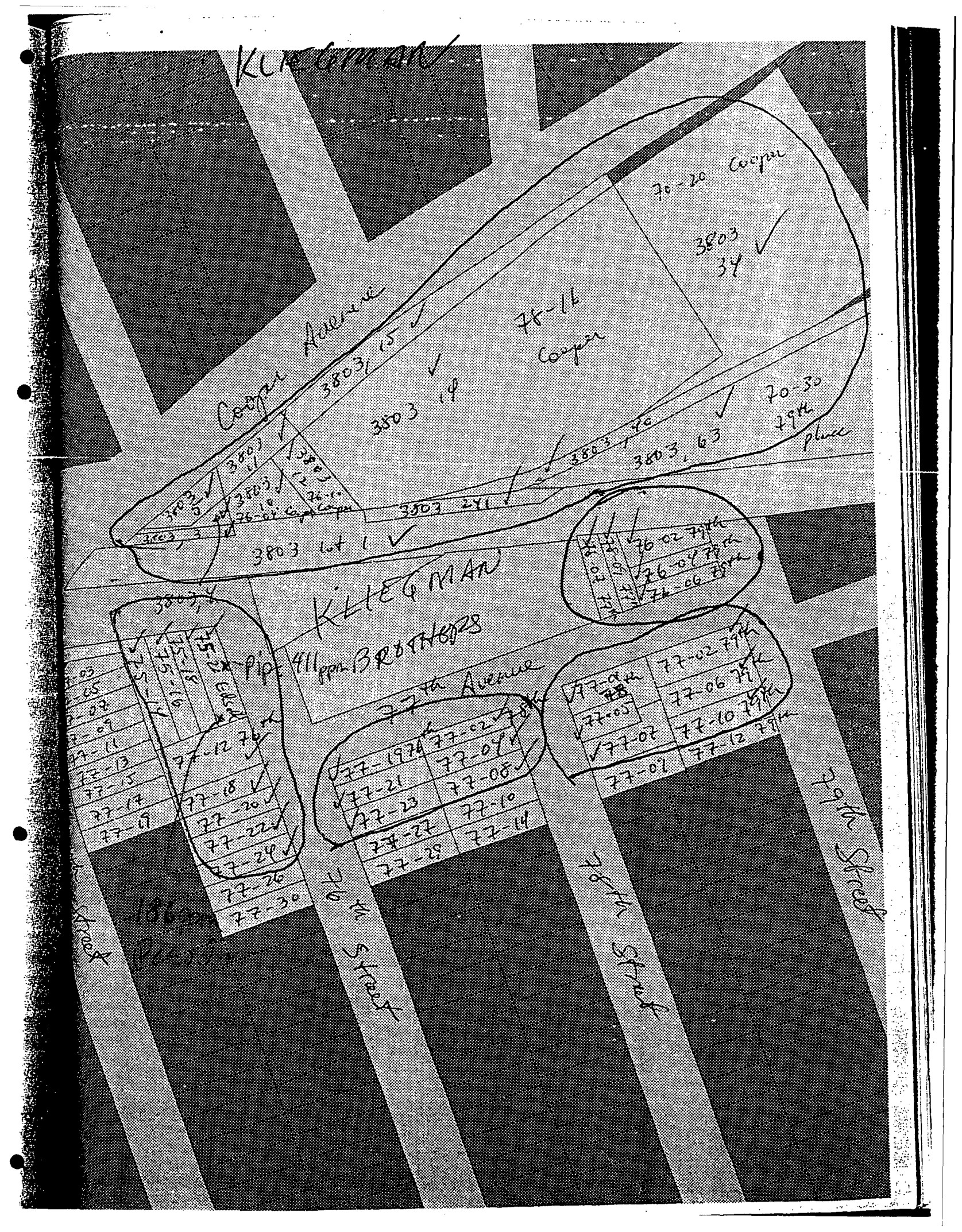
NYSDOH RESIDENTIAL AIR SAMPLING RESULTS

Kliegman Brothers
NYSDOH Indoor Air Sampling, 10/25-26/2000

Resident	Address	Sampling location	Result (mcg/m
Garbarini	77-02 78th St.	Basement	5 (PL)
		1st Floor Living Room	5 (PL)
Randazzo	77-05 78th St.	Basement	5 (PL)
		1st Floor Living Room	5 (PL)
Fremgen	77-19 76th St.	Basement	18
		1st Floor Dining Room	5
Bicknese	77-21 76th St.	Basement	72
		1st Floor Dining Room	25
Koegl	77-12 76th St.	Basement	16
		1st Floor Living Room	9
Nick	75-20 Edsall Ave.	Basement	1860
		1st Floor Hallway	58
Klie	77-20 76th St.	Basement	< 5
		1st Floor Kitchen	< 5
Krieger	77-18 78th St.	Basement	< 5
		1st Floor Kitchen	< 5
		Outdoor sample	8
		Trip Blank	0.01 mcg

Note:
PL = present but less than
< = less than

H:/John/Excel/Kliegman.xls
November 16, 2000


KLEGMAN
Cooper Avenue
77th Avenue
76th Street
75th Street
74th Street
Pip
411 ppm
BROTHERS
186 ppm
70-20 Cooper
3803 34
3803 15
3803 14
3803 63
3803 62
3803 61
3803 Lot 1
3803 Lot 2
3803 Lot 3
3803 Lot 4
74-16 Cooper
76-18 Cooper
76-02 79th
76-04 79th
76-06 79th
77-02 79th
77-04 79th
77-06 79th
77-08 79th
77-10 79th
77-12 79th
77-19 79th
77-12 76th
77-18
77-20
77-22
77-24
77-26
77-30
77-21
77-23
77-27
77-29
77-01
77-03
77-05
77-07
77-09
77-11
77-13
77-15
77-17

END

OF

DOCUMENT