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REMEDIAL INVESTIGATION WORKPLAN APPENDICES

VILLA CLEANERS
1899 DEER PARK AVENUE
DEER PARK, NEW YORK

PREPARED FOR:

VILLA CLEANERS
1899 DEER PARK AVENUE
DEER PARK, NEW YORK

SUBMITTED TO:

NYS DEPARTMENT OF ENVIRONMENTAL CONSERVATION
BUREAU OF ENVIRONMENTAL REMEDIAL ACTION
DIVISION OF EVVIRONMENTAL REMEDIATION
625 BROADWAY
ALBANY, NEW YORK 1223-7015

LEA PROJECT # 03-230
NYSDEC Site Code # 1-52-188
Order of Consent # W1-00996-04-04

Carla Sullivan, C.E.S.
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LIST OF APPENDICES

APPENDIX A

Previous Investigation Workplans and Sampling

By Fenley and Nicol

Fenley & Nicol Environmental Inc.

"SOLUTIONS AT WORK"

445 Brook Avenue, Deer Park, NY 11729 | (631) 586-4900 • NYC (718) 204-4993 | FAX (631) 586-4920

Revised Voluntary Cleanup Investigation Work Plan

V-00335-1
Villa Cleaners
1899 Deer Park Avenue
Deer Park, New York

Prepared For: New York State Department of Environmental Conservation
Bureau of Eastern Remedial Action
Division of Environmental Remediation
625 Broadway
Albany, New York 12233-7015

Attention: Kevin Carpenter, P.E.
Senior Environmental Engineer

Prepared By: Fenley and Nicol Environmental, Inc.
445 Brook Avenue
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Project Geologist

Prepared On: August 28, 2002
Revised On January 7, 2003

F&N Job No. 0201927

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1.0 INTRODUCTION

Fenley and Nicol Environmental, Inc. (F&N) has been retained to prepare a Voluntary Cleanup Investigation Work Plan for the property located at 1899 Deer Park Avenue in Deer Park, New York *(hereinafter referred to as "the property" or the "site")*.

The purpose of the Investigation Work Plan (IWP) is to provide a scope of work for the subsurface investigation of the property to the New York State Department of Environmental Conservation (NYSDEC or Department). The scope of work for the IWP is based upon a March 29, 2000 correspondence from the NYSDEC and an April 24, 2000 meeting between representatives of F&N, the NYSDEC at the property, and the July 12, 2001 letter from the NYSDEC.

The IWP Report dated August 28, 2002 was submitted to the NYSDEC and the New York State Department of Health (NYSDOH) for review and comments. A list of deficiencies based on the IWP Report dated November 20, 2002 was received from the NYSDEC and NYSDOH. This report is intended to address the deficiencies and a copy will be resubmitted to the NYSDEC and the NYSDOH for their review and comments.

1.1 Site Description

The subject property consists of a 1-story multi-tenant commercial building, which was built in 1965. Villa Cleaners is located in the northern portion of the building and has been historically operated as a dry cleaners from the 1960s. The property is located along the east side of Deer Park Avenue. An asphalt parking area is located in the western and southern portions of the property. There are five (5) sanitary leaching pool structures located at the

western portion of the property and are designated as RM-1 through RM-5. Cesspools CP-1 through CP-4 are located along the western portion of the building. Cesspool CP-5 is located northeast of the subject property. A total of eight (8) storm drains and three (3) septic tanks are located at the site. The septic tanks have been designated as S-1 through S-3. According to information received from the client, Mr. John Gennaro, the building is not connected to the public sanitary sewer system. The building utilizes the onsite septic tanks and sanitary leaching pools for its sanitary purposes.

The vicinity of the property consists of industrial and commercial properties. The Long Island Railroad is located to the north of the property on a berm approximately twelve (12) feet above the property grade. The adjacent properties to the south consist of a 1-story commercial establishment and an asphalt parking lot for another 1-story commercial establishment, followed by the front lawn of a public school administration building.

Figure 1 provides a Site Location Map.
Figure 2 provides a Site Plan.

2.0 SITE HISTORY

During a routine inspection of the property on May 5, 1997, the Suffolk County Department of Health Services (SCDHS) obtained sediment samples from the five- (5) on-site sanitary leaching pools. Four (4) of these samples were found to contain elevated levels of volatile organic compounds (VOCs). Another consultant later removed the sediment from the on-site sanitary leaching pools during October 1997. According to the consultant's report, approximately 18,000 gallons of liquid was disposed of and approximately 12 to 15 cubic yards of sediment were removed from each structure. The end point samples from each structure were found to contain no levels of VOCs at concentrations exceeding SCDHS standards. Currently, the structures are active and are still in use.

Appendix A provides copies of previous environmental reports.

The consultant also performed a groundwater sampling exercise associated with the cleanout of the structures. The results of the groundwater sampling, identified chlorinated solvents in the groundwater beneath the site.

F&N installed three (3) monitoring wells and one (1) cluster well during 1998. This work was performed under the guidance of the SCDHS. Monitoring well MW-1 was installed in the northwest portion of the site. Monitoring well MW-2 was installed in the northeast portion of the site. Monitoring well MW-3 was installed in the south central portion of the site and cluster well CW-1 was installed to the southeast of sanitary pool RM-2. Each monitoring well is screened at the water table, which is located at approximately sixteen (16) feet below ground surface (bgs). The cluster well is screened at two (2) foot intervals from the depths of 20 to 22 feet, 40 to 42 feet, 60 to 62 feet, 80 to 82 feet and 98 to 100 feet bgs.

F&N performed a groundwater sampling event on June 16, 1998. During this exercise, the groundwater flow direction beneath the site was determined and groundwater samples were obtained from monitoring wells MW-1 through MW-3 and cluster well CW-1. The groundwater flow direction beneath the site was found to be toward the south-southwest. The results of the groundwater

sampling event indicated that monitoring well MW-3 was found to contain elevated levels of Tetrachloroethene (PCE), Trichloroethene (TCE) and cis-1,2-Dichloroethene (cis-1,2-DCE). The cluster well at the water table was found to contain trace levels of PCE. The cluster well from 40 feet and 60 feet were found to contain trace levels of cis-1,2-DCE.

F&N submitted a remedial plan to the SCDHS on December 17, 1998. This remedial plan outlined the remediation of the chlorinated solvents in groundwater through the injection of Hydrogen-Releasing Compounds (HRCs). The SCDHS responded to the remedial plan by requesting that the horizontal and vertical extent of the chlorinated solvents identified in MW-3 be further defined.

F&N installed and sampled three (3) temporary groundwater sampling points in the vicinity of monitoring well MW-3 during October 1999. The results of this investigation identified PCE and its degradation products at the water table and below the water table along the southern property boundary, with the highest concentration being detected on the western side of the property. This ground water investigation was not able to delineate the horizontal extent of the contamination and therefore not establish the vertical profile.

3.0 Regional Geology & Hydrogeology

Long Island consists of a wedge-shaped mass of unconsolidated deposits that overlie ancient basement rock. The thickness of these deposits ranges from approximately 100 feet on the Island's north shore, to approximately 2,000 feet in some portions of the south shore. These deposits contain groundwater that is the sole source of drinking water for the Island's residents. The 1990 U.S. census indicates that Nassau and Suffolk Counties have a combined population of approximately 2.6 million residents.

The major landforms of Long Island of importance to the hydrologic system are the moraines and outwash plains, which originated from glacial activity. The moraines represent the farthest extent of the glacial advances and consists of till, which is a poorly sorted mixture of sand, silt, clay, gravel and boulders. The till is poorly to moderately permeable in most areas. Outwash plains are located to the south of the moraines. The outwash plains were formed by the action of glacial meltwater streams, which eroded the headland material of the moraines and laid down deposits of well-sorted sands, silts and gravels. These outwash deposits are moderately to highly permeable.

The **Upper Glacial Aquifer** is the uppermost hydrogeologic unit. This aquifer encompasses the moraine and outwash deposits, in addition to some localized lacustrine, marine and reworked materials. A relatively high horizontal hydraulic conductivity and a low vertical hydraulic conductivity characterize the outwash plain portion of this unit. Since the water table is situated in the Upper Glacial Aquifer, the water quality has been degraded in many areas due to industrial activities.

The **Magothy Formation** directly underlies the Upper Glacial Aquifer in the vicinity of the site. This formation is a Cretaceous coastal-shelf deposit, which consists principally of layers of sand and gravel with some interbedded clay. This formation ranges from poorly to highly permeable. A clay layer in some parts of Long Island confines the uppermost portion of the aquifer. The Magothy is Long Island's principal aquifer for public water supply. In the vicinity of the site, the estimated depth to the top of the Magothy Formation is

175 feet below ground surface (minus 100 feet mean sea level). The United States Environmental Protection Agency has classified the Long Island aquifer system as a sole source aquifer.

The **Raritan Formation** is the deepest unit and rests directly above the bedrock units. This formation is comprised of a sand member (**Lloyd Aquifer**) and a clay member (**Raritan Clay**). The Lloyd Aquifer extends southward from Flushing Bay to the Atlantic Ocean. The thickness of the sand member increases toward the southeast and its upper surface ranges in depth from 200 to 800 feet below sea level (from northwest to southeast). In the vicinity of the site, the depth to the top of the Lloyd Aquifer is approximately 1,075 feet (minus 1,000 feet mean sea level). The Raritan Clay acts as an aquitard confining the lower Lloyd aquifer between the clay and the underlying bedrock.

The topographic elevation of the site is approximately 75 feet above sea level *(USGS 7½ Minute Topographic Map, Greenlawn, New York Quadrangle, 1967, Photorevised 1979).* The depth to groundwater beneath the site is approximately 16 feet below ground surface. The groundwater flow direction beneath the site, as determined from previous on-site investigations, is toward the south-southeast.

4.0 Scope of Work

4.1 Introduction

The scope of work described in this Voluntary Cleanup Investigation Work Plan has been prepared based upon the March 29, 2000 NYSDEC correspondence, the April 24, 2000 site meeting, the July 12, 2001 and November 20, 2002 NYSDEC Letter to F&N. The scope of work for the investigation includes the performance of the following tasks:

1. The delineation of the horizontal and vertical extent of chlorinated solvents in groundwater downgradient of monitoring well MW-3.
2. The determination of the current on site groundwater quality in the vicinity of the former sanitary pools through the sampling of the monitoring wells and cluster well.
3. The investigation of soil quality in the vicinity of the previous discharge structures.
4. The installation of a downgradient cluster well CW-2 following the receipt of laboratory analyticals.
5. The installation of soil gas points at select locations along the building and downgradient of the site along the southern property boundary.
6. Conduct an on and off-site qualitative exposure assessment.
7. The preparation of a Voluntary Cleanup Investigation Report.

Tasks #1 will be accomplished through the installation and sampling of groundwater Earthprobe borings. The Earthprobe borings will be installed at specific locations downgradient of the subject property utilizing direct-push technology.

Task #2 will be accomplished through the collection of groundwater samples from the on-site groundwater monitoring wells and cluster well CW-1. The groundwater flow direction beneath the site will be confirmed.

Task #3 will be accomplished through the use of direct push technology. An Earthprobe will be utilized to collect soil samples on the westside of the former discharge structures.

Task #4 will be performed at a point when all of the analytical results from the investigation have been received and evaluated. The well will be installed at a downgradient location for the purpose of monitoring the effectiveness of the selected remediation technique.

Task #5 will be performed through the use of the direct-push method. An Earthprobe will be utilized to collect the soil gas samples at select locations along the building and along the southern property boundary at the downgradient portion of the site.

Task #6 will be to conduct and on and off-site qualitative exposure assessment. The exposure assessment will initially provide background information pertaining to the site and the source area. Following this background information, each exposure pathway at the site will then be evaluated.

Tasks #1 through #6 will be documented in Task #7 above, the Voluntary Cleanup Investigation Report.

The NYSDEC Project Manager will be given a minimum of one-week notice before fieldwork begins. The on-site Department representative shall be offered split samples for all samples obtained.

The following sections provide the details of the scope of work.

4.2 Earthprobe Groundwater Sampling

F&N will be installing approximately seven (7) Earthprobe groundwater borings. One (1) Earthprobe groundwater boring, identified as GP-4, will be installed in the vicinity of the previous discharge structures, on-site. Six (6) Geoprobe groundwater borings, identified as GP-5 through GP-10, will be installed to the south of monitoring well MW-3. One (1) point will be installed in the back parking area behind Crazy Billy's liquor store the remaining five (5) will be installed along the eastern right of way of route 231 (Deer Park Avenue). Prior to the commencement of fieldwork, access will be arranged with the owner of the asphalt parking and the Town of Babylon where the fieldwork will be performed.

Each direct push temporary groundwater point will be installed utilizing a Simco Earthprobe® 200 and will consist of a 4-foot long, ¾ inch diameter stainless steel screen. The stainless steel screen has a screen width of 0.020 inches and will be decontaminated between each sampling location.

Figure 3 provides a Proposed Groundwater Sampling Location Diagram.

In order to delineate the vertical extent of chlorinated solvents at each sampling location, the Earthprobe groundwater borings will be sampled from the bottom up. The initial sampling depth will be 66 to 70 feet. Groundwater samples will then be obtained at ten (10) foot intervals until the water table is encountered. The water table sample (16 to 20 feet) will be the final

groundwater sample collected in each Earthprobe groundwater boring location. Each groundwater sample will be collected utilizing clean polyethylene tubing.

Each Earthprobe temporary groundwater well will be purged of approximately five (5) well volumes utilizing a foot check valve and disposable polyethylene tubing. The purged groundwater will be placed in a 55-gallon DOT drum for later disposal. Representative groundwater samples will then be collected from each Earthprobe groundwater sampling point utilizing a low-flow – minimal drawdown bladder pump. The location of each Earthprobe groundwater sampling point will be surveyed following its completion.

4.3 On-site Groundwater Monitoring Well Sampling

In order to establish the current onsite groundwater condition groundwater monitoring wells MW-1 through MW-3 will be monitored and sampled. In addition to the sampling of the monitoring wells the cluster well will be located and uncovered. If the well can be located and is in good condition it will also be sampled. A drawing of the existing cluster well is presented in one of the previous reports dated July 17.

Each monitoring well and sampling port of the cluster well will be purged of approximately five (5) well volumes utilizing a foot check valve and disposable polyethylene tubing. The purged groundwater will be placed in a 55-gallon DOT drum for later disposal. Representative groundwater samples will then be collected from each groundwater monitoring well utilizing a new disposable polyethylene bailer. Groundwater samples will be collected from each sampling port of Cluster well CW-1 utilizing either disposable polyethylene bailers or a low flow – minimal drawdown bladder pump.

4.4 Earthprobe Soil Investigation

The potential for residual soil contamination in the source area will be investigated by installing a soil probe in the same location as temporary groundwater sampling well GP-4, located immediately adjacent to the exterior of the discharge structures. The soil sampling will consist of the collection of soil samples utilizing a two (2) foot long discrete soil sampler that will be driven down to the desired sampling depths then opened. F&N anticipates the collection of four (4) core samples each two (2) feet in length over the depth intervals from 5-7 feet, 10-12 feet, 15-17 feet and 20-22 feet. The soil samples will be collected and characterized in the field. A homogeneous portion of each core sample will be retained for laboratory analysis. To avoid cross contamination between samples each sample will be collected with an unused disposable acetate liner. All of the soil sampling components of the Earthprobe will be decontaminated between each sampling event.

4.5 Cluster Well Installation

Based upon the sampling results from Geoprobe groundwater borings GP-5 through GP-10, cluster well CW-2 will be installed. The purpose of the cluster well is two-fold: to provide a permanent location for the determination of downgradient groundwater quality over time and to serve as a sentry well for the remedial action. The specific location of cluster well CW-2 will be positioned with the NYSDEC Project Manager.

Cluster well CW-2 will consist of five (5) PVC monitoring wells and will be installed in a similar manner as the previous cluster well CW-1. Initially, a drill rig equipped with 6 $^5/_8$-inch diameter hollow-stem augers will advance a boring to a depth of 100 feet. At this depth a 2-inch diameter, 98 feet long

section of solid PVC will be connected to a 2-foot section of 2-inch diameter screened PVC. The screened portions of the Polyethylene monitoring wells will be 0.020 inches. F&N anticipates placing the screens over the following depth intervals:

- 95 to 100 feet
- 75 to 80 feet
- 55 to 60 feet
- 35 to 40 feet
- 15 to 20 feet

However, the result of the prior field investigation will determine the exact location of the screen. The screened section of each portion of the cluster well will be filled with #1 Morie Sand and the cluster well will be finished at grade with a flush-mounted manhole cover.

An F&N geologist will be on-site during the installation and construction of the cluster well to create a boring log and well construction log. The soil cuttings will be screened for the evidence of organic vapors utilizing a Photoionization Detector (PID). The PID has a minimum detection limit of 0.1 parts per million.

All soil cuttings will be placed in a 55-gallon drum and then sampled for waste disposal purposes. Following the completion of the construction of the cluster well, it will developed in accordance with NYSDEC protocols. The development water will be placed in a 55-gallon drum for later disposal.

4.6 Soil Gas Survey

A soil gas survey will be conducted in the vicinity of the site to evaluate the potential impacts to indoor air quality. Soil gas points SG-1 through SG-3 will be installed along the western portion of the building located on the subject property. Soil gas SG-4 through SG-6 will be installed along the southern property boundary. Each point will be installed at discrete intervals beginning at the top of the water table approximately at 14 feet then at 10 feet, and 5 feet below grade, utilizing a 1¼ -inch diameter steel probe rod fitted with an expendable point system. Once the probe rod is advanced to the desired depth, the probe rod is then retracted slightly. A ¾-inch diameter polyethylene tubing is then inserted through the probe rod to the desired depth. Each soil gas will then be collected utilizing a Gillian Personal Pump and collected onto a charcoal gas sampling tube. The soil gas sampling tubes will be placed in appropriate containers to be analyzed for VOCs.

4.7 Qualitative Exposure Assessment

A qualitative on and off-site exposure assessment will be conducted. The purpose of the exposure assessment (as culled from the NYSDEC Voluntary Cleanup Program Guide) is to qualitatively determine the route, intensity, frequency, and duration of actual or potential exposures of humans to chemicals. It also describes the nature and size of the population exposed to the contamination that are present at or migrating from a site. The exposure assessment will initially provide background information pertaining to the site and the source area. The background information will consist of the history of the source area and the ensuing remedial efforts, the regional geology and hydrogeology and the chemical and physical properties and the fate and transport of the hydrocarbons in question. Following this background

information, each exposure pathway at the site will be evaluated. Finally, conclusions and recommendations will be provided based upon the results of the evaluation of each exposure pathway.

4.8 Sample Collection/Equipment Decontamination

In order to ensure that cross-contamination between samples does not occur, all probe rods and sampling equipment will be decontaminated using a regular pressure washer. The sampling equipment is then subjected to an Alconox solution for further cleaning and rinsed again with high-pressure washer. Only potable water is used during the decontamination procedures.

All decontamination procedures will be performed in a segregated area from any area of installation. All wash and rinse fluids generated from the decontamination process will be contained and removed from the site and disposed of at a licensed waste disposal facility.

Each groundwater sample obtained from the Earthprobe groundwater investigation, the monitoring wells and the cluster wells will be placed directly into pre-cleaned 40-milliliter (ml) vials.

Each soil sample obtained form the Earthprobe soil investigation will be placed into a pre-cleaned 8-ounce jar.

In addition to the collection of the groundwater samples the following Quality Assurance/Quality Control QA/QC samples will be collected. One (1) field blank, one (1) trip blank, one (1) matrix spike and one (1) matrix spike duplicate will be prepared for 10% of the samples collected or each day's fieldwork.

The sampling containers will be placed into a cooler filled with ice and their temperature maintained at 4 degrees Celsius. A supporting chain of custody will then be prepared and accompany the samples to Chemtech; a NYS ELAP/CLP certified laboratory.

4.9 Laboratory Analyses

Each of the groundwater and soil samples will be analyzed at a New York State ELAP-certified laboratory that is also certified to perform Analytical Services Protocol (ASP) analyses. Each groundwater and soil sample will be analyzed for VOCs in accordance with EPA Method 624 and in accordance with NYSDEC ASP Method 95-1 category B deliverables. In addition all of the groundwater samples will also be analyzed for Dissolved Oxygen (DO) Sulfate, Nitrate, Sulfide and Nitrite. The analysis for these perameters will act as an indicator of the bio-degradation of the chlorinated solvents.

5.0 Report of Findings

A Voluntary Cleanup Investigation Report will be prepared following the completion of the fieldwork and the laboratory analyses. This report will contain the findings and conclusions of the investigation and will include appropriate maps and diagrams and tabulations of all analytical data. The analytical data will be discussed in both a total VOC manner and an individual VOC manner. The report will also include a qualitative on and off-site exposure assessment and a Data Usability Summary Report.

A Voluntary Cleanup Remediation Work Plan will be submitted within 45 days of the Department's approval of the Voluntary Cleanup Investigation Report. This report will be submitted to the NYSDEC for review, comment and approval.

6.0 Health & Safety Plan

All work at the subject site will be performed in accordance with a site-specific Health and Safety Plan.

Appendix B provides a copy of the site specific Health & Safety Plan.

7.0 PROJECT SCHEDULE & PERSONNEL

A proposed project schedule has been prepared for the investigation. In addition, the resumes of the project personnel have been included with this Work Plan.

Appendix C contains the proposed project schedule.

Appendix D provides the resumes of all project personnel.

Date of Preparation: January 7, 2003

Prepared By:

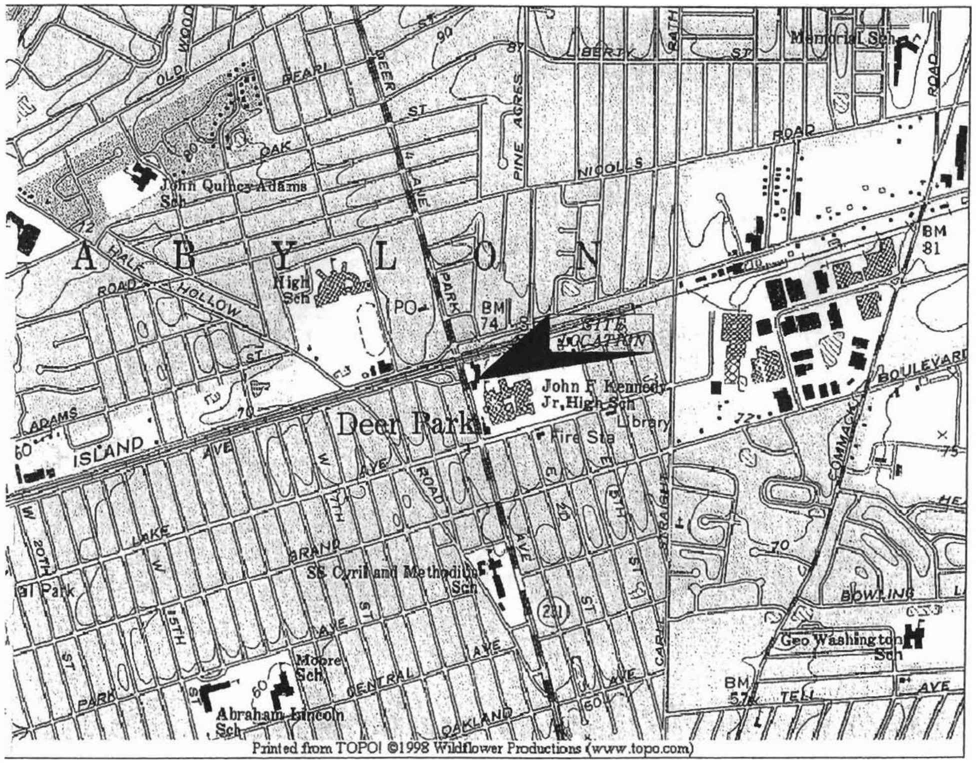
X David Oloke
David Oloke
Project Geologist

Reviewed By:

X Brian McCabe
Brian McCabe
Assistant Director, Professional Services

Fenley & Nicol Environmental Inc.

Figure 1
Site Location Map



Site Location Map

1899 Deer Park Avenue
Babylon, New York

SCALE 1:12000

500 0 500 1000 1500 2000 2500 3000 3500 FEET

Reproduced from USGS Greenlawn, New York Quadrangle
1967 Photorevised 1979

Fenley & Nicol

Professional Services Division
445 Brook Ave.
Deer Park, N.Y. 11729

Figure 2
Site Plan

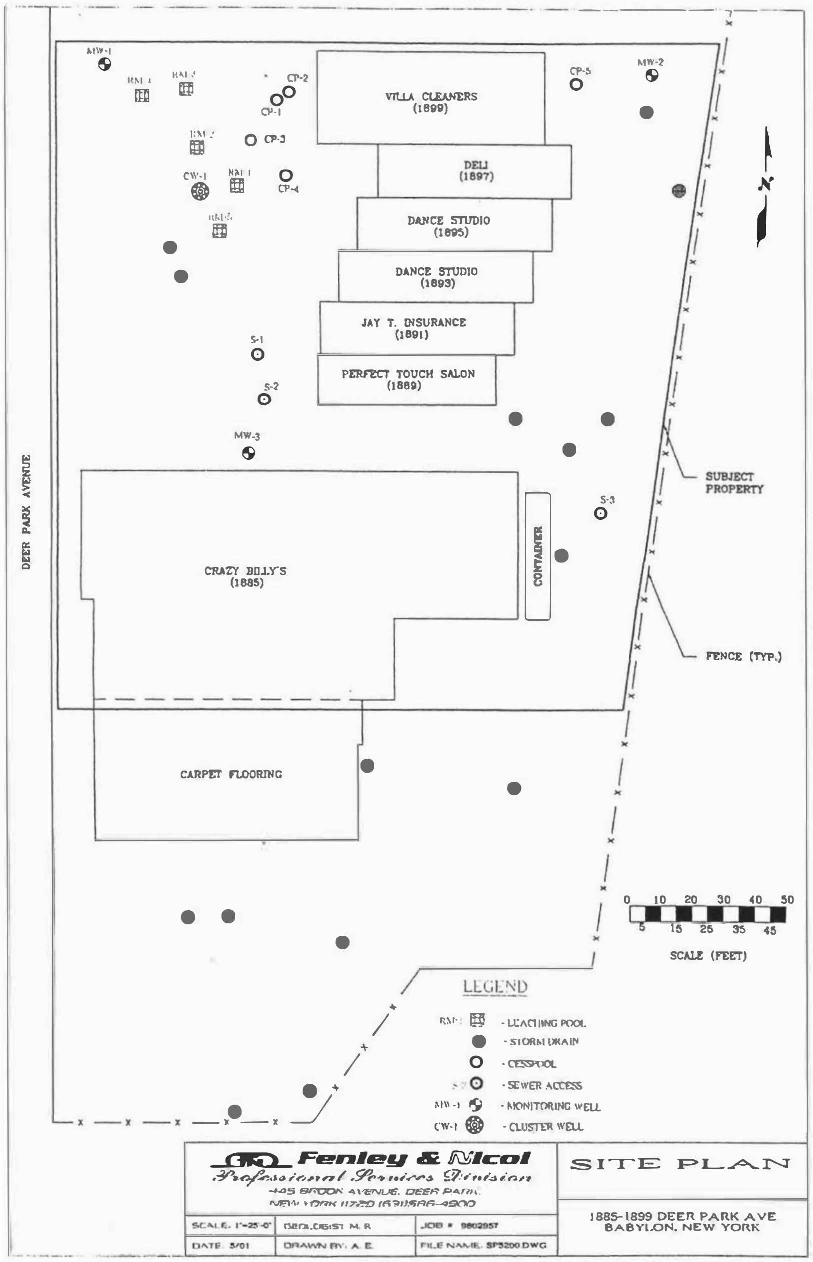
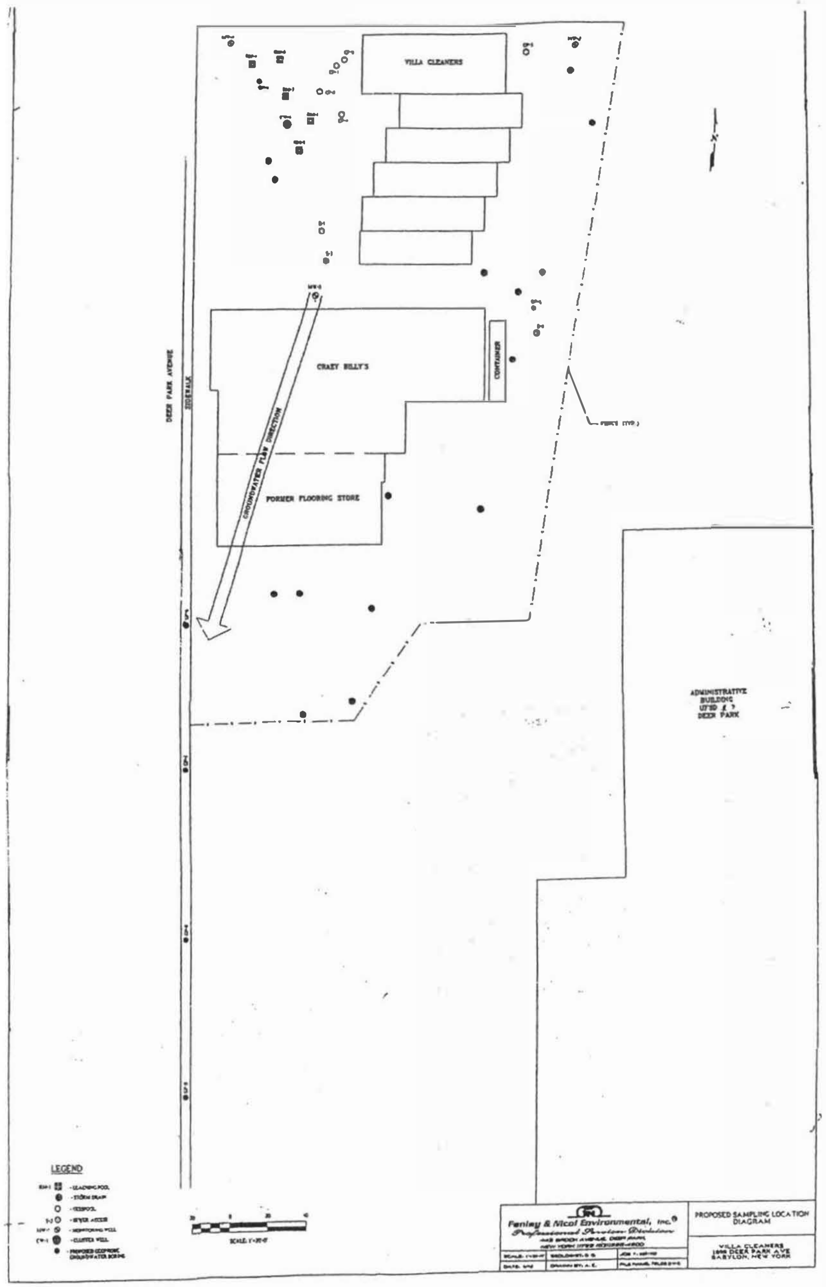


Figure 3
Proposed Sampling Location Map

Appendix A
Previous Report



Fenley & Nicol Environmental Inc.
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Voluntary Cleanup Investigation Work Plan

V-00335-1
Villa Cleaners
1899 Deer Park Avenue
Deer Park, New York

Prepared For:	New York State Department of Environmental Conservation Bureau of Eastern Remedial Action Division of Environmental Remediation 50 Wolf Road Albany, New York 12233-7010
Attention:	George Heitzman, P.E. Senior Environmental Engineer
Prepared By:	Fenley and Nicol Environmental, Inc. 445 Brook Avenue Deer Park, NY 11729 Mostafa El Sehamy, C.P.G., C.G.W.P. Director, Professional Services Mark E. Robbins Senior Geologist
Prepared On:	May 8, 2000
F&N Job No.	9802957

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Appendices

1.0 INTRODUCTION

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The subject property consists of a 1-story multi-tenant commercial building. Villa Cleaners is located in the northern portion of the building. The property is located along the east side of Deer Park Avenue. An asphalt parking area is located in the western and southern portions of the property.

The vicinity of the property consists of industrial and commercial properties. The Long Island Railroad is located to the north of the property. The adjacent properties to the south consist of a 1-story commercial establishment and an asphalt parking lot for another 1-story commercial establishment. A portion of the fieldwork will be performed in the asphalt parking lot.

Figure 1 provides a Site Location Map.
Figure 2 provides a Site Plan.

2.0 SITE BACKGROUND

During a routine inspection of the property on May 5, 1997, the Suffolk County Department of Health Services (SCDHS) obtained sediment samples

from five (5) on-site sanitary leaching pools. Four (4) of these samples were found to contain elevated levels of volatile organic compounds (VOCs). Another consultant later removed the sediment from the on-site sanitary leaching pools during October 1997. According to the consultant's report, approximately 18,000 gallons of liquid was disposed of and approximately 12 to 15 cubic yards of sediment were removed from each structure. The end point samples from each structure were found to contain no levels of volatile organic compounds at concentrations exceeding SCDHS standards.

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175 feet below ground surface (minus 100 feet mean sea level). The United States Environmental Protection Agency has classified the Long Island aquifer system as a sole source aquifer.

The **Raritan Formation** is the deepest unit and rests directly above the bedrock units. This formation is comprised of a sand member (**Lloyd Aquifer**) and a clay member (**Raritan Clay**). The Lloyd Aquifer extends southward from Flushing Bay to the Atlantic Ocean. The thickness of the sand member increases toward the southeast and its upper surface ranges in depth from 200 to 800 feet below sea level (from northwest to southeast). In the vicinity of the site, the depth to the top of the Lloyd Aquifer is approximately 1,075 feet (minus 1,000 feet mean sea level). The Raritan Clay acts as an aquitard confining the lower Lloyd aquifer between the clay and the underlying bedrock.

The topographic elevation of the site is approximately 75 feet above sea level *(USGS 7½ Minute Topographic Map, Greenlawn, New York Quadrangle, 1967, Photorevised 1979)*. The depth to groundwater beneath the site is approximately 16 feet below ground surface. The groundwater flow direction beneath the site, as determined from previous on-site investigations, is toward the south-southeast.

4.0 Scope of Work

4.1 Introduction

The scope of work described in this Voluntary Cleanup Investigation Work Plan has been prepared based upon the March 29, 2000 NYSDEC correspondence and the April 24, 2000 site meeting. The scope of work for the investigation includes the performance of the following tasks:

1. The delineation of the horizontal and vertical extent of chlorinated solvents in groundwater downgradient of monitoring well MW-3.
2. The determination of the current groundwater quality in the vicinity of the former sanitary pools.
3. The preparation of a Voluntary Cleanup Investigation Report.

Tasks #1 and #2 above will be accomplished through the installation and sampling of groundwater Geoprobe borings and a permanent cluster well. The Geoprobe borings will be installed at specific locations downgradient of the subject property utilizing direct-push technology. In addition, groundwater samples will be collected from the on-site groundwater monitoring wells and the groundwater flow direction beneath the site will be determined. Tasks #1 and #2 will be documented in Task #3 above, the Voluntary Cleanup Investigation Report.

The NYSDEC Project Manager will be given a minimum of one-week notice before fieldwork begins. The on-site Department representative shall be offered split samples for all samples obtained.

The following sections provide the details of the scope of work.

4.2 Geoprobe Groundwater Sampling

F&N will be installing approximately six (6) Geoprobe groundwater borings. One (1) Geoprobe groundwater boring, identified as GP-4, will be installed downgradient of the sanitary structures on-site. Five (5) Geoprobe groundwater borings, identified as GP-5 through GP-9, will be installed to the south of monitoring well MW-3 in the adjacent asphalt parking lot.[1] Prior to the commencement of fieldwork, access will be arranged with the owner of the asphalt parking lot where the fieldwork will be performed.

Each Geoprobe groundwater boring will be installed utilizing a Simco Earthprobe® 200 and will consist of a 4-foot long, ¾ inch diameter stainless steel screen. The stainless steel screen has a screen width of 0.020 inches and will be decontaminated between each sampling location.

Figure 3 provides a Proposed Groundwater Sampling Location Diagram.

In order to delineate the vertical extent of chlorinated solvents at each sampling location, the Geoprobe groundwater borings will be sampled from the bottom up. The initial sampling depth will be 66 to 70 feet. Groundwater samples will then be obtained at ten (10) foot intervals until the water table is encountered. The water table sample (16 to 20 feet) will be the final groundwater sample collected in each Geoprobe groundwater boring.

Each Geoprobe groundwater boring will be purged of approximately 3 to 4 well volumes prior to sampling. The purged groundwater will be placed in a 55-gallon DOT drum for later disposal. Representative groundwater samples will then be collected from each Geoprobe groundwater boring utilizing an inertial pump consisting of a foot check valve and dedicated polyethylene tubing. The location of each Geoprobe boring will be surveyed following its completion.

[1] Sampling designations GP-1 through GP-3 were utilized in F&N's October 1999 investigation.

Appendix B provides a copy of the site specific Health & Safety Plan.

7.0 Project Schedule & Personnel

A proposed project schedule has been prepared for the investigation. In addition, the resumes of the project personnel have been included with this Work Plan.

Appendix C contains the proposed project schedule.
Appendix D provides the resumes of all project personnel.

Date of Preparation: May 8, 2000

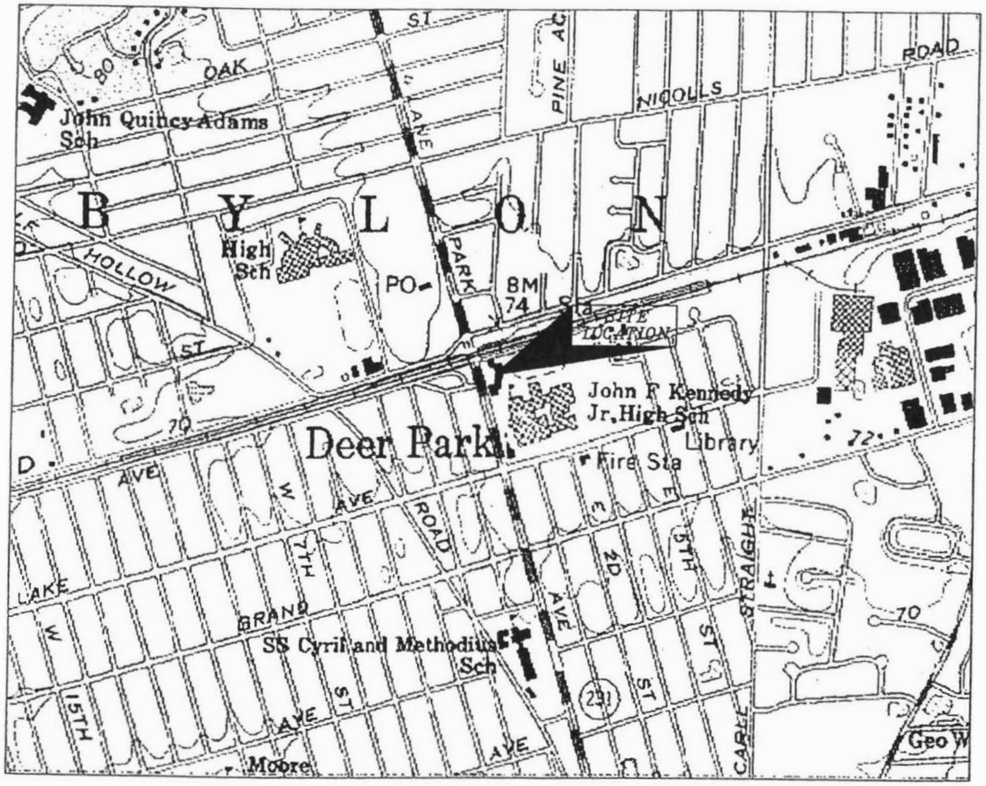
Prepared By:

Mark E. Robbins
Senior Geologist

Reviewed By:

X

Mostafa El Sehamy, C.P.G., C.G.W.P.
Director, Professional Services



Site Location Map

SCALE 1:12000

500 0 500 1000 1500 2000 2500 3000 3500 FEET

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Fenlay & Nicol

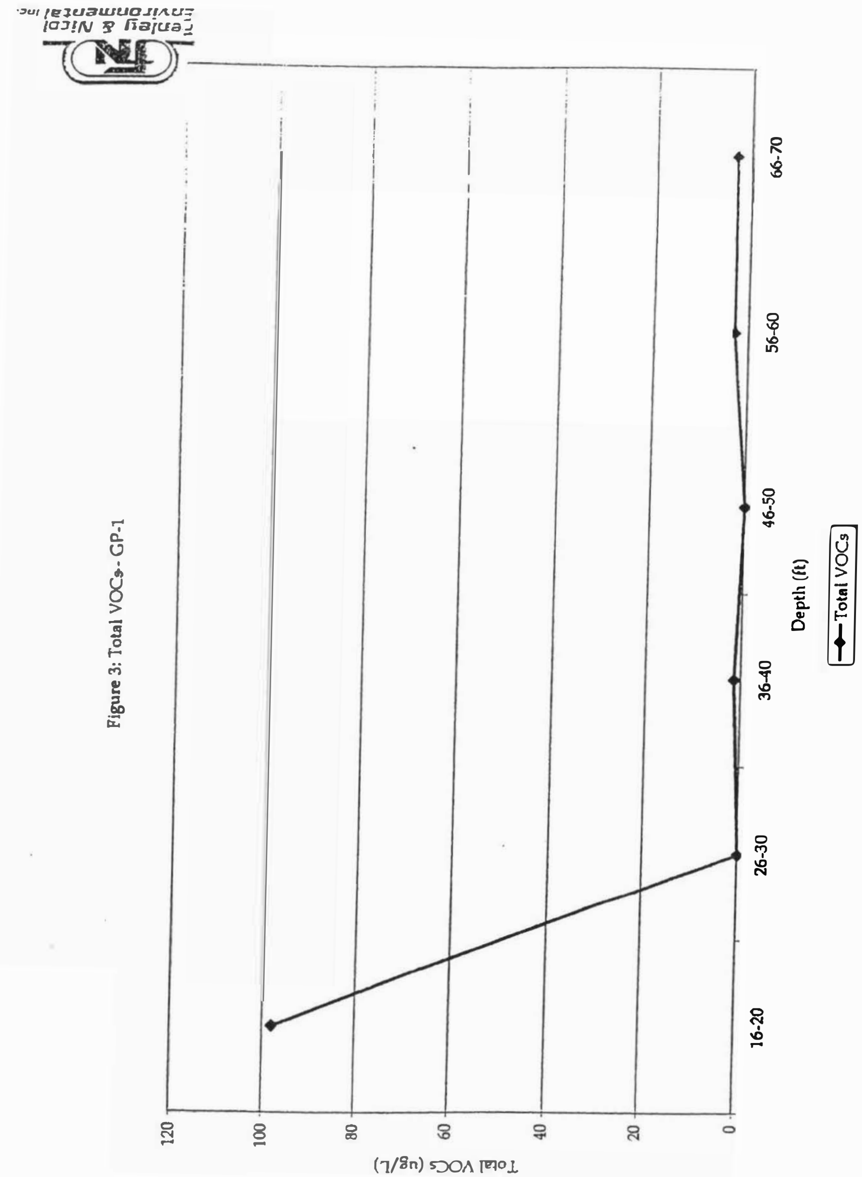

Figure 3: Total VOCs - GP-1

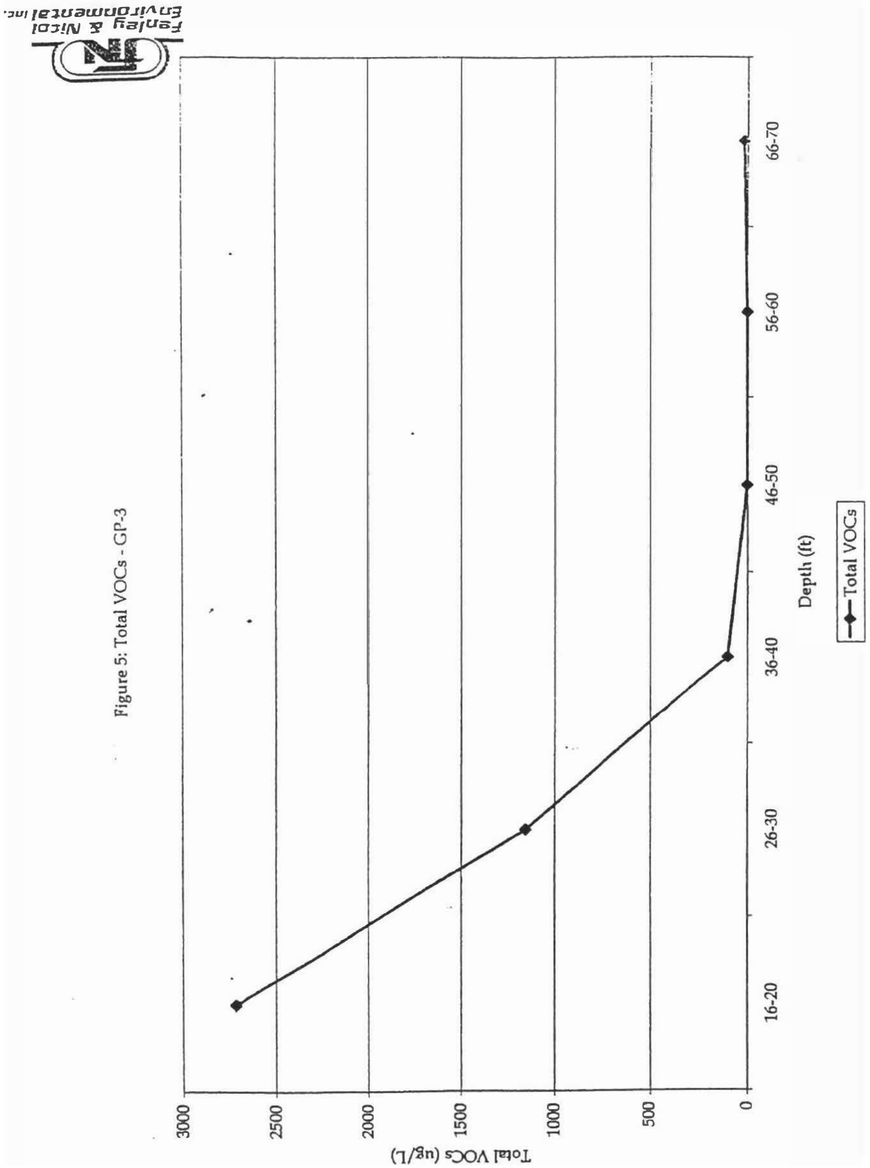

Figure 5: Total VOCs - GP-3

Groundwater Investigation & Remedial Work Plan Report
Villa Cleaners
1899 Deer Park Avenue
Deer Park, New York

Prepared For:	**Villa Cleaners** **1899 Deer Park Avenue** **Deer Park, New York 11729**
Attention:	**Mr. John Gennaro**
Prepared By:	**Fenley & Nicol Environmental, Inc.** **445 Brook Avenue** **Deer Park, New York 11729**
Senior Geologist:	**Mark E. Robbins**
Date:	**November 24, 1999**
F&N Job #	**9802957**

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The **Upper Glacial Aquifer** is the uppermost hydrogeologic unit. This aquifer encompasses the moraine and outwash deposits, in addition to some localized lacustrine, marine, and reworked materials. The outwash plain portion of this unit is characterized by high horizontal hydraulic conductivity and a low vertical hydraulic conductivity. Because the water table is situated in the Upper Glacial Aquifer, the water quality has been degraded in many areas due to industrial activities.

The **Magothy Formation** directly underlies the Upper Glacial Aquifer in the vicinity of the site. This formation is a Cretaceous coastal-shelf deposit, which consists principally of layers of sand and gravel with some interbedded clay. This formation ranges from poorly to moderately or highly permeable. The uppermost portion of the aquifer is confined by a clay layer in some parts of Long Island. The Magothy is Long Island's principal aquifer for public water supply. The Long Island aquifer system has been classified as a sole source aquifer by the United States Environmental Protection Agency (USEPA).

The topographic elevation of the site is approximately 75 feet above sea level (USGS 7½ Minute Topographic Map, Greenlawn, New York Quadrangle, 1967, Photorevised 1979). The depth to groundwater beneath the site is approximately 15 feet below ground surface. The regional groundwater flow direction, as determined from the Suffolk County Department of Health Services (SCDHS) Groundwater Gradient Map (March 1997) and prior site investigations, is toward the south-southwest.

3.0 GROUNDWATER INVESTIGATION

3.1 Groundwater Sampling Point Installation

The scope of work ɔr the field portion of the investigati n consisted of ı e installation and samplin of three groundwater sampling points. The groundwater sampling points were inst ed on October 20 & 21 1999.

Each groundwater sampling point was installed utilizing direct push technology. Representatives of the SCDHS agreed upon the locations of the groundwater sampling points prior to their installation and were present during their installation. Groundwater sampling point GP-1 was installed 30 feet to the east of monitoring well MW-3. Groundwater sampling point GP-2 was installed 30 feet to the west of monitoring well MW-3. Groundwater sampling point GP-3 was installed 30 feet to the north of monitoring well MW-3.

Figure 2 provides a Site Plan.

Each groundwater sampling point consisted of a 4-foot long, ¾-inch diameter retractable metal screen with a slot size of 0.020 inches. In order to characterize the vertical groundwater quality, the metal screen was installed and sampled at the following depth intervals:

- 66 to 70 feet
- 56 to 60 feet
- 46 to 50 feet
- 36 to 40 feet
- 26 to 30 feet
- 16 to 20 feet

The metal screen was installed to the 66 to 70 foot depth and sampled. The metal screen was then lifted and sampled at 10-foot intervals until the water table was encountered.

3.2 Sampling Protocol

Table 1
EPA Method 8620 Results - GP-1 (ug/L)
Villa Cleaners
Deer Park, New York

Analyte	16-20 feet	26-30 feet	36-40 feet	46-50 feet	56-60 feet	66-70 feet	NYSDEC Groundwater Quality Standard*
Dichlorodifluoromethane	nd	nd	nd	nd	nd	nd	5
Chloromethane	nd	nd	nd	nd	nd	nd	ns
Vinyl Chloride	nd	nd	nd	nd	nd	nd	2
Bromomethane	nd	nd	nd	nd	nd	nd	5
Chloroethane	nd	nd	nd	nd	nd	nd	5
Trichlorofluoromethane	nd	nd	nd	nd	nd	nd	5
1,1-Dichloroethene	nd	nd	nd	nd	nd	nd	5
Acetone	nd	nd	nd	nd	nd	nd	50
Carbon Disulfide	nd	nd	nd	nd	nd	nd	ns
Methylene Chloride	3.24	nd	nd	nd	nd	nd	5
trans-1,2-Dichloroethene	nd	nd	nd	nd	nd	nd	5
Vinyl Acetate	nd	nd	nd	nd	nd	nd	ns
1,1-Dichloroethane	nd	nd	nd	nd	nd	nd	5
2-Butanone	nd	nd	nd	nd	nd	nd	ns
2,2-Dichloropropane	nd	nd	nd	nd	nd	nd	5
cis-1,2-Dichloroethene	19.2	nd	nd	nd	nd	nd	5
Bromochloromethane	nd	nd	nd	nd	nd	nd	5
Chloroform	nd	nd	1.30	1.44	nd	nd	7
1,1,1-Trichloroethane	nd	nd	nd	nd	nd	nd	5
1,1-Dichloropropene	nd	nd	nd	nd	nd	nd	5
Carbon Tetrachloride	nd	nd	nd	nd	nd	nd	5
Benzene	nd	nd	nd	nd	nd	nd	1
1,2-Dichloroethane	nd	nd	nd	nd	nd	nd	0.6
Trichloroethene	4.36	nd	nd	nd	nd	nd	5
1,2-Dichloropropane	nd	nd	nd	nd	nd	nd	1
Dibromomethane	nd	nd	nd	nd	nd	nd	5
Bromodichloromethane	nd	nd	nd	nd	nd	nd	ns

Table 1 (cont.)

Analyte	16-20 feet	26-30 feet	36-40 feet	46-50 feet	56-60 feet	66-70 feet	NYSDEC Groundwater Quality Standard*
4-Methyl-2-Pentanone	nd	nd	nd	nd	nd	nd	ns
Toluene	nd	nd	nd	nd	nd	nd	5
trans-1,3-Dichloropropene	nd	nd	nd	nd	nd	nd	5
cis-1,3-Dichloropropene	nd	nd	nd	nd	nd	nd	5
1,1,2-Trichloroethane	nd	nd	nd	nd	nd	nd	1
1,3-Dichloropropane	nd	nd	nd	nd	nd	nd	5
2-Chloroethyl vinyl ether	nd	nd	nd	nd	nd	nd	ns
2-Hexanone	nd	nd	nd	nd	nd	nd	ns
Dibromochloromethane	nd	nd	nd	nd	nd	nd	ns
1,2-Dibromoethane	nd	nd	nd	nd	nd	nd	5
Tetrachloroethene	74.5	nd	1.45	nd	1.61	1.86	5
Chlorobenzene	nd	nd	nd	nd	nd	nd	5
1,1,1,2-Tetrachloroethane	nd	nd	nd	nd	nd	nd	5
Ethylbenzene	nd	nd	nd	nd	nd	nd	5
m & p-Xylenes	nd	nd	nd	nd	1.40	1.19	5
o-Xylene	nd	nd	nd	nd	nd	nd	5
Styrene	nd	nd	nd	nd	nd	nd	5
Bromoform	nd	nd	nd	nd	nd	nd	ns
Isopropylbenzene	nd	nd	nd	nd	nd	nd	5
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	nd	nd	5
1,2,3-Trichloropropane	nd	nd	nd	nd	nd	nd	0.04
Bromobenzene	nd	nd	nd	nd	nd	nd	5
n-Propylbenzene	nd	nd	nd	nd	nd	nd	5

Table 3
EPA Method 8620 Results - GP-3 (ug/L)
Villa Cleaners
Deer Park, New York

Analyte	16-20 feet	26-30 feet	36-40 feet	46-50 feet	56-60 feet	66-70 feet	NYSDEC Groundwater Quality Standard*
Dichlorodifluoromethane	nd	nd	nd	nd	nd	nd	5
Chloromethane	nd	nd	nd	nd	nd	nd	ns
Vinyl Chloride	**8.68**	**6.29**	nd	nd	nd	nd	2
Bromomethane	nd	nd	nd	nd	nd	nd	5
Chloroethane	nd	nd	nd	nd	nd	nd	5
Trichlorofluoromethane	nd	nd	nd	nd	nd	nd	5
1,1-Dichloroethene	nd	nd	nd	nd	nd	nd	5
Acetone	nd	nd	nd	nd	nd	nd	50
Carbon Disulfide	nd	nd	nd	nd	nd	nd	ns
Methylene Chloride	**5.82**	3.14	3.42	3.92	3.41	**6.45**	5
trans-1,2-Dichloroethene	**6.87**	nd	nd	nd	nd	nd	5
Vinyl Acetate	nd	nd	nd	nd	nd	nd	ns
1,1-Dichloroethane	nd	nd	nd	nd	nd	nd	5
2-Butanone	nd	nd	nd	nd	nd	nd	ns
2,2-Dichloropropane	nd	nd	nd	nd	nd	nd	5
cis-1,2-Dichloroethene	**826**	**528**	**28**	nd	nd	nd	5
Bromochloromethane	nd	nd	nd	nd	nd	nd	5
Chloroform	nd	nd	nd	nd	nd	nd	7
1,1,1-Trichloroethane	nd	nd	nd	nd	nd	nd	5
1,1-Dichloropropene	nd	nd	nd	nd	nd	nd	5
Carbon Tetrachloride	nd	nd	nd	nd	nd	nd	5
Benzene	nd	nd	nd	nd	nd	nd	1
1,2-Dichloroethane	nd	nd	nd	nd	nd	nd	0.6
Trichloroethene	**168**	**61.7**	3.61	nd	nd	nd	5
1,2-Dichloropropane	nd	nd	nd	nd	nd	nd	1
Dibromomethane	nd	nd	nd	nd	nd	nd	5
Bromodichloromethane	nd	nd	nd	nd	nd	nd	ns

Table 3 (cont.)

Analyte	16-20 feet	26-30 feet	36-40 feet	46-50 feet	56-60 feet	66-70 feet	NYSDEC Groundwater Quality Standard*
4-Methyl-2-Pentanone	nd	nd	nd	nd	nd	nd	ns
Toluene	nd	nd	nd	nd	nd	nd	5
trans-1,3-Dichloropropene	nd	nd	nd	nd	nd	nd	5
cis-1,3-Dichloropropene	nd	nd	nd	nd	nd	nd	5
1,1,2-Trichloroethane	nd	nd	nd	nd	nd	nd	1
1,3-Dichloropropane	nd	nd	nd	nd	nd	nd	5
2-Chloroethyl vinyl ether	nd	nd	nd	nd	nd	nd	ns
2-Hexanone	nd	nd	nd	nd	nd	nd	ns
Dibromochloromethane	nd	nd	nd	nd	nd	nd	ns
1,2-Dibromoethane	nd	nd	nd	nd	nd	nd	5
Tetrachloroethene	**1,720**	**558**	**72.6**	**5.29**	**5.23**	**19.2**	5
Chlorobenzene	nd	nd	nd	nd	nd	nd	5
1,1,1,2-Tetrachloroethane	nd	nd	nd	nd	nd	nd	5
Ethylbenzene	nd	nd	nd	nd	nd	nd	5
m & p-Xylenes	nd	nd	nd	nd	nd	nd	5
o-Xylene	nd	nd	nd	nd	nd	nd	5
Styrene	nd	nd	nd	nd	nd	nd	5
Bromoform	nd	nd	nd	nd	nd	nd	ns
Isopropylbenzene	nd	nd	nd	nd	nd	nd	5
1,1,2,2-Tetrachloroethane	nd	nd	nd	nd	nd	nd	5
1,2,3-Trichloropropane	nd	nd	nd	nd	nd	nd	0.04
Bromobenzene	nd	nd	nd	nd	nd	nd	5
n-Propylbenzene	nd	nd	nd	nd	nd	nd	5
2-Chlorotoluene	nd	nd	nd	nd	nd	nd	5
1,3,5-Trimethylbenzene	nd	nd	nd	nd	nd	nd	5
4-Chlorotoluene	nd	nd	nd	nd	nd	nd	5
tert-Butylbenzene	nd	nd	nd	nd	nd	nd	5
1,2,4-Trimethylbenzene	nd	nd	nd	nd	nd	nd	5
sec-Butylbenzene	nd	nd	nd	nd	nd	nd	5
p-Isopropyltoluene	nd	nd	nd	nd	nd	nd	5
1,3-Dichlorobenzene	nd	nd	nd	nd	nd	nd	3
1,4-Dichlorobenzene	nd	nd	nd	nd	nd	nd	3
n-Butylbenzene	nd	nd	nd	nd	nd	nd	5
1,2-Dichlorobenzene	nd	nd	nd	nd	nd	nd	3
1,2-Dibromo-3-Chloropropane	nd	nd	nd	nd	nd	nd	0.04
1,2,4-Trichlorobenzene	nd	nd	nd	nd	nd	nd	5
Hexachlorobutadiene	nd	nd	nd	nd	nd	nd	0.5
Naphthalene	nd	nd	nd	nd	nd	nd	10
1,2,3-Trichlorobenzene	nd	nd	nd	nd	nd	nd	5

ns . . . No Standard
Bold value represents concentration exceeding Groundwater Quality Standard
nd . . . None Detected

were identified in GP-3. The greatest individual VOC concentration identified during the investigation was 1,720 µg/L of PCE in the 16 to 20 foot interval. The PCE concentrations throughout the entire sampling interval of GP-3 were found to exceed the NYSDEC Groundwater Quality Standard for PCE of 5 µg/L. Vinyl Chloride was identified in the 16 to 20 and 26 to 30 foot intervals at concentrations exceeding the NYSDEC Groundwater Quality Standard for Vinyl Chloride of 2 µg/L. The detection of Vinyl Chloride indicates that the groundwater plume has undergone significant degradation and weathering. The Methylene Chloride identified in the groundwater samples from GP-3 is likely a laboratory contaminant and is not indicative of true groundwater quality.

The graph of total VOCs with depth from GP-3 indicates that the greatest total VOC concentration is present at the water table. The total VOC concentrations then decrease to moderate levels in the 26 to 30 foot depth interval and low levels in the remaining depth intervals.

Figure 5 provides the total VOC graph for GP-3.

The overall results of the groundwater investigation indicate that the groundwater plume has migrated toward the southern portion of the property, as evidenced by the results of groundwater sampling points GP-1 and GP-2. The greatest overall concentrations of VOCs were identified in the south central portion of the site, as evidenced by the results of groundwater sampling point GP-3.

The overall results of the groundwater investigation also indicate that groundwater plume has migrated vertically below the water table. The greatest concentrations of VOCs below the water table were identified in the 26 to 30 foot depth interval, as evidenced from the results of groundwater sampling points GP-2 and GP-3. In addition, concentrations of PCE, the primary contaminant identified during the investigation, were greater than the NYSDEC Groundwater Quality Standard for PCE in the 36 to 40 foot, 46 to 50 foot, 56 to 60 foot and the 66 to 70 foot depth intervals. However, the deepest significant concentration of PCE was identified in the 36 to 40 foot depth interval (72.6 µg/L).

4.0 REMEDIAL ACTION

Based upon the results of the groundwater investigation, the appropriate remedial technology that should be applied to the groundwater plume is the injection of Hydrogen-Releasing Compounds (HRCs). The reason that an HRCs were selected over other remedial technologies, such as an Air Sparge/Vapor Extraction System, was that the extent of the groundwater plume, both vertically and horizontally, is not large enough to warrant its installation and operation. Therefore, the injection of HRCs is the most appropriate remedial action.

Appendix B provides documentation pertaining to HRCs.

The HRCs will promote the degradation of the Tetrachloroethene, and its degradation products, through molecular breakdown. This molecular breakdown is best achieved in anaerobic conditions, which are promoted through the use of HRCs.

The HRCs will be injected utilizing pressure grout techniques through small diameter injection wells that will be installed on a 10-foot by 10-foot grid pattern. A total of twenty-four (24) injection wells will be installed. Each injection well will be installed to a depth of 36 feet to insure that the HRCs are placed to the bottom of the groundwater plume. Therefore, a total of 864 feet of injection wells will be installed. This will require a total volume of 3,542.4 pounds (4.1 pounds per foot) of HRC.

Figure 6 provides the locations of the HRC injection points.

In order to monitor the biodegradation of the groundwater plume, two (2) cluster wells will be installed at the site. These monitoring wells will be installed at the locations of groundwater sampling points GP-1 and GP-2. The cluster wells will be screened at the water table and 10 feet below the water table. These two cluster wells, along with monitoring well MW-3, will be sampled for VOCs in order to monitor the biodegradation of the groundwater plume over time.

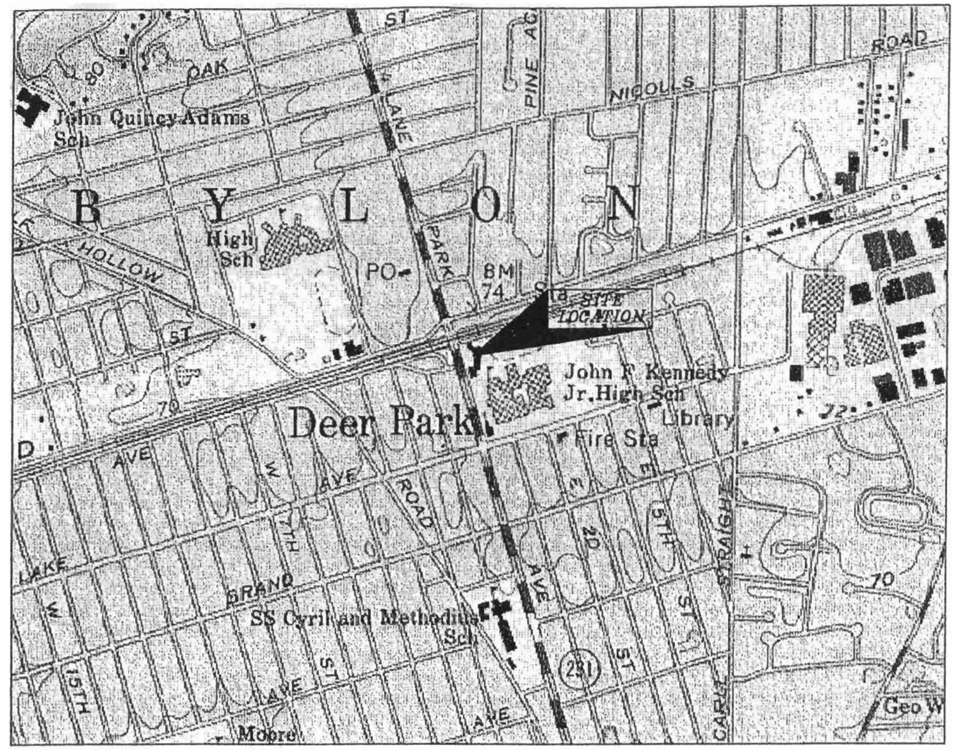
The groundwater quality will be monitored for the period of one (1) year. Initially, groundwater samples will be obtained on a weekly basis for the period of four (4) weeks. Groundwater samples will then be obtained on a monthly basis for the period of three (3) months and then on a quarterly basis for the period of nine (9) months.

Signed: November 24, 1999

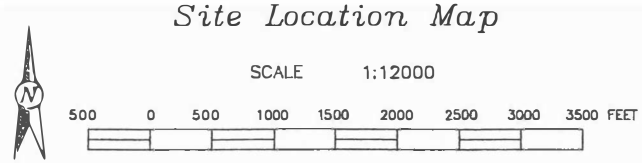
X________________________
Mark E. Robbins
Senior Geologist

X________________________
Mostafa El Sehamy, P.G., C.G.W.P.
Director, Professional Services

Figure 1
Site Location Map



Site Location Map



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Fenley & Nicol
Professional Services Division
445 Brook Ave.
Deer Park, N.Y. 11729

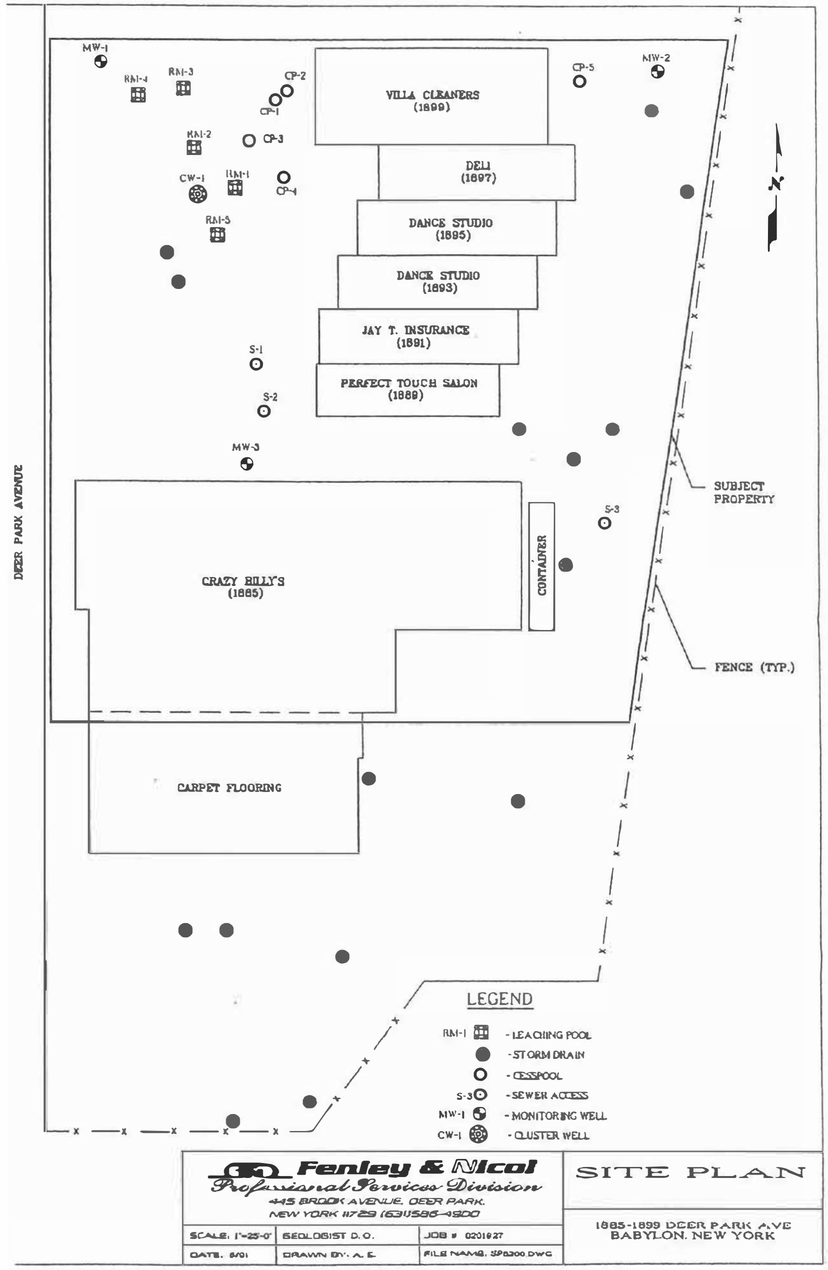

Figure 2
Site Plan

Figure 3: Total VOCs - GP-1

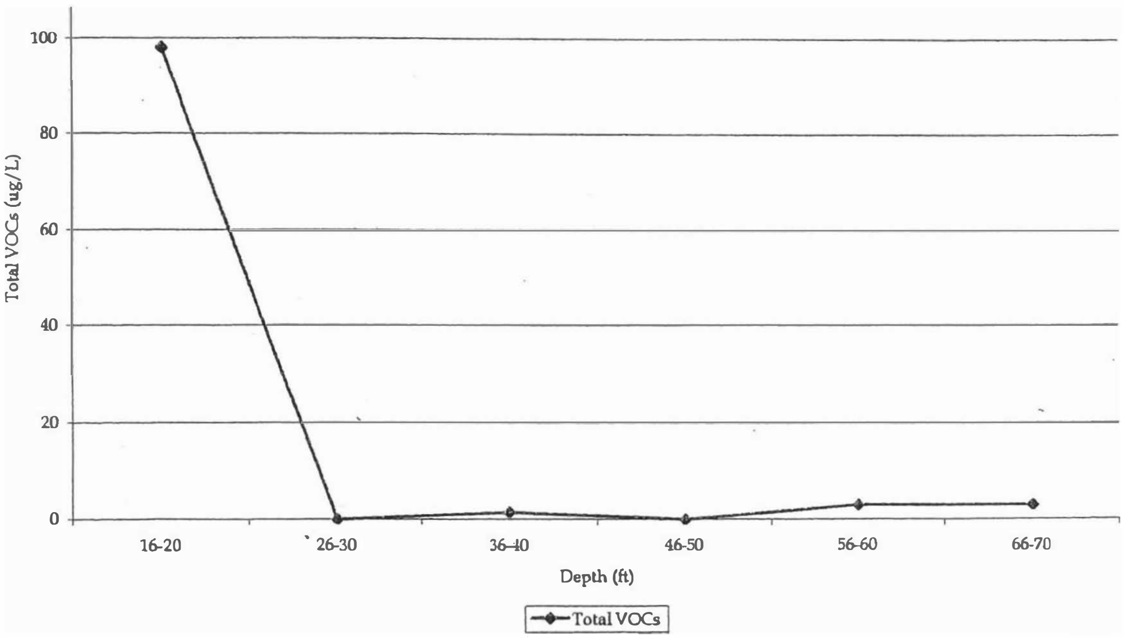

Figure 3
Total VOCs - GP-1

Figure 4: Total VOCs - GP-2

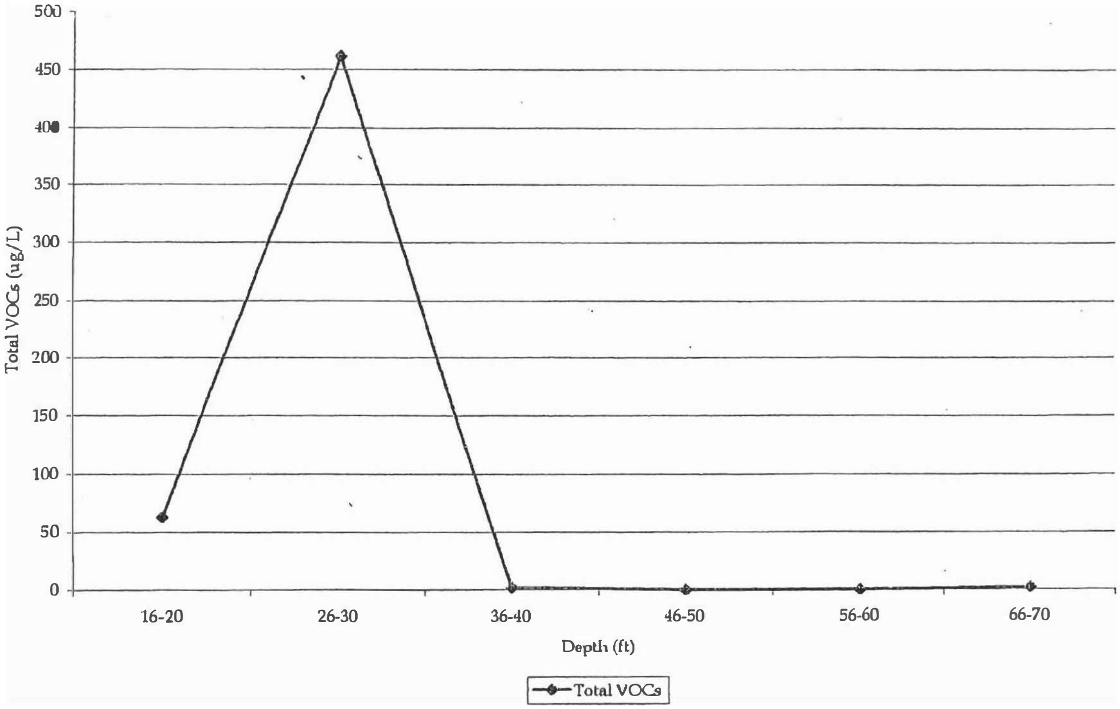

Figure 4
Total VOCs – GP-2

Figure 5: Total VOCs - GP-3

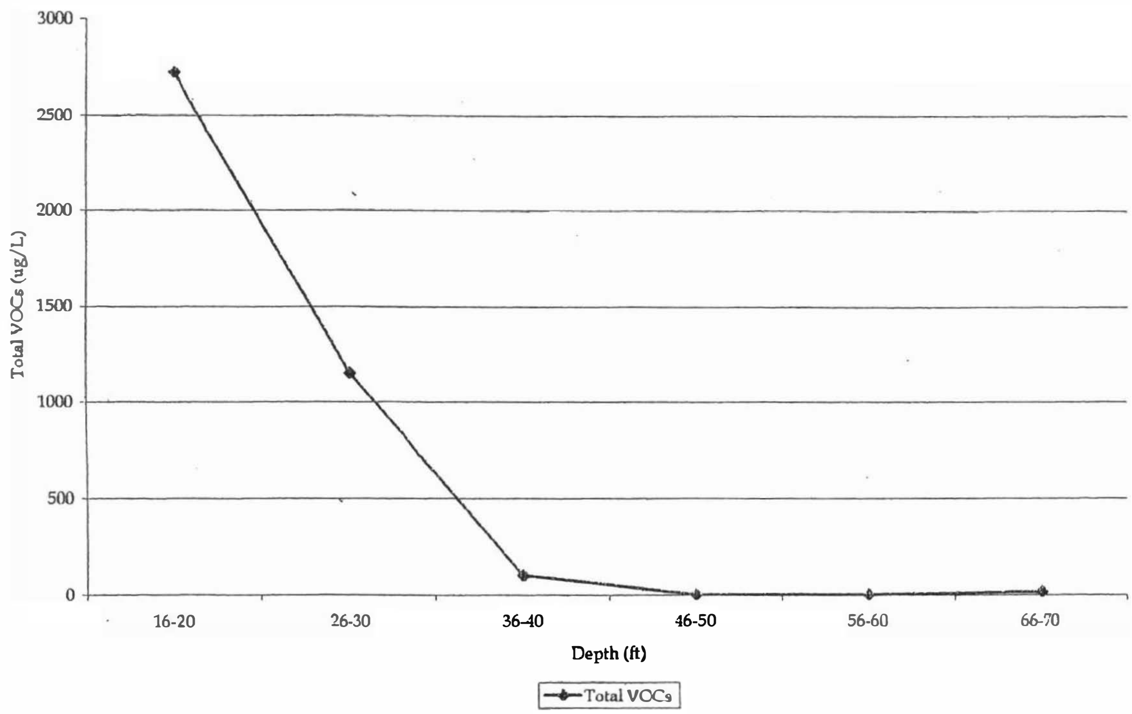

Figure 5
Total VOCs – GP-3

Figure 6
HRC Injection Points

Appendix A
Laboratory Reports

SOUTH MALL ANALYTICAL LABS, INC.™

26 NORTH MALL • PLAINVIEW, NY 11803
(516) 293-2191 • FAX (516) 293-3152
E-Mail: info@SouthMallLabs.com
www.SouthMallLabs.com

November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-1 - 66-70
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101110

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	<1.00	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	1.86	8260[1]

Ref. 101110

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	1.19	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-1 - 56-60
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101111

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	<1.00	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	1.61	8260[1]

SOUTH MALL ANALYTICAL LABS, INC.

Ref. 101111

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	1.40	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-1 - 36-40
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Dale Samples Received:	10/20/99
Analysis Number:	101113

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	<1.00	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	1.30	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	1.45	8260[1]

Ref. 101113

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-1 - 46-50
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101112

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	<1.00	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	1.44	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	<1.00	8260[1]

Ref. 101112

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-1 - 26-30
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101114

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	<1.00	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	<1.00	8260[1]

Ref. 101114

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethytbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-1 - 16-20
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101115

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	3.24	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	19.2	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	4.36	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	74.5	8260[1]

Ref. 101115

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-2 - 66-70
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101116

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	12.2	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	1.71	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	2.05	8260[1]

Ref. 101116

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-2 - 56-60
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101117

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	8.29	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	1.37	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	<1.00	8260[1]

Ref. 101117

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-2 - 46-50
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101118

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	2.16	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	1.42	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	<1.00	8260[1]

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Ref. 101118

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys
Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-2 - 26-30
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101120

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	<1.00	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	228.	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	19.7	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	214.	8260[1]

Ref. 101120

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-2 - 36-40
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101119

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	4.26	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<5.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	2.21	8260[1]

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Ref. 101119

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-3 - 66-70
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/21/99
Analysis Number:	101163

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	6.45	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<1.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	19.2	8260[1]

Ref. 101163

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-2 - 16-20
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/20/99
Analysis Number:	101121

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	<1.00	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	30.3	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	9.34	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	23.8	8260[1]

Ref. 101121

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	≤1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-3 - 46-50
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/21/99
Analysis Number:	101165

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	3.92	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<1.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	5.29	8260[1]

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Ref. 101165

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1]*Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-3 - 56-60
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/21/99
Analysis Number:	101164

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	3.41	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	<1.00	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	<1.00	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	5.23	8260[1]

Ref. 101164

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1]*Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-3 - 36-40
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/21/99
Analysis Number:	101166

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	<5.00	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	3.42	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	28.0	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	3.61	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	72.6	8260[1]

Ref. 101166

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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www.SouthMallLabs.com

November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-3 - 26-30
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/21/99
Analysis Number:	101167

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	5.29	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	3.14	8260[1]
trans-1,2-Dichloroethene, µg/l	<5.00	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	528.	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	61.7	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	558.	8260[1]

Ref. 101167

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1]*Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

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November 8, 1999

Fenley & Nicol Environmental
445 Brook Avenue
Deer Park, NY 11704

Att.: Mr. Mark Robbins

Sample Description:	Wastewater - GP-3 - 16-20
Sample Collected By:	Fenley & Nicol Environmental
Purchase Order Number:	Villa Cleaners
Date Samples Received:	10/21/99
Analysis Number:	101168

Analyte	Results	Method
Dichlorodifluoromethane, µg/l	<1.00	8260[1]
Chloromethane, µg/l	<5.00	8260[1]
Vinyl chloride, µg/l	8.68	8260[1]
Bromomethane, µg/l	<5.00	8260[1]
Chloroethane, µg/l	<5.00	8260[1]
Trichlorofluoromethane, µg/l	<1.00	8260[1]
1,1-Dichloroethene, µg/l	<1.00	8260[1]
Methylene chloride, µg/l	5.82	8260[1]
trans-1,2-Dichloroethene, µg/l	6.87	8260[1]
1,1-Dichloroethane, µg/l	<1.00	8260[1]
2,2-Dichloropropane, µg/l	<5.00	8260[1]
cis-1,2-Dichloroethene, µg/l	826.	8260[1]
Bromochloromethane, µg/l	<1.00	8260[1]
Chloroform, µg/l	<1.00	8260[1]
1,1,1-Trichloroethane, µg/l	<1.00	8260[1]
Carbon tetrachloride, µg/l	<5.00	8260[1]
1,1-Dichloropropene, µg/l	<1.00	8260[1]
Benzene, µg/l	<1.00	8260[1]
1,2-Dichloroethane, µg/l	<1.00	8260[1]
Trichloroethene, µg/l	168.	8260[1]
1,2-Dichloropropane, µg/l	<1.00	8260[1]
Dibromomethane, µg/l	<1.00	8260[1]
Bromodichloromethane, µg/l	<1.00	8260[1]
cis-1,3-Dichloropropene, µg/l	<1.00	8260[1]
Toluene, µg/l	<1.00	8260[1]
trans-1,3-Dichloropropene, µg/l	<1.00	8260[1]
1,1,2-Trichloroethane, µg/l	<5.00	8260[1]
Tetrachloroethene, µg/l	1,720.	8260[1]

Ref. 101168

Analyte	Results	Method
1,3-Dichloropropane, µg/l	<1.00	8260[1]
Dibromochloromethane, µg/l	<1.00	8260[1]
1,2-Dibromoethane, µg/l	<1.00	8260[1]
Chlorobenzene, µg/l	<1.00	8260[1]
1,1,1,2-Tetrachloroethane, µg/l	<1.00	8260[1]
Ethylbenzene, µg/l	<1.00	8260[1]
o-Xylene, µg/l	<1.00	8260[1]
m,p-Xylene, µg/l	<1.00	8260[1]
Styrene, µg/l	<1.00	8260[1]
Bromoform, µg/l	<1.00	8260[1]
Isopropylbenzene, µg/l	<1.00	8260[1]
Bromobenzene, µg/l	<1.00	8260[1]
1,1,2,2-Tetrachloroethane, µg/l	<1.00	8260[1]
1,2,3-Trichloropropane, µg/l	<5.00	8260[1]
n-Propylbenzene, µg/l	<1.00	8260[1]
2-Chlorotoluene, µg/l	<1.00	8260[1]
4-Chlorotoluene, µg/l	<5.00	8260[1]
1,3,5-Trimethylbenzene	<5.00	8260[1]
tert-Butylbenzene, µg/l	<5.00	8260[1]
1,2,4-Trimethylbenzene, µg/l	<1.00	8260[1]
sec-Butylbenzene, µg/l	<1.00	8260[1]
1,3-Dichlorobenzene, µg/l	<1.00	8260[1]
4-Isopropyltoluene, µg/l	<1.00	8260[1]
1,4-Dichlorobenzene, µg/l	<1.00	8260[1]
1,2-Dichlorobenzene, µg/l	<1.00	8260[1]
n-Butylbenzene, µg/l	<1.00	8260[1]
1,2-Dibromo-3-chloropropane, µg/l	<5.00	8260[1]
1,2,4-Trichlorobenzene, µg/l	<5.00	8260[1]
Hexachlorobutadiene, µg/l	<1.00	8260[1]
Naphthalene, µg/l	<5.00	8260[1]
1,2,3-Trichlorobenzene, µg/l	<5.00	8260[1]

[1] *Federal Register*, Vol. 49, No. 209

New York State ELAP Laboratory ID #10950

Laboratory Director: Joseph P. Shaulys

JPS:po

Page 1 of 2

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CHAIN OF CUSTODY RECORD

Client:	Fenley & Nicol Environmental	Report to:	Mark Robbins
Address:	445 Brook Avenue	Lab ID #:	10950
	Deer Park, NY 11729	Cooler No.:	
Telephone:	586-4900 / Fax: 586-4920	Analysis Nos.:	10110-10119

SHADED AREAS FOR LABORATORY USE ONLY!

	Y	N		Y	N	N/A		Y	N
Samples received in good condition?	✓		COC tape present?		✓		Rush T/A required?		✓
Samples properly preserved?	✓		COC tape unbroken?			✓	Notes (including P.O. #):		
Samples ambient?	✓		Non-compliance report needed?		✓				
Samples chilled?		✓	Cooler returned?			✓			

No.	Matrix L	S	G	Sample Origin	Containers #	Type	Date	Comp.	Grab	Time	Analysis Required	NaOH + Ascorbic Acid	HNO_3	H_2SO_4	Other	None
1	✓			GP-1 66-70	2	VOA	10/20/99				EPA 8260					X
2	X			GP-1 56-60	2	VOA	10/20/99				EPA 8260					X
3	✓			GP-1 46-50	2	VOA	10/20/99				EPA 8260					X
4	X			GP-1 36-40	2	VOA	10/20/99				EPA 8260					X
5	X			GP-1 26-30	2	VOA	10/20/99				EPA 8260					X
6	X			GP-1 16-20	2	VOA	10/20/99				EPA 8260					X
7	X			GP-2 66-70	2	VOA	10/20/99				EPA 8260					X
8	X			GP-2 56-60	2	VOA	10/20/99				EPA 8260					X
9	X			GP-2 46-50	2	VOA	10/20/99				EPA 8260					X
10	X			GP-2 36-40	2	VOA	10/20/99				EPA 8260					X

COLLECTED BY: Mark E. Robbins
PROJECT NAME/SPECIAL INSTRUCTIONS: VILLA CLEANERS

RELINQUISHED BY: Mark E. R	RECEIVED BY: Susan Cohen	DATE: 10/20/99	TIME: 2:20	AM	PM
RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	AM	PM
RELINQUISHED BY: Susan Cohen	RECEIVED BY LAB: Michael E. Mille	DATE: 10/20/99	TIME: 2:11	AM	PM

Page 2 of 2

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CHAIN OF CUSTODY RECORD

Client:	Fenley & Nicol Environmental	Report to:	Mark Robbins
Address:	445 Brook Avenue	Lab ID #:	10950
	Deer Park, NY 11729	Cooler No.:	
Telephone:	586-4900 / Fax: 586-4920	Analysis Nos.:	10120-10121

SHADED AREAS FOR LABORATORY USE ONLY!

	Y	N		Y	N	N/A		Y	N
Samples received in good condition?	✓		COC tape present?		✓		Rush T/A required?		✓
Samples properly preserved?	✓		COC tape unbroken?			✓	Notes (including P.O. #):		
Samples ambient?	✓		Non-compliance report needed?		✓				
Samples chilled?		✓	Cooler returned?			✓			

No.	Matrix L	S	G	Sample Origin	Containers #	Type	Date	Comp.	Grab	Time	Analysis Required	NaOH + Ascorbic Acid	HNO_3	H_2SO_4	Other	None
1	X			GP-2 26-30	2	VOA	10/20/99				EPA 8260					X
2	X			GP-2 16-20	2	VOA	10/20/99				EPA 8260					X
3																
4																
5																
6																
7																
8																
9																
10																

COLLECTED BY: Mark E. Robbins
PROJECT NAME/SPECIAL INSTRUCTIONS: VILLA CLEANERS

RELINQUISHED BY: Mark E. R	RECEIVED BY: Susan Cohen	DATE: 10/20/99	TIME: 2:20	AM	PM
RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	AM	PM
RELINQUISHED BY: Susan Cohen	RECEIVED BY LAB: Michael E. Mille	DATE: 10/20/99	TIME: 2:11	AM	PM

REGENESIS

Hydrogen Release Compound HRC™

HRC: A Cost-Effective Innovation in Enhanced Anaerobic Bioremediation

Hydrogen Release Compound (HRC™) offers a passive, low-cost treatment option for in-situ anaerobic bioremediation of chlorinated aliphatic hydrocarbons (CAHs). HRC is a proprietary, environmentally safe, food quality, polylactate ester specially formulated for slow release of lactic acid upon hydration. Bioremediation with HRC is a multi-step process. Indigenous anaerobic microbes (such as acetogens) metabolize the lactic acid released by HRC, and produce hydrogen. The resulting hydrogen can be used by reductive dehalogenators which are capable of dechlorinating CAHs. Major target compounds in this group include PCE, TCE, TCA as well as their daughter products.

By providing a long-lasting, time-released hydrogen source, Hydrogen Release Compound can enhance anaerobic reductive dechlorination of chlorinated aliphatic hydrocarbons.

The Key Advantages of HRC

Challenges specific to CAH remediation include the following: (1) As DNAPLs, CAH plumes sink into the aquifer in complex, heterogeneous patterns, rendering them difficult to locate and remediate mechanically; (2) CAHs present a significant health hazard; (3) alternatives for CAH remediation are limited and expensive.

Enhanced anaerobic natural attenuation with HRC presents an innovative solution to CAH remediation. HRC has several advantages over other remedial options:

1. **Low maintenance and low cost:** Unlike actively engineered systems, continuous mechanical operation and maintenance is eliminated, dramatically reducing overall O&M costs.

2. **Time release provides a constant and persistent hydrogen source.**
   - HRC is a semi-solid material that remains in place and generates highly diffusible hydrogen slowly over time.
   - Since CAH plumes are difficult to locate, a continuous, highly diffusible hydrogen source increases the effectiveness of contact, containment, and remediation.
   - The constant hydrogen source eliminates introduction of oxygen which can occur with repeated alternative mechanical methods.

3. **HRC promotes desorption of CAHs.** The continuous hydrogen source provided by HRC can reduce dissolved phase CAH concentrations. This creates a larger concentration gradient which in turn facilitates desorption of CAHs from the soil matrix. In addition to source treatment, HRC reduces time to site closure by increasing the rate of CAH desorption and remediation.

4. **HRC may favor reductive dechlorination over possible competing methanogenic activity:** Results from university studies suggest that there is competition for hydrogen between the reductive dechlorinators and methanogens (Fennell, et.al., 1997). High hydrogen concentrations favor methanogenic activity, whereas reductive dechlorinators are best supported in conditions of more moderate hydrogen concentration. Thus, since HRC's long-lasting time-release feature facilitates controlled hydrogen concentrations, it is an ideal approach for optimizing reductive dechlorination.

Other Benefits

- **HRC offers a simple and effective approach to the remediation of CAHs:** Other remediation methods may simply transfer contaminants to another medium or location, requiring permits, removal, transportation, and ongoing liability. However, bioremediation with HRC allows microbes to dechlorinate these contaminants in-situ.

- **HRC has potential effectiveness on other chlorinated contaminants or co-contaminants, such as pentachlorophenol (PCP) and hexachlorocyclohexane (lindane).**

- **Minimal Site Disturbance:** Treatment with HRC is in-situ; thus, above ground disturbance is minimized.

Site Objectives Addressed With HRC

HRC is a high viscosity liquid that can be injected into the aquifer using direct-push technologies to address a wide range of remedial objectives, as follows:

Containment: HRC may be strategically applied along the downgradient edge of a plume to form a barrier to off-site migration.

Saturated Zone Application – HRC application in or near the source area can:
- Contract the dissolved phase plume, shrinking it back toward the source area
- Increase the desorption rate in the source area to accelerate bioremediation of the entire contaminant mass

HRC and ORC: Solutions for Vinyl Chloride Remediation

Lab and field results have shown that HRC can support remediation of the DCE and VC that is produced as a result of PCE/TCE degradation.

However, although anaerobic conditions favor PCE and TCE degradation, daughter products like DCE and VC can degrade faster under aerobic conditions. Given that VC accumulation is of particular concern, optimal results for CAH remediation with HRC may be achieved by combined treatment with Oxygen Release Compound (ORC®) to enhance aerobic bioremediation of vinyl chloride. HRC treatment can be used in conjunction with ORC in either of two dual phase strategies:
- **Simultaneous HRC/ORC application:** HRC is applied to treat higher order CAHs at the source, while ORC is concurrently applied in a downgradient zone to treat the resulting daughter products.
- **Sequential HRC/ORC application:** For an appropriate period of time, HRC is applied to treat higher order CAHs. As vinyl chloride accumulates, HRC treatment is terminated and ORC is introduced to treat this compound.

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CHAIN OF CUSTODY RECORD

Client:	Fenley & Nicol Environmental, Inc.	Report to:	Mark E. Robbins
Address:	445 Brook Avenue	Lab ID #:	10950
	Deer Park, NY 11729	Cooler No.:	
Telephone:	(516) 586-4900	Analysis Nos.:	10163-10168

SHADED AREAS FOR LABORATORY USE ONLY!

	Y	N		Y	N	N/A		Y	N
Samples received in good condition?	✓		COC tape present?		✓		Rush T/A required?		
Samples properly preserved?	✓		COC tape unbroken?			✓	Notes (including P.O. #):		
Samples ambient?	✓		Non-compliance report needed?		✓				
Samples chilled?		✓	Cooler returned?			✓			

No.	Matrix L	Matrix S	Matrix G	Sample Origin	Containers #	Containers Type	Date	Comp.	Grab	Time	Analysis Required	NaOH + Ascorbic Acid	HNO_3	H_2SO_4	Other	None
1	X			GP-3 66-70	2	VOA	10/21/99				EPA 8260					X
2	X			GP-3 56-60	2	VOA	10/21/99				EPA 8260					X
3	X			GP-3 46-50	2	VOA	10/21/99				EPA 8260					X
4	X			GP-3 36-40	2	VOA	10/21/99				EPA 8260					X
5	X			GP-3 26-30	2	VOA	10/21/99				EPA 8260					X
6	X			GP-3 16-20	2	VOA	10/21/99				EPA 8260					X
7																
8																
9																
10																

COLLECTED BY: David Olcke	PROJECT NAME/SPECIAL INSTRUCTIONS: VILLA CLEANERS		
RELINQUISHED BY: David Olcke	RECEIVED BY: David Olcke	DATE: 10/21/99	TIME: [illegible] AM/PM
RELINQUISHED BY: David Olcke	RECEIVED BY: B. Shawley	DATE: 10-21-99	TIME: 12:30 AM/PM
RELINQUISHED BY: B. Shawley	RECEIVED BY LAB: Michael E. Mills	DATE: 10-21-99	TIME: 2:40 AM/PM

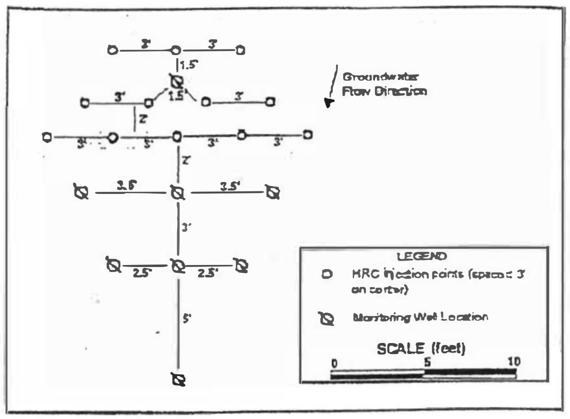
HRC TECHNICAL BULLETIN # 3.1.3

Hydrogen Release Compound HRC™

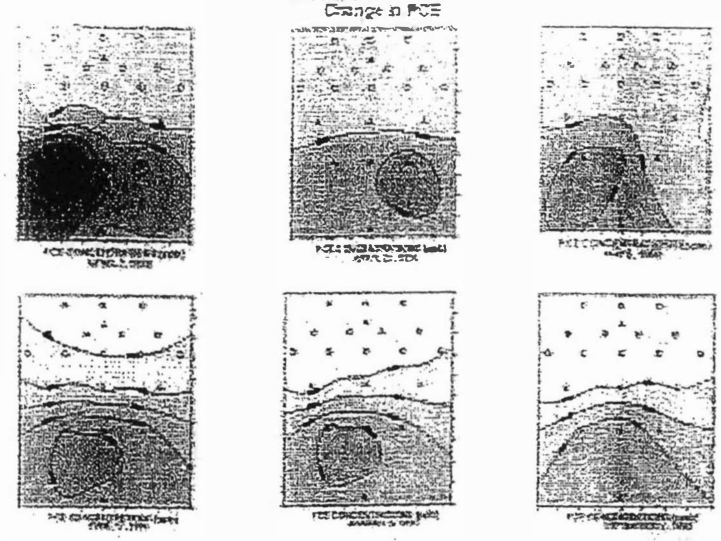
HRC Field Demonstration in WI

The direct-push injection of HRC is currently being demonstrated with Montgomery Watson at a site in Wisconsin contaminated with high levels of PCE. Aquifer materials consist of sand with a calculated groundwater velocity of 0.03 ft/day. 240 pounds of slightly flowable HRC were injected via twelve delivery points in a sixty square foot area as illustrated in Figure 1.

Reduction of PCE relative to HRC injection points and existing monitoring well locations are presented in Figure 2. Approximately five months following the installation of HRC, PCE mass was reduced 111 grams, representing a reduction of 70%. Concurrent increases in PCE-degradation daughter products, TCE and DCE, were also documented and are presented in Figures 3 and 4. DCE and TCE levels rise continuously through the first 120 days with a slight decrease occurring through day 148. Mass balance results of 27% to 46% have been an important indicator that the HRC injections facilitated contaminant removal by biodegradation. There has been no real detection of vinyl chloride or ethene. Vinyl chloride may be degrading as soon as it is formed, or may be migrating out of the demonstration area.



Figure



O HRC injection point Δ Monitoring well

Figure 2

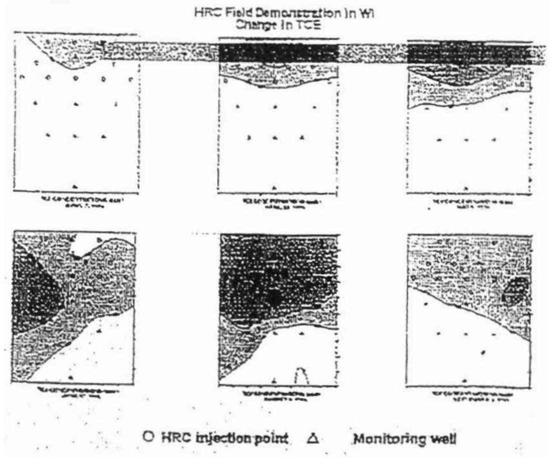
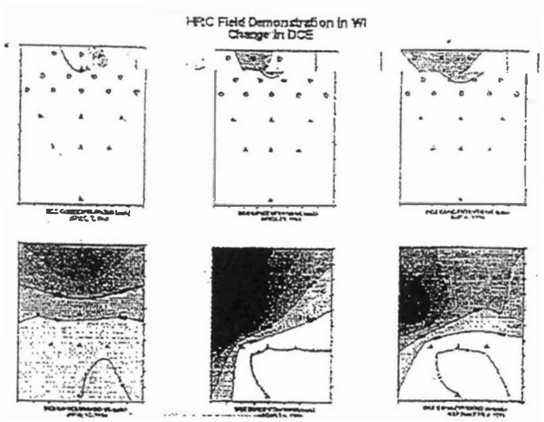


Figure 3



O HRC Injection point Δ Monitoring well

Figure 4

HRC Technical Bulletin Index | HRC Homepage

Hydrogen Release Compound and the Remediation of Higher Order CAH's

Regenesis has just announced the experimental availability of its new Hydrogen Release Compound (HRC) as an option for the bioremediation of higher order CAHs such as PCE and TCE. The material is a proprietary food grade polymer that degrades to produce a simple alcohol and lactic acid. The role of short chain organic acids and alcohols in the remediation of CAHs has been defined by Gibson and Sewell (1). In this process, the acids and alcohols are metabolized by one group of organisms to yield hydrogen which in tum is used by another group of organisms to effect reductive dechlorination. A typical system would involve the conversion of lactic acid to acetic acid by acetogens whereby one mole of lactic acid produces two moles of hydrogen. The two moles of hydrogen are then available for a very efficient stochiometric conversion of PCE or TCE to dechlorinated alkanes by organisms conveniently called reductive dehalogenators.

The value of a controlled release of lactic acid is emphasized in a body of work from the Gossett lab at Cornell including, most recently, Fennell (2). In these studies it emphasizes that there is competition between reductive dehalogenators and methanogens, the latter wanting to use the hydrogen in the conversion of carbon dioxide to methane. A low concentration of hydrogen favors the reductive dehalogenators and starves out the methanogens who have a larger appetite for hydrogen. With an excess of hydrogen in the system the methanogens are favored and crowd out the reductive dehalogenators. Therefore, one wants to keep hydrogen concentrations low. This in tum is accomplished by the addition of organic acids which are slowly converted to hydrogen.

The problem with additions of pure lactic acid are that it all has to added at one time unless it is metered in with active systems. Also, by this method, using water that delivers dissolved oxygen will disrupt anaerobic conditions. Lastly, the use of a liquid pulse invites a flow of active agent away from the chlorinated source over time. In order to combat these problems with organic acid delivery, Regenesis developed its solid polymer that can be implanted conveniently through various push point technologies. The lactic acid is hydrolyzed off the polymer at a more appropriate, slower rate and stays where it is placed offering a long term source of hydrogen releasing material. This advance is analogous to the conversion from injections of chemotherapeutic agents which "spike the system" to the various time release approaches that offer more steady dosage.

1) Gibson, S.A. and G.W. Sewell. 1992. Applied and Environmental Microbiology 58(4): 1392-1393.

2) Fennell, D.E.., J.M. Gossett and S.H. Zinder. 1997. Environmental Science and Technology. 31: 918-926.

Applied and Environmental Microbiology, Apr. 1992, p. 1392–1393 Vol. 58, No. 4
0099-2240/92/041392-02$02.00/0

Stimulation of Reductive Dechlorination of Tetrachloroethene in Anaerobic Aquifer Microcosms by Addition of Short-Chain Organic Acids or Alcohols

SUSAN A. GIBSON[1]* AND GUY W. SEWELL[2]
ManTech Environmental Technology, Inc.,[1] and U.S. Environmental Protection Agency,[2] Robert S. Kerr Environmental Research Laboratory, Ada, Oklahoma 74820

Received 10 June 1991/Accepted 22 January 1992

The effect of the addition of common fermentation products on the dehalogenation of tetrachloroethene was studied in methanogenic slurries made with aquifer solids. Lactate, propionate, crotonate, butyrate, and ethanol stimulated dehalogenation activity, while acetate, methanol, and isopropanol did not.

Although the ecological and public health risks associated with tetrachloroethene (PCE) contamination may be the most severe when spills affect groundwater, little is known about the environmental conditions necessary to initiate and sustain dehalogenation activity in contaminated aquifers. This study was done with core material collected from a site impacted by both aviation gasoline and chloroethenes at a Coast Guard Air Station at Traverse City, Mich.

Collection of core material, making of microcosms, sampling, and chloroethene analysis were done as described previously (11). The microcosms differed in that 10 g of aquifer material and 20-ml serum bottles were used. The final concentrations of donors added were as follows: acetate, 4 mM; lactate, 3 mM; propionate, 3 mM; butyrate, 2 mM; crotonate, 2 mM; methanol, 4 mM; ethanol, 2 mM; and isopropanol, 3 mM. The PCE addition was 1 µl of a methanol stock solution (0.751 g of PCE per 10-ml total volume in methanol) to give a PCE initial concentration of approximately 30 µM. A small amount of headspace was left in these bottles for ease of handling. All bottles were well shaken after all amendments had been made.

Four fatty acids and three alcohols were tested for the ability to act as the source for reducing equivalents for PCE dehalogenation. The production of trichloroethene (TCE) and total dichloroethenes in microcosms, using these compounds as electron donors, is shown in Fig. 1. Samples from microcosms amended with lactate or ethanol had TCE present at the first sampling point at 6 days (Fig. 1). Butyrate, crotonate, and propionate also supported dehalogenation, although the lag period was longer, while acetate, methanol, and isopropanol did not support dehalogenation above that observed in the unamended control during this time period (Fig. 1). The measurements from the early time points were quite variable because of differences in the onset of dehalogenation. However, at the last two time points, significant differences (Student's t test with $\alpha = 0.05$) in the total amount of dehalogenation products present were observed between microcosms amended with lactate, ethanol, propionate, crotonate, or butyrate and those which were unamended or were amended with acetate, methanol, or isopropanol.

Several researchers have demonstrated the stimulation of reductive dehalogenation of chloroethenes by addition of organic supplements or hydrogen (1, 4, 5, 7, 10). These studies were done with soil which was high in organic material (4.2% organic carbon) (1), with inoculum from a bioreactor (4, 7, 10), or with a pure culture derived from anaerobic sludge (5). In contrast, our study was done with aquifer material from an oligotrophic aquifer (maximum total organic carbon of 0.04% in unamended microcosms).

This experiment showed that dehalogenation activity could be observed with an appropriate electron donor within a week, although in other experiments several weeks were required (data not shown). This was probably due to the particular core material used. However, although the time at which dehalogenation capability develops in a particular sample may vary, the overall pattern is consistent. The microcosms amended with substrates which would be expected to be easily degraded under anaerobic conditions, such as lactate and ethanol (9), showed dehalogenation products as early as 6 days in this particular experiment. Microcosms amended with compounds such as butyrate, crotonate, and propionate, which are more difficult to degrade anaerobically (9), had a longer incubation period before large amounts of dehalogenation products were present (Fig. 1). The compounds which supported dehalogenation of PCE in this aquifer material would all be expected to produce hydrogen during their anaerobic oxidation (9). Methanol and acetate did not support significant dehalogenation activity during the time course of this experiment. Although both of these compounds have been shown to produce some hydrogen under some circumstances (3 [and references therein], 12), neither would be expected to produce large amounts of hydrogen during their anaerobic metabolism. This suggests that in this system hydrogen produced during the metabolism of the fatty acids and alcohols may be the immediate electron donor for supporting dehalogenation. Freedman and Gossett (7) showed that hydrogen could support dehalogenation of chloroethenes, although methanol was the better substrate for their bacterial cultures.

It appears that this experimental ecosystem may be different in nature from the others reported from digesters (4, 6, 7) or biofilms (2) in that neither acetate nor methanol appeared to support dechlorination of the PCE during the course of the experiment, although many compounds known to produce hydrogen during anaerobic metabolism did support dechlorination activity. Similar results were seen in a study of the

* Corresponding author.

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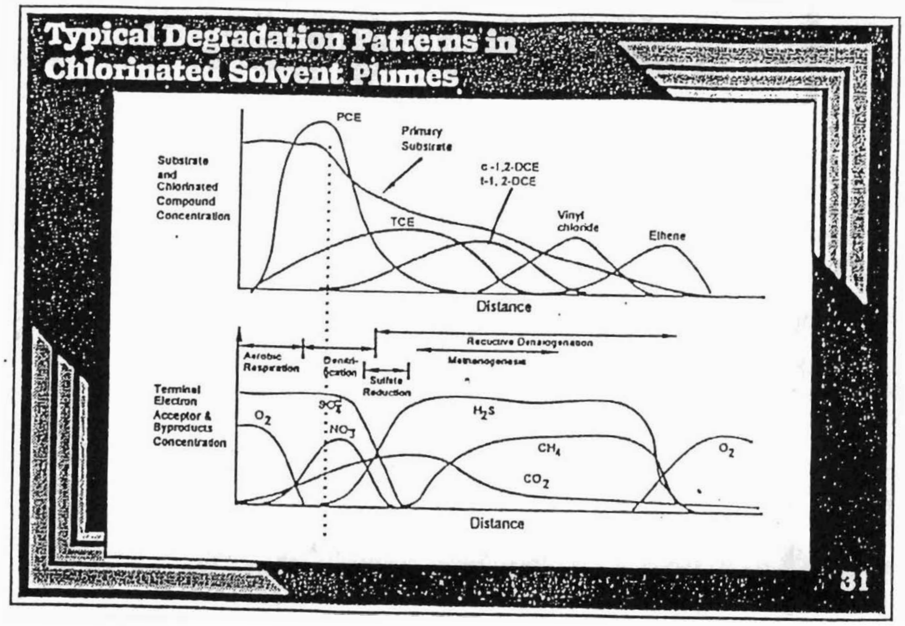
Evidence of Chlorinated Solvent Degradation

- Reduced Aquifer Conditions
  - Oxygen & Nitrate Depletion
  - Hydrogen Sulfide & Methane Present
  - Hydrogen Generation
- Microbial Degradation Products
  - cis-DCE
  - Vinyl Chloride
  - Ethylene
- Source of Electron Donor Identified at Site



Hydrogen Peroxide Addition

- Application since 1970's
- Decomposition Releases Oxygen
- Strong Oxidant-Forms Free Hydroxyl Radicals
- Continuous Feed for Aerobic Enhancement
- Concerns
  - Safety
  - Microbial Fouling or Disinfection

How does HRC work ?

HRC is composed of a proprietary, food grade lactic acid polymer which steadily degrades in water to alcohol and lactic acid which are metabolized by fermentation organisms to yield hydrogen. The hydrogen is then utilized by reductive dechlorinating microorganisms to convert PCE & TCE to lower chlorinated species

What is HRC ?

HRC is an acronym for "Hydrogen Release Compound" HRC is an In-Situ Anaerobic Dechlorination technology which stimulates the release of hydrogen by naturally occurring microorganisms into a contaminated plume

Performance Results

- Results from an industrial site indicate that vinyl chloride degraded most rapidly with ORC as the only applied treatment technology (Bell, 97)
- Another study found that the rate of vinyl chloride degradation in the presence of ORC is significantly greater than the rate achieved by natural attenuation alone (Martinovich, et.al. 97)

REGENESIS

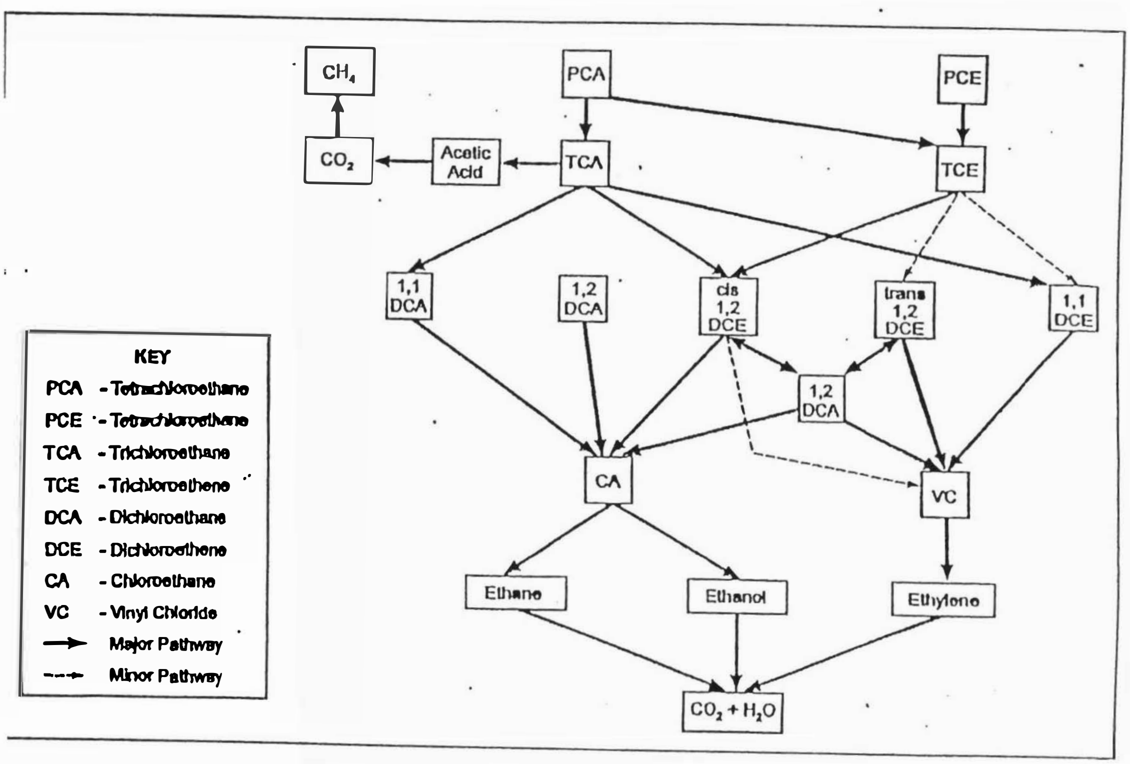


Figure 2. Transformations of chlorinated aliphatic hydrocarbons.

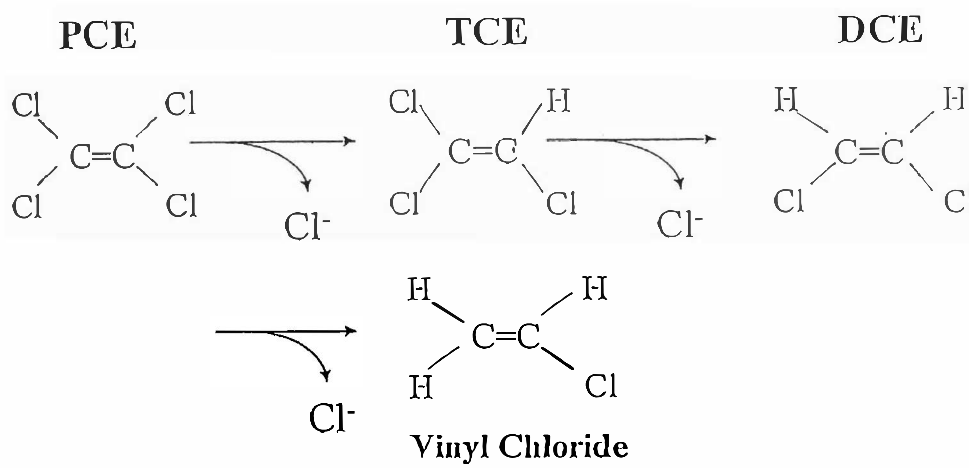
HRC Development Approach

- Patents applied for in late 1997
- Lab tests performed demonstrating process
- 1st phase of field demonstration underway
  - 10 single well and minbarrier tests
- 2nd phase to include expanded sites-3Q98
- Quantifiable Field Demonstrations for peer review publication due to start by 4Q98

CHLOROALKANE Contaminants with Greatest Remediation Potential

COMPOUND	PRIMARY USE	CONTAMINATED SITE MARKET	DEGRADATION TYPE
PCE	Dry Cleaning, Degreasing	Dry Cleaners; Metal Prod. Manuf,Landfills	An Dechlor. (An Met)
TCE	Dry Cleaning, Degreasing	Dry Cleaners; Metal Prod. Manuf,Landfills	An Dechlor. Aero CoMet. (An Met)
DCE	Solvent, Degreasing	PCE/TCE Sites; Metal Prod. Manuf,Landfills	An Dechlor. Aero CoMet. (Aer/An Met)
VC	Plastics Indus, Refrigerants	PCE/TCE Sites; Metal Prod. Manuf,Landfills	Aero Met. Aero CoMet (An Dechlor.)

Anaerobic Dechlorination



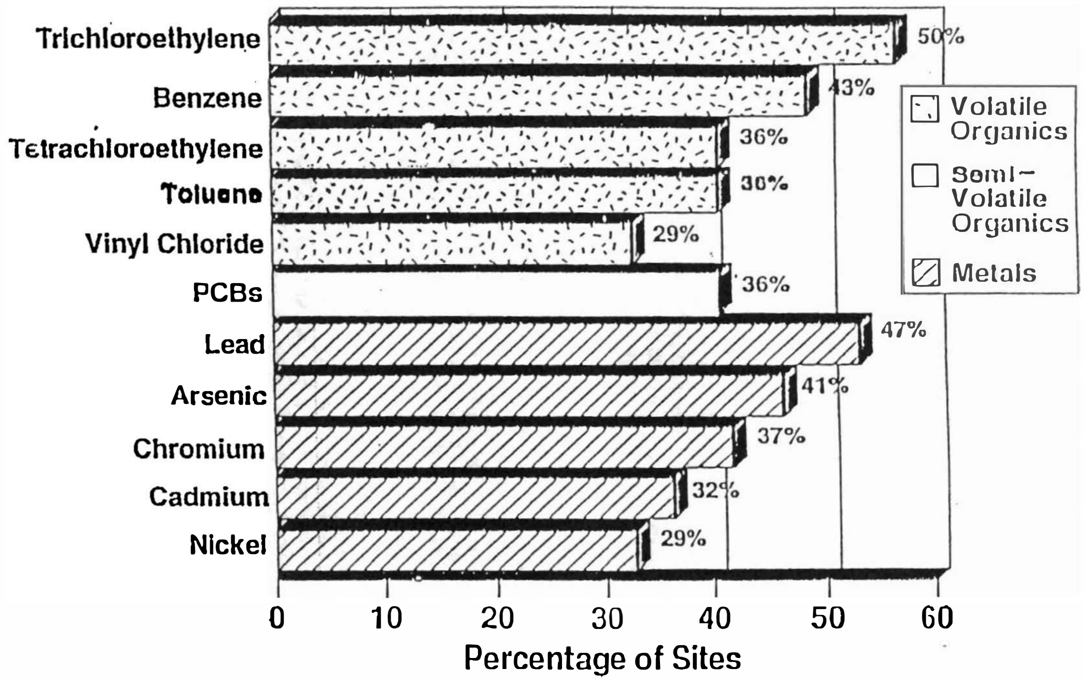
Requires anaerobic conditions and reduced carbon source

REGENESIS

Key benefits to using HRC

- *HRC is a passive remediation technology*
- *HRC is non toxic in water*
- *HRC adds food grade lactic acid to a contaminated plume, naturally generating hydrogen thereby enhancing the natural dechlorination process without the use of costly capital equipment*

Most Common Contaminants at Superfund Sites



* A site may contain more than one of these contaminants

6/17/97

State Monitoring Requirements

- Duration
  - 1 Yr. (5)
  - 2 Yr. (5)
  - $\geq$ 2 Yr. (2)
  - 1-4 Yr. (1)
  - Meet Stds. (8)
  - Plume Shrinks (1)
  - Site Specific (5)
- Frequency
  - Quarterly (25)
  - Semi-Annually (2)
  - Tri-Annually (1)
  - Site Specific (13)
- Typically 2-6 wells

Fenley & Nicol Environmental

"SOLUTIONS AT WORK"℠

1958 40 YEARS QUALITY SERVICE 1998 FENLEY & NICOL ENVIRONMENTAL, INC.

445 Brook Avenue, Deer Park, New York 11729 (516) 586-4900 • NYC (718) 204-4993 FAX (516) 586-4920

December 17,1998

ps-981217

Ms. Geralyn Fitzpatrick
Assistant Hydrogeologist
Division of Environmental Quality
Office of Water Resources
225 Rabro Drive East
Hauppauge, NY 11788

Re:Villa Cleaners Deer Park, NY 11729

Dear Ms. Fitzpatrick:

Fenley & Nicol Environmental, Inc. (F&N) is pleased to provide you with a work plan to install Hydrogen Release Compound (HRC), a product of REGENESIS Bioremediation products, to enhance the bioremediation of volatile organic compounds, which are present at the above referenced site. The main objective of this HRC program is to reduce the existing TCE levels on site to below NYSDEC groundwater quality criteria.

F&N will utilize direct push and pressure grout techniques in order to install the HRC compound into the formation at the desired depths below ground surface.

During handling and mixing of the HRC material, the proper personal protective equipment will worn by personnel. All equipment must be cleaned with a hot pressure washer following installation activities each day to remove residual HRC materials.

Based on the previous investigation conducted by F&N, F&N will install HRC at 4 locations near the existing monitoring well. The HRC material will be injected at 10 foot intervals at each location(from 20 feet to 5 feet below ground surface.) This will require a total volume of 6 pounds of HRC per foot.

Enclosed with this work plan is copies of technical information on HRC prod ct.
Please call me at (516) 586-4900 ext 141. if you have any further question.
F&N will proceed with the above tasks upon your approval.

Sincerely,
Fenley & Nicol Environmental Inc.
Mostafa El Sehamy, P.G.,C.G.W.P.
Director, Professional Services

cc: John Gennaro
John Soderberg

Fenley & Nicol Environmental

"SOLUTIONS AT WORK"℠

445 Brook Avenue, Deer Park, New York 11729 (516) 586-4900 • NYC (718) 204-4993 FAX (516) 586-4920

August 5, 1998

Ms. Geralyn Fitzpatrick
Suffolk County Health Services
Bureau of Groundwater Resources
Rabro Drive East
Hauppauge, New York 11788

RE: Monitoring well installation and investigation
Villa Cleaners Deer Park, New York

Dear Ms. Fitzpatrick,

As per your conversation with Mostafa El Sehamy of our office, you have evaluated the recent report submitted by F&N, and suggested that a remediation system be implemented at our clients site. It is our opinion that resampling the monitoring well that contained high concentrations of VOCs is important to confirm the previous results. F&N will be glad to split a sample with your laboratory for accuracy. Our office will call to coordinate a time for the field work with you. In addition, Mostafa has indicated to me your willing to resample this well at this time. Thank you for your cooperation in this matter.

Sincerely,
Fenley & Nicol Environmental
Joseph W. Gabrinowitz
Project manager

CC: Mostafa El Sehamy
Director of Professional Services

Fenley & Nicol Environmental

"SOLUTIONS AT WORK"℠

445 Brook Avenue, Deer Park, New York 11729 (516) 586-4900 • NYC (718) 204-4993 FAX (516) 586-4920

July 17, 1998

Mr. John Gennaro
Villa Cleaners
1894 Route 231
Deer Park, New York

RE: Monitoring well installation and investigation
Villa Cleaners Deer Park, New York

Dear Mr. Gennaro,

The purpose of this letter report is to summarize the recent investigation performed at the above referenced site. This report is also intended to satisfy requests made by the Suffolk County Department of Health Services (SCDHS) Office of Pollution Control.

The investigation included; the installation of several monitoring wells/cluster well, a site and well survey, and well sampling. To install the cluster well, a mobile drill rig equipped with 6 5/8 hollow stem augers was used to advance a boring to a depth of 100 feet. At this depth a 2 inch diameter, 98 foot long section of solid PVC was connected to a 2 foot section of 2 inch diameter screened PVC. The screened section was then filled with filtration media and sealed above it with a bentonite slurry. This same procedure was used for the 1 inch diameter wells at 80, 60, 40, and 20 foot intervals.

A site survey was completed on all wells to determine groundwater flow direction ; The direction of flow is to the south - south west (see groundwater gradient map). All wells were then sampled using NYSDEC protocols and chain of custody procedures. During the sampling procedures a representative from the SCDHS was present (Robert Morcerf). Mr. Morcerf split samples from the 40 and 60 foot intervals of the cluster well with F&N. The results of F&N's sampling indicated that monitoring well three contains elevated levels of Tetrachloroethene (1,700 ppb), and Cis-1,2-Dichlorethene (350 ppb) (Note: these concentrations are below SCDHS action levels). The remaining wells were either non detect or further below SCDHS guidelines.

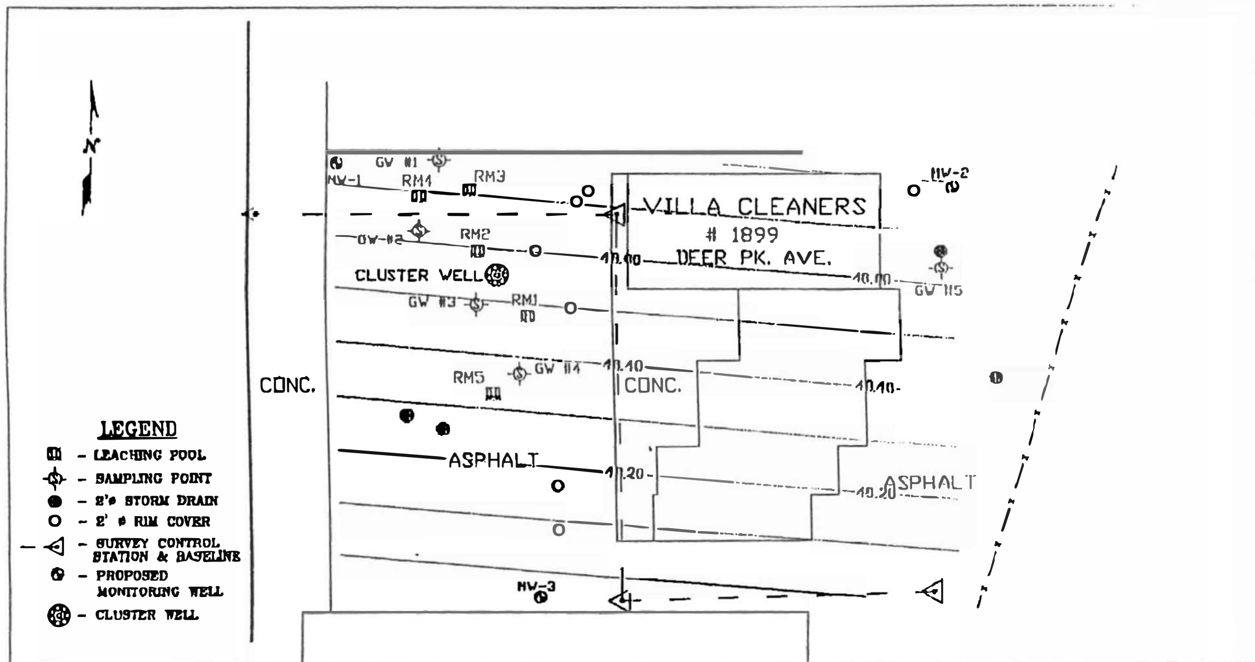
Based on the analytical results and the groundwater gradient map, F&N recommends that a quarterly schedule of sampling and reporting be implemented by the client. This sampling and reporting schedule will allow the client to monitor the progress of biodegradation and attenuation of the contaminants until closure. F&N also recommends that a locking manhole cover be installed on the cluster well to protect it from future damage. If you have further questions regarding this matter please contact us at your earliest convenience.

Sincerely,

Joseph W. Gabrinowitz
Project Geologist

Joseph W. Gabrinowitz

CC: Mostafa El Sehamy
Director of Professional Services

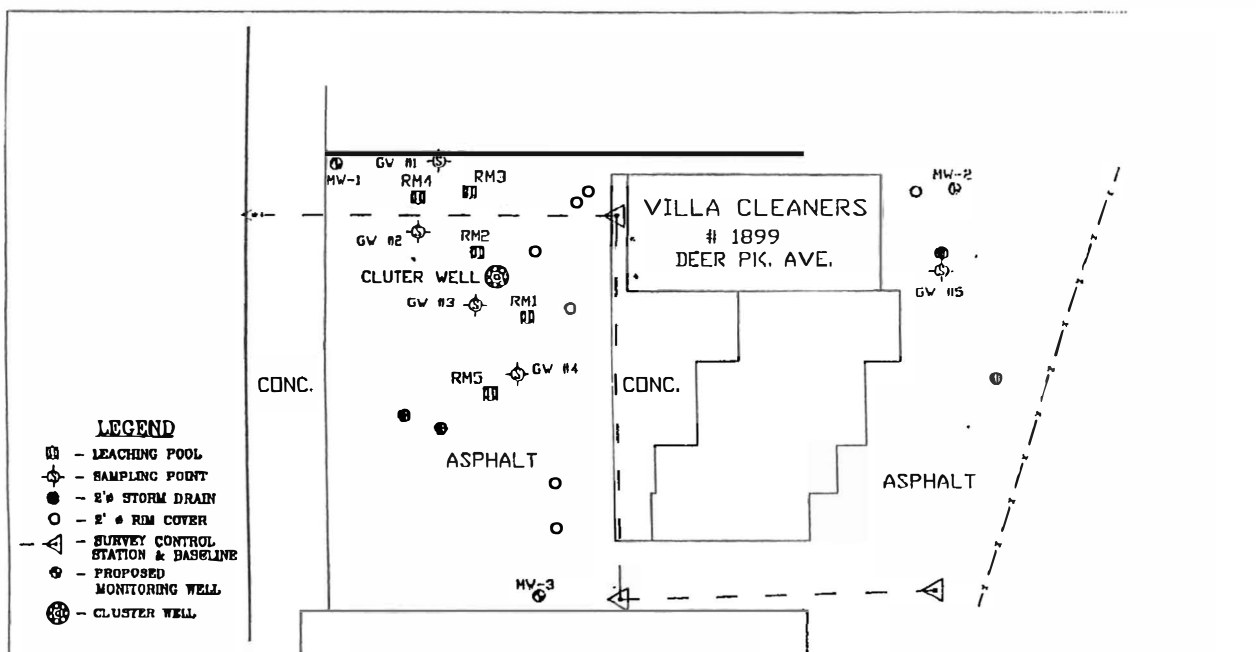


Fenley & Nicol
PROFESSIONAL SERVICES DIVISION
445 BROOK AVENUE, DEER PARK, NEW YORK 11729 (516)586-4900

GROUNDWATER GRADIENT MAP
MONITORED ON 6/16/98

Drawn By:A.G. Job #9802957 Date:3/98

VILLA CLEANERS
1899 DEER PARK AVE.
BABYLON, NEW YORK



Fenley & Nicol
PROFESSIONAL SERVICES DIVISION
445 BROOK AVENUE, DEER PARK, NEW YORK 11729 (516)586-4900

SITE PLAN

Drawn By:A.G. Job # Date:3/98

VILLA CLEANERS
1899 DEER PARK AVE.
BABYLON, NEW YORK

ANALab INC.
205 Campus Plaza 1, Raritan Center, Edison, New Jersey 08837 (908) 225-4111
ENVIRONMENTAL ANALYTICAL LABORATORY SERVICES FAX (908) 225-4110

CHAIN-OF-CUSTODY RECORD and Work Authorization

LAB SDG NO.: (FOR LAB USE ONLY) 98-06-602

Company: Fenley & Nicol Environmental
Address: 445 Brook ave.
City: Deer Park
State: NY ZIP: 11729 Phone: 586 4900
Project Manager: J GABRinowitz Fax: 586 4920
Project name: Villa Cleaners Purchase Order No. 980214

ANALYSIS REQUESTED: 8260

PRINT ANALYSIS REQUESTS CLEARLY, LEGIBLY AND COMPLETELY. Page 1 of 1

	SAMPLE DESCRIPTION	TYPE GRB	TYPE COMP	MATRIX TYPE	DATE SAMPLED	TIME	PRES	NO. CONT	8260		REMARKS
01	MW-1		x	Liquid	6/16/98		HCL	2	X	2-40 ml vOAs	2 40ml Voa's
02	MW-2		x	↓	↓		↓	2	X	↓	↓
03	MW-3		x					2	X		
04	Cluster well 20'		x					2	X		
05	" " 40'		x					2	X		
06	" " 60'		x					2	X		
07	" " 100'		x					2	X		

FAILURE TO PRINT CLEARLY, LEGIBLY AND COMPLETELY MAY RESULT IN DELAYS. ANY ANALYSIS REQUEST NOT ENTERED COMPLETELY, CLEARLY AND LEGIBLY OR WHICH IS CONFUSING OR AMBIGUOUS MAY RESULT IN DELAYS. SAMPLES CAN NOT BE LOGGED IN AND THE TURNAROUND TIME CLOCK WILL NOT START UNTIL ANY AMBIGUITIES ARE RESOLVED. TO AVOID THIS, PRINT CLEARLY, LEGIBLY AND COMPLETELY.

SAMPLER/SUBMITTER'S STATEMENT: I attest that the proper field sampling procedures were used during the collection of these samples and that the information on this Chain of Custody and the analysis(es) requested are true and correct. Name (print): Joe GABRinowitz Signature: [signature]

RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	RELINQUISHED TO LABORATORY BY:	ACCEPTED FOR LAB BY	DATE	TIME
[signature]	[signature]	6/19/98	3:45	[signature]	M. Lelstadt	6/19/98	7:20

Turnaround Time (Faxables)
24Hour____ 5 Day____
48Hour____ 10 Day____
72 Hour____ 14 Day____

If other than 14 day contact your project manager for authorization number.
Auth No: ____

Laboratory Comments:
All Samples Received
Temp 4.6 °C Cool Yes No
Samples Intact Yes No
Properly Preserved Yes No

Data Deliverables (Standard T.A.T. Hard Copy)
Results only____
Results with QC____
RTD-4____
FTD-2____

If other than standard turnaround time for hard copy, please indicate in client remarks.

Client Remarks: 8260 [redacted]

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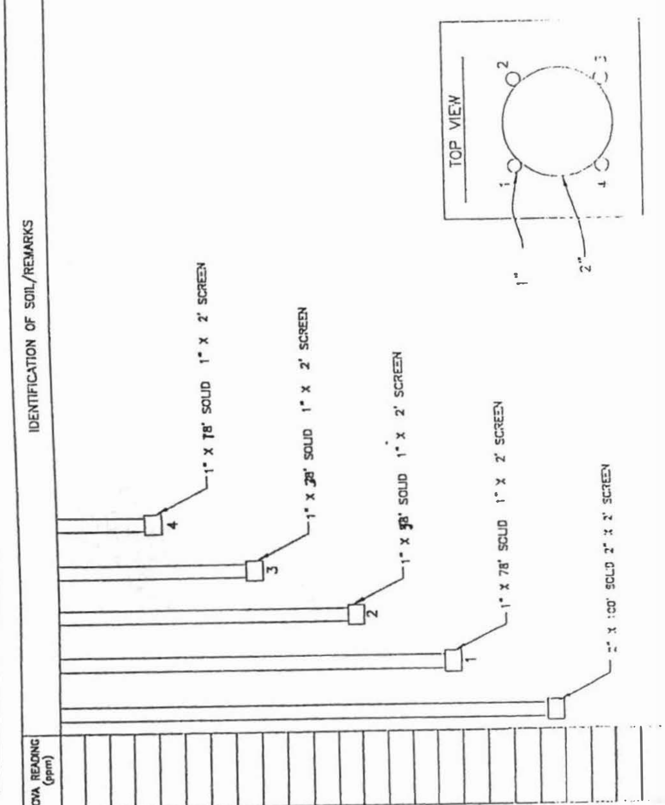
Fenley & Nicol Environmental
...ok Avenue, Deer Park, New York 11729 (516)586-4900
Environmental Services Division

Job Number 9802957
Page 1 of 1

...ect VILLA CLEANERS
...t JOHN GENNARO
...tion DEER PARK
Date 5/28/97
Permit No. NA
Driller ____
No. CW Use MONITORING WELL
Bore Hole Diameter 6-5/8"
...ng Method HSA
Sample Method GRAB
Depth To Water 12'
Total Depth 100'
...g PVC Diameter 2" length 100'
...ype PVC Diameter 2" Slot .020 Length 2'
...l Pack MOIRE #1
Casing Seal BENTONITE BETWEEN EACH SCREENED INTERVAL
...rity NONE
Finish NONE

IDENTIFICATION OF SOIL/REMARKS



Method 8260 Volatile Organics By GC/MS

CLIENT :	FENLEY+NICOL ENVIRO	LAB SAMPLE ID :	98-06-602-07
SAMPLE ID:	CLUSTER WELL 100'	DATE SAMPLED:	6-16-98
PROJECT:	VILLA CLEANERS	DATE RECEIVED:	06-19-98
SAMPLE VOL. :	5.0ml	DATE ANALYZED:	06/23/98
DATA FILE :	>E1725	DIL. FACT :	1.00
EXTRACT/DATE :	N/A	ANALYST:	SP/RS
NJDEP LAB ID :	12531		

S #	COMPOUND	UG/L	Q	MDL
71-43-2	BENZENE	U		5
108-86-1	BROMOBENZENE	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZENE	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZENE	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHANE	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBENZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	U		5
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPANE	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

8

Method 8260 Volatile Organics By GC/MS

CLIENT :	FENLEY+NICOL ENVIRO	LAB SAMPLE ID :	98-06-602-06
SAMPLE ID:	CLUSTER WELL 60'	DATE SAMPLED:	6-16-98
PROJECT:	VILLA CLEANERS	DATE RECEIVED:	06-19-98
SAMPLE VOL. :	5.0ml	DATE ANALYZED:	06/23/98
DATA FILE :	>E1726	DIL. FACT :	1.00
EXTRACT/DATE :	N/A	ANALYST:	SP/RS
NJDEP LAB ID :	12531		

CAS #	COMPOUND	UG/L	Q	MDL
100-41-4	ETHYLBENZENE	U		5
87-68-3	HEXACHLOROBUTADIENE	U		5
98-82-8	ISOPROPYLBENZENE	U		5
99-87-6	P-ISOPROPYLTOLUENE	U		5
75-09-2	METHYLENE CHLORIDE	U		5
91-20-3	NAPHTHALENE	U		5
103-65-1	N-PROPYLBENZENE	U		5
100-42-5	STYRENE	U		5
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		5
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		5
127-18-4	TETRACHLOROETHENE	U		5
108-88-3	TOLUENE	U		5
87-61-6	1,2,3-TRICHLOROBENZENE	U		5
120-82-1	1,2,4-TRICHLOROBENZENE	U		5
71-55-6	1,1,1-TRICHLOROETHANE	U		5
79-00-5	1,1,2-TRICHLOROETHANE	U		5
79-01-6	TRICHLOROETHENE	U		5
75-69-4	TRICHLOROFLUOROMETHANE	U		5
96-18-4	1,2,3-TRICHLOROPROPANE	U		5
95-63-6	1,2,4-TRIMETHYLBENZENE	U		5
108-67-8	1,3,5-TRIMETHYLBENZENE	U		5
75-01-4	VINYL CHLORIDE	U		5
95-47-6	O-XYLENE	U		5
108-38-3	M/P-XYLENE	U		5
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		5
1634-04-4	METHYL TERT-BUTYL ETHER	U		5
78-93-3	2-BUTANONE	U		10
67-64-1	ACETONE	U		10
108-10-1	4-METHYL-2-PENTANONE	U		10
591-78-6	2-HEXANONE	U		10
75-15-0	CARBON DISULFIDE	U		10
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		5
108-05-4	VINYL ACETATE	U		5

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QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

Method 8260 Volatile Organics By GC/MS

CLIENT : FENLEY+NICOL ENVIRO
SAMPLE ID: CLUSTER WELL 60'
PROJECT: VILLA CLEANERS
SAMPLE VOL. : 5.0ml
DATA FILE : >E1726
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-06-602-06
DATE SAMPLED: 6-16-98
DATE RECEIVED: 06-19-98
DATE ANALYZED: 06/23/98
DIL. FACT : 1.00
ANALYST: SP/RS

AS #	COMPOUND	UG/L	Q	MDL
71-43-2	BENZENE	U		5
108-86-1	BROMOBENZENE	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZENE	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZENE	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHANE	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBENZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	9.3		5
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPANE	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

Method 8260 Volatile Organics By GC/MS

CLIENT : FENLEY+NICOL ENVIRO
SAMPLE ID: CLUSTER WELL 40'
PROJ CT: VILLA CLEANERS
SAMPLE VOL. : 5.0ML
DATA FILE : >E1727
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-06-602-05
DATE SAMPLED: 6-16-98
DATE RECEIVED: 06-19-98
DATE ANALYZED: 06/23/98
DIL. FACT : 1.00
ANALYST: SP/RS

CAS #	COMPOUND	UG/L	Q	MDL
71-43-2	BENZ E	U		5
108-86-1	BROMOBENZEN	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZ	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZENE	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHANE	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBENZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	10		5
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPANE	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

Method 8260 Volatile Organics By GC/MS

CLIENT : FENLEY+NICOL ENVIRO
SAMPLE ID: CLUSTER WELL 20'
PROJECT: VILLA CLEANERS
SAMPLE VOL. : 5.0ML
DATA FILE : >E1728
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-06-602-04
DATE SAMPLED: 6-16-98
DATE RECEIVED: 06-19-98
DATE ANALYZED: 06/23/98
DIL. FACT : 1.00
ANALYST: SP/RS

AS #	COMPOUND	UG/L	Q	MDL
71-43-2	BENZENE	U		5
108-86-1	BROMOBENZENE	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZENE	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZENE	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHANE	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBENZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	U		5
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPANE	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

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Method 8260 Volatile Organics By GC/MS

CLIENT : FENLEY+NICOL ENVIRO
SAMPLE ID: MW-3
PROJECT: VILLA CLEANERS
SAMPLE VOL. : 5.0ml/0.5ML
DATA FILE : >E1729/>E1742
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-06-602-03
DATE SAMPLED: 6-16-98
DATE RECEIVED: 06-19-98
DATE ANALYZED: 6/23,24/98
DIL. FACT : 1.00/10.0
ANALYST: SP/RS

CAS #	COMPOUND	UG/L	Q	MDL
100-41-4	ETHYLBENZENE	U		5
87-68-3	HEXACHLOROBUTADIENE	U		5
98-82-8	ISOPROPYLBENZENE	U		5
99-87-6	P-ISOPROPYLTOLUENE	U		5
75-09-2	METHYLENE CHLORIDE	U		5
91-20-3	NAPHTHALENE	U		5
103-65-1	N-PROPYLBENZENE	U		5
100-42-5	STYRENE	U		5
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		5
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		5
127-18-4	TETRACHLOROETHENE	1700	D	50
108-88-3	TOLUENE	U		5
87-61-6	1,2,3-TRICHLOROBENZENE	U		5
120-82-1	1,2,4-TRICHLOROBENZENE	U		5
71-55-6	1,1,1-TRICHLOROETHANE	U		5
79-00-5	1,1,2-TRICHLOROETHANE	U		5
79-01-6	TRICHLOROETHENE	34		5
75-69-4	TRICHLOROFLUOROMETHANE	U		5
96-18-4	1,2,3-TRICHLOROPROPANE	U		5
95-63-6	1,2,4-TRIMETHYLBENZENE	U		5
108-67-8	1,3,5-TRIMETHYLBENZENE	U		5
75-01-4	VINYL CHLORIDE	U		5
95-47-6	O-XYLENE	U		5
108-38-3	M/P-XYLENE	U		5
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		5
1634-04-4	METHYL TERT-BUTYL ETHER	U		5
78-93-3	2-BUTANONE	U		10
67-64-1	ACETONE	U		10
108-10-1	4-METHYL-2-PENTANONE	U		10
591-78-6	2-HEXANONE	U		10
75-15-0	CARBON DISULFIDE	U		10
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		5
108-05-4	VINYL ACETATE	U		5

QUALIFIERS

D Indicates values taken from dilution run
J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

Method 8260 Volatile Organics By GC/MS

CLIENT :	FENLEY+NICOL ENVIRO	LAB SAMPLE ID :	98-06-602-03
SAMPLE ID:	MW-3	DATE SAMPLED:	6-16-98
PROJECT:	VILLA CLEANERS	DATE ECEIVED:	06-19-98
SAMPLE VOL. :	5.0ML/0.5ML	DATE ANALYZED:	6/23,24/98
DATA FILE :	>E1729/>E1742	DIL. FACT :	1.00/10.0
EXTRACT/DATE :	N/A	ANALYST:	SP/RS
NJDEP LAB ID :	12531		

AS #	COMPOUND	UG/L	Q	MDL
71-43-2	BENZEN	U		5
108-86-1	BROMOBENZENE	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZENE	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZEN	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHAN	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBE ZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	350	D	50
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPAN	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

e 1 of 2

Method 8260 Volatile Organics By GC/MS

CLIENT :	FENLEY+NICOL ENVIRO	LAB SAMPLE ID :	98-06-602-2
SAMPLE ID:	MW-2	DATE SAMPLED:	6-16-98
PROJECT:	VILLA CLEANERS	DATE RECEIVED:	06-19-98
SAMPLE VOL. :	5.0ml	DATE ANALYZED:	06/24/98
DATA FILE :	>E1741	DIL. FACT :	1.00
EXTRACT/DATE :	N/A	ANALYST:	GR/RS
NJDEP LAB ID :	12531		

AS #	COMPOUND	UG/L	Q	MDL
100-41-4	ETHYLBENZENE	U		5
87-68-3	HEXACHLOROBUTADIENE	U		5
98-82-8	ISOPROPYLBENZENE	U		5
99-87-6	P-ISOPROPYLTOLUENE	U		5
75-09-2	METHYLENE CHLORIDE	U		5
91-20-3	NAPHTHALENE	U		5
103-65-1	N-PROPYLBENZE E	U		5
100-42-5	STYRENE	U		5
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		5
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		5
127-18-4	TETRACHLOROETHENE	11		5
108-88-3	TOLUENE	U		5
87-61-6	1,2,3-TRICHLOROBENZENE	U		5
120-82-1	1,2,4- RICHLOROBENZENE	U		5
71-55-6	1,1,1-TRICHLOROE HAN	U		5
79-00-5	1,1,2-TRICHLOROETHANE	U		5
79-01-6	TRICHLOROETHENE	U		5
75-69-4	TRICHLOROFLUOROMETHANE	U		5
96-18-4	1,2,3-TRICHLOROPROPAN	U		5
95-63-6	1,2,4-TRIM THYLBENZENE	U		5
108-67-8	1,3,5-TRIMETHYLBENZENE	U		5
75-01-4	VINYL CHLORIDE	U		5
95-47-6	O-XYLENE	U		5
108-38-3	M/P-XYLENE	U		5
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		5
1634-04-4	METHYL TERT-BUTYL ETHER	U		5
78-93-3	2-BUTA ONE	U		10
67-64-1	ACETONE	U		10
108-10-1	4-METHYL-2-PENTANONE	U		10
591-78-6	2-HEXANONE	U		10
75-15-0	CARBON DISULFIDE	U		10
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		5
108-05-4	VINYL ACETATE	U		5

ge 2 of 2

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

Method 8260 Volatile Organics By GC/MS

CLIENT :	FENLBY+NICOL ENVIRO	LAB SAMPLE ID :	98-06-602-2
SAMPLE ID:	MW-2	DATE SAMPLED:	6-16-98
PROJECT:	VILLA CLEANERS	DATE RECEIVED:	06-19-98
SAMPLE VOL. :	5.0ml	DATE ANALYZED:	06/24/98
DATA FILE :	>E1741	DIL. FACT :	1.00
EXTRACT/DATE :	N/A	ANALYST:	GR/RS
NJDEP LAB ID :	12531		

AS #	COMPOUND	UG/L	Q	MDL
71-43-2	BENZENE	U		5
108-86-1	BROMOBENZENE	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZENE	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZENE	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHANE	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBENZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	U		5
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPANE	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

Method 8260 Volatile Organics By GC/MS

CLIENT :	FENLEY+NICOL ENVIRO	LAB SAMPLE ID :	98-06-602-01
SAMPLE ID:	MW-1	DATE SAMPLED:	6-16-98
PROJECT:	VILLA CLEANERS	DATE RECEIVED:	06-19-98
SAMPLE VOL. :	5.0ML	DATE ANALYZED:	06/23/98
DATA FILE :	>E1731	DIL. FACT :	1.00
EXTRACT/DATE :	N/A	ANALYST:	SP/RS
NJDEP LAB ID :	12531		

S #	COMPOUND	UG/L	Q	MDL
100-41-4	ETHYLBENZENE	U		5
87-68-3	HEXACHLOROBUTADIENE	U		5
98-82-8	ISOPROPYLBENZENE	U		5
99-87-6	P-ISOPROPYLTOLUENE	U		5
75-09-2	METHYLENE CHLORIDE	U		5
91-20-3	NAPHTHALENE	U		5
103-65-1	N-PROPYLBENZENE	U		5
100-42-5	STYRENE	U		5
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		5
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		5
127-18-4	TETRACHLOROETHENE	U		5
108-88-3	TOLUENE	U		5
87-61-6	1,2,3-TRICHLOROBENZENE	U		5
120-82-1	1,2,4-TRICHLOROBENZENE	U		5
71-55-6	1,1,1-TRICHLOROETHANE	U		5
79-00-5	1,1,2-TRICHLOROETHANE	U		5
79-01-6	TRICHLOROETHENE	U		5
75-69-4	TRICHLOROFLUOROMETHANE	U		5
96-18-4	1,2,3-TRICHLOROPROPANE	U		5
95-63-6	1,2,4-TRIMETHYLBENZENE	U		5
108-67-8	1,3,5-TRIMETHYLBENZENE	U		5
75-01-4	VINYL CHLORIDE	U		5
95-47-6	O-XYLENE	U		5
108-38-3	M/P-XYLENE	U		5
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		5
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		5
1634-04-4	METHYL TERT-BUTYL ETH R	U		5
78-93-3	2-BUTANONE	U		10
67-64-1	ACETONE	U		10
108-10-1	4-METHYL-2-PENTANONE	U		10
591-78-6	2-HEXANONE	U		10
75-15-0	CARBON DISULFIDE	U		10
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		5
108-05-4	VINYL ACETATE	U		5

QUALIFIERS

J Indicates detected below MDL, Estimated Value
U Indicates compound not detected
B Indicates compound also present in blank
E Exceeds Calibration Range, Estimated Value

Method 8260 Volatile Organics By GC/MS

CLIENT : FENLEY+NICOL ENVIRO
SAMPLE ID: MW-1
PR JECT: VILLA CLEANERS
SAMPLE VOL. : 5.0ML
DATA FILE : >E1731
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : 98-06-602-01
DATE SAMPLED: 6-16-98
DATE RECEIVED: 06-19-98
DATE ANALYZED: 06/23/98
DIL. FACT : 1.00
ANALYST: SP/RS

AS #	COMPOUND	UG/L	Q	MDL
71-43-2	BENZENE	U		5
108-86-1	BROMOBENZENE	U		5
74-97-5	BROMOCHLOROMETHANE	U		5
75-27-4	BROMODICHLOROMETHANE	U		5
75-25-2	BROMOFORM	U		5
74-83-9	BROMOMETHANE	U		5
104-51-8	N-BUTYLBENZENE	U		5
135-98-8	SEC-BUTYLBENZENE	U		5
98-06-6	TERT-BUTYLBENZENE	U		5
56-23-5	CARBON TETRACHLORIDE	U		5
108-90-7	CHLOROBENZENE	U		5
124-48-1	DIBROMOCHLOROMETHANE	U		5
74-00-3	CHLOROETHANE	U		5
67-66-3	CHLOROFORM	U		5
74-87-3	CHLOROMETHANE	U		5
95-49-8	2-CHLOROTOLUENE	U		5
106-43-4	4-CHLOROTOLUENE	U		5
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		5
106-93-4	1,2-DIBROMOETHANE	U		5
74-95-3	DIBROMOMETHANE	U		5
95-50-1	1,2-DICHLOROBENZENE	U		5
541-73-1	1,3-DICHLOROBENZENE	U		5
106-46-7	1,4-DICHLOROBENZENE	U		5
75-71-8	DICHLORODIFLUOROMETHANE	U		5
75-34-3	1,1-DICHLOROETHANE	U		5
107-06-2	1,2-DICHLOROETHANE	U		5
75-35-4	1,1-DICHLOROETHENE	U		5
156-59-2	CIS-1,2-DICHLOROETHENE	U		5
156-60-5	TRANS-1,2-DICHLOROETHENE	U		5
78-87-5	1,2-DICHLOROPROPANE	U		5
142-28-9	1,3-DICHLOROPROPANE	U		5
594-20-7	2,2-DICHLOROPROPANE	U		5
563-58-6	1,1-DICHLOROPROPENE	U		5

Appendix B
Site Specific HASP

SITE-SPECIFIC HEALTH
& SAFETY PLAN

Voluntary Cleanup Investigation
Villa Cleaners
1899 Deer Park Avenue
Deer Park, New York
V-00335-1

Fenley & Nicol Job Number: 0201927

Prepared By:

FENLEY & NICOL ENVIRONMENTAL, INC.
445 BROOK AVENUE
DEER PARK, NEW YORK 11729

Date: January 7, 2003

SITE SPECIFIC HEALTH & SAFETY PLAN APPROVALS

FENLEY & NICOL ENVIRONMENTAL, INC., APPROVALS:

By their signature, the undersigned certify that this Site-Specific Health & Safety Plan (HSP) is approved and will be utilized at 1899 Deer Park Avenue, New York.

Brian McCabe
Senior Geologist
January 7, 2003

Thomas Hudson
Site Safety Officer
January 7, 2003

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TABLE OF CONTENTS (cont.)

1.0 TITLE PAGE

PROJECT: **Villa Cleaners**
Deer Park, New York

Fenley & Nicol Job Number: 0201927

SITE: 1899 Deer Park Avenue, Deer Park, New York

PREPARED BY: FENLEY & NICOL ENVIRONMENTAL, INC.
445 BROOK AVENUE
DEER PARK, NEW YORK 11729

DATE: January 7, 2003

Fenley & Nicol Environmental, Inc., and its Subcontractors do not guarantee the health or safety of any person entering this site. Due to the nature of this site and the activities occurring thereon, it is not possible to discover, evaluate and provide protection for all possible hazards that may be encountered. Strict adherence to the health and safety guidelines set forth herein will reduce, but not eliminate the potential for injury at this site. The health and safety guidelines in this plan were prepared specifically for this site and should not be used on any other site without prior research and evaluation by trained health and safety specialists.

2.0 SITE-SPECIFIC HEALTH AND SAFETY PLAN

2.1 General

The plan has been prepared in conformance with applicable regulations, safe work practices, and the project's requirements. It addresses those activities associated with the installation and sampling of soil borings and temporary wells and the sampling of monitoring wells. The Project Manager (PM), Site Safety Officer (SSO) and F&N field staff will implement the plan during site work. Compliance with this Site-Specific Health and Safety Plan (HSP) is required of all persons and third parties that perform fieldwork for this project. Assistance in implementing this Plan can be obtained from the Fenley & Nicol Site Safety Officer (SSO). The content of this HSP may change or undergo revision based upon additional information made available to health and safety personnel, monitoring results, or changes in the technical scope of work. Any changes proposed must be reviewed by the SSO.

2.2 Scope Of Work

The Scope of Work activities will include:

- Site characterization
- Groundwater Sampling Point Installations
- Soil Samples Analysis
- Ground Water Sampling
- Emergency Response

2.3 Emergency Numbers

2.3.1 Emergency Agencies

	Phone Number
Good Samaritan Hospital	631-376-3000
Police Department	911
Fire Department	911
National Response Center	800-424-8802
Poison Information Center	800-562-8816
Chemtrac	800-424-9555

2.3.2 Project Management/Health and Safety Personnel

Title	Contact	Phone Number
Project Manager	David Oloke	631-586-4900 ext. 144
Site Safety Officer	Thomas Hudson	631-586-4900 ext. 141

2.3.3 Directions to Hospitals

Good Samaritan Hospital (see Appendix A)

3.0 HEALTH AND SAFETY STAFF

This section briefly describes the personnel and their health and safety responsibilities for the:

3.1 Project Manager

David Oloke

- Has the overall responsibility for the health and safety of site personnel
- Ensures that adequate resources are provided to the field health and safety staff to carry out their responsibilities as outlined below.
- Ensures that fieldwork is scheduled with adequate personnel and equipment resources to complete the job safely.
- Ensures that adequate telephone communication between field crews and emergency response personnel is maintained.
- Ensures that field site personnel are adequately trained and qualified to work at the site.

3.2 Site Safety Officer

Thomas Hudson

- Directs and coordinates health and safety monitoring activities.
- Ensures that field teams utilize proper personal protective equipment.
- Conducts initial on-site, specific training prior to personnel and/or subcontractors proceeding to work.
- Conducts and documents periodic safety briefings ensure that field team members comply with this HASP.
- Completes and maintains Accident/Incident Report Forms.
- Notifies Fenley & Nicol Environmental, Inc., corporate administration of all accidents/incidents.
- Determines upgrade or downgrade of personal protective equipment (PPE) based on site conditions and/or downgrade of personal protective equipment (PPE) based upon on site conditions and/or real-time monitoring results.
- Ensures that monitoring instruments are calibrated daily or as manufactured suggested instructions determined.
- Maintains health and safety field log books.
- Develops and ensures implementation of the HSP.
- Approves revised or new safety protocols for field operations.
- Coordinates revisions of this HSP with field personnel and the SSO Division Contracting Officer.

- Responsible for the development of new company safety protocols and procedures and resolution of any outstanding safety issues that may arise during the conduction of site work.
- Reviews personnel and subcontractors current and up-to-date medical examination and acceptability of health and safety training.

3.3 Field Personnel and Subcontractors

- Reports any unsafe or potentially hazardous conditions to the SSO
- Maintains knowledge of the information, instructions, and emergency response actions contained in this HSP.
- Comply with rules, regulations and procedures as set forth in this HSP and any revisions that are instituted.
- Prevents admittance to work sites by unauthorized personnel.

4.0 SITE LOCATION, DESCRIPTION AND HISTORY

The site is located in the western portion of Suffolk County, New York. The subject property is approximately 75 feet above mean sea level (U.S.G.S. 7.5-Minute Greenlawn, New York Quadrangle, 1967, Photorevised 1979).

The subject property consists of a 1-story multi-tenant commercial building. Villa Cleaners is located in the northern portion of the building. The property is located along the east side of Deer Park Avenue. An asphalt parking area is located in the western and southern portions of the property.

The vicinity of the property consists of industrial and commercial properties. The Long Island Railroad is located to the north of the property. The adjacent properties to the south consist of a 1-story commercial establishment and an asphalt parking lot for another 1-story commercial establishment. A portion of the fieldwork will be performed in the asphalt parking lot.

Several previous investigations and remedial activities have been performed at the site. The investigations were performed to identify and delineate the subsurface contamination beneath the site. The remedial activity involved the excavation, removal and disposal of sediment from subsurface drainage structures that were impacted with chlorinated solvents.

5.0 CHEMICAL & WASTE DESCRIPTION/CHARACTERIZATION

The following chemical is based on the materials once stored or thought to potentially present on-site:

1. Tetrachlorethylene

The following references have been consulted to identify the properties and hazards of the materials that will be encountered at the site.

- Dangerous Properties of Industrial Materials - Sax
- Chemical Hazards of the Workplace - Proctor/Hughes
- Condensed Chemical Dictionary - Hawley
- Rapid Guide to Hazardous Chemical in the Workplace - Lewis 1990.
- NIOSH Guide to Chemical Hazards - 1990
- ACGIH TLV Values and Biological Exposure Indices - 1991-1992

6.0 HAZARD ASSESSMENT

The potential hazards associated with planned site activities include chemical, physical and biological hazards. This section discusses those hazards that are anticipated to be encountered during the activities listed in the scope of work in Section 2.2 of this HASP.

The potential to encounter chemical hazards is dependent upon the work activity performed (invasive or non-invasive), the duration and location of the work activity. Such hazards could include inhalation or skin contact with chemicals that could cause dermatitis, skin burn, being overcome by vapors or asphyxiation. In addition, the handling of contaminated materials and chemicals could result in fire and/or explosion.

The potential to encounter physical hazards during site work includes: heat stress, exposure to excessive noise, loss of limbs, being crushed, head injuries, cuts and bruises, and other physical hazards due to motor vehicle operation, heavy equipment and power tools.

6.1 Chemical Hazards

The potential for personnel and subcontractors to come in contact with chemical hazards may occur during the following tasks:

- Installation of temporary wells.
- Installation of monitoring wells.
- Sampling of monitoring wells.

6.1.1 Exposure Pathways

Exposure to these compounds during ongoing activities may occur through inhalation of contaminated dust particles, inhalation of volatile and semi-volatile vapor fume compounds, by way of dermal absorption, and accidental ingestion of the contaminant by either direct or indirect cross contamination activities (eating, smoking, poor hygiene).

Indirectly, inhalation of contaminated dust particles (metals, silica, VOC's, semi-VOC's) can occur during adverse weather conditions (high or changing wind directions) or during operations that may generate airborne dust such as excavation, and sampling activities. Dust control measures such as applying water to roadways and work sites will be implemented, where visible dust is generated from non-contaminated and contaminated soils. Where dust control measures are not feasible or effective, respiratory protection will be used.

6.1.2 Additional Precautions

Dermal absorption or skin contact with chemical compounds is possible during invasive activities at the site, including removal of product, excavation of tanks, and handling of contaminated soils. The use of personal protective equipment in accordance with Section 9.2 and strict adherence to proper decontamination procedures should significantly reduce the risk of skin contact.

The potential for accidental ingestion of potentially hazardous chemicals is expected to be remote, when good hygiene practices are used.

6.2 Physical Hazards

A variety of physical hazards may be present during site activities. These hazards are similar to those associated with any construction type project. These physical hazards are due to the following:

- Motor vehicles
- Heavy equipment operation
- The use of improper use of power and hand tools
- Misuse of pressurized cylinders
- Tripping over objects
- Working on surfaces which have the potential to promote falling
- Mishandling and improper storage of solid and hazardous materials
- Temporary loss of one's hearing and/or eyesight
- Hit one's head due to not seeing the object of concern
- Crushing of appendages
- Hit on the head by falling objects
- Skin burns
- Walking on objects

These hazards are not unique and are generally familiarly to most hazardous waste site workers at construction sites. Additional task-specific safety requirements will be covered during safety briefings.

6.2.1 Noise

Noise is a potential hazard associated with operation of heavy equipment, power tools, pumps, and generators. High noise operators will be evaluated at the discretion of the SSO. Employees with an 8-hour time weighted average exposure exceeding 85 dBA will be included in the hearing conservation program in accordance with 29 CFR 1910.85.

It is mandated that employees working around heavy equipment or using power tools that dispense noise levels exceeding 95 dBA are to wear hearing protection that shall consist of earplugs and earphones. This is particularly relevant as the jet engines of modern airplanes can give sound level readings of greater than 110 dBA.

6.2.2 Heat/Cold Stress

Extremes in temperature and the effects of hard work in impervious clothing can result in heat stress and/or hypothermia. The human body is designed to function at a certain internal temperature. When metabolism or external sources (fire, hot summer day, winter weather, etc) cause the body temperature to rise or fall excessively, the body seeks to protect itself by triggering cooling/warming mechanisms. Profuse sweating is an example of a cooling mechanism, while uncontrollable shivering is an example of a warming mechanism. The SSO monitors the temperature to determine potential adverse affects the weather can cause on site personnel.

Protective clothing worn to guard against chemical contact effectively stops the evaporation of perspiration. Thus the use of protective clothing increases heat stress problems. Cold stress can easily occur in winter with sub-freezing ambient temperatures. Workers in protective garments may heat-up and sweat, only to rapidly cool once out of the PPE.

The major disorders due to heat stress are heat cramps, heat exhaustion, and heat stroke.

HEAT CRAMPS are painful spasms that occur in the skeletal muscles of workers who sweat profusely. In the heat and drink large quantities of water, but fail to replace the body's lost salts or electrolytes. Drinking water while continuing to lose salt tends to dilute the body's extracellular fluids. Soon water seeps by osmosis into active muscles and causes pain. Muscles fatigued from work are usually most susceptible to cramps.

HEAT EXHAUSTION is characterized by extreme weakness or fatigue, dizziness, nausea, and headache. In serious cases, a person may vomit or lose consciousness. The skin is clammy and moist, complexion pale or flushed, and body temperature normal or slightly higher than normal. Treatment is rest in a cool place and replacement of body water lost by perspiration. Mild cases may recover spontaneously with this treatment; severe cases may require care for several days. There are no permanent effects.

HEAT STROKE is a very serious condition caused by the breakdown of the body's heat regulating mechanisms. The skin is very dry and hot with red mottled or bluish appearance. Unconsciousness, mental confusion, or convulsions may occur. Without quick and adequate treatment, the result can be death or permanent brain damage. Get medial assistance quickly! As first aid treatment, the person should be moved to a cool

place. Soaking the person's clothes with water and fanning them should reduce body heat artificially, but not too rapidly.
Steps that can be taken to reduce heat stress are:

- Acclimatize the body. Allow a period of adjustment to make further heat exposure endurable.
- Drink more liquids to replace body water lost during sweating.
- Rest is necessary and should be conducted under the direction of the SSO, and based on the physiological state of the effected personnel.
- Wearing personal cooling devices. There are two basic designs; units with pockets for holding frozen packets and units that circulate a cooling fluid from a reservoir through tubes to different parts of the body. Both designs can be in the form of a vest, jacket, or coverall. Some circulating units also have a copy for cooling the head.

Cold temperatures can cause problems. The severe effects are frostbite and hypothermia.

FROSTBITE is the most common injury resulting from exposure to cold. The extremities of the body are often affected. The signs of frostbite are:

- The skin turns white or grayish-yellow.
- Pain is sometimes felt early but subsides later. Often there is no pain.
- The affected part feels intensely cold and numb.

HYPOTHERMIA is characterized by shivering, numbness, drowsiness, muscular weakness and a low internal body temperature when the body feels warm externally. This can lead to unconsciousness and death. With both frostbite and hypothermia, the affected areas need to be warmed quickly. Immersing in warm, not hot, water best does this. In such cases medical assistance will be sought.

To prevent these effects from occurring, persons working in the cold should wear adequate clothing and reduce the time spent in the cold area. The field SSO to determine appropriate time personnel may spend in adverse weather conditions will monitor this.

6.2.3 Lockout/Tagout

PURPOSE – This program establishes procedures for de-energizing, isolating, and ensuring the energy isolation of equipment and machinery. The program will be used

Records of employee training will be maintained and will include the employee's name and date(s) of training.

STANDARD OPERATING PROCEDURES – General; FENLEY & NICOL will provide the necessary devices to effectively lockout or tagout energy isolating devices. Lockout/tagout devices will be the only devices used for controlling energy and shall not be used for other purposes. Any device used for lockout/tagout will be capable of withstanding the environment to which they are exposed for the maximum period they are expected to be exposed. The devices will be substantial enough to prevent removal without excessive force. Excessive force for a locking device would be bolt cutters or other metal cutting tools. Tagout devices will be attached by a non-reusable method, attachable by hand, and very difficult to remove by hand. Nylon cable tie or equivalent will be used.

Lockout/tagout devices will indicate the identity of the employee who applied the device, and the tagout device will warn against the hazards if the equipment is energized.

Lockout is the preferred method of energy isolation. When physical lockout is not possible, the energy isolation will be tagged out of service with a warning tag attached at the power source. In the case of plug-in power source, the tag will be attached at the male plug. To ensure full employee protection using tagout instead of lockout, additional steps should be taken to guard against accidental or inadvertent energization. These steps may include, where applicable: removal of fuses, blocking switches, removal of a valve handle.

STANDARD OPERATING PROCEDURES

I. APPLICATION OF CONTROLS

A. Preparing to shut down of equipment

1. Prior to equipment shutdown, the authorized employee(s) must have knowledge of:
   - a. The type(s) and magnitude of power.
   - b. The hazards of the energy to be controlled (e.g. burns due to thermal energy)
   - c. The method(s) to control the energy.
   - d. The location and identity of all isolating devices that control or feed the equipment to be locked/tagged out.

2. Notify all affected employees that the lockout/tagout system will be in effect.
3. Assemble applicable lockout/tagout devices, i.e., padlocks, tags, multiple lock hasps, etc.

B. Equipment Shutdown and Isolation

1. If equipment is in operation shut it down by the normal stopping procedure (stop button, switch).
2. Operate disconnects, switches, valves, or other energy isolating devices so that the equipment is de-energizing and isolated from its energy source(s).
3. Verify that operating equipment from the normal shuts down equipment operating location and any remote locations.

C. Installation of Lockout/Tagout Device, Release of Stored Energy, and Verification

1. Attach individually assigned lock(s) or tag(s) to energy isolating device(s). Where it is not possible to lock a switch, valve, or other isolating device, electrical fuses must be removed, blank flanges installed in piping, lines disconnected, or other suitable methods used to ensure that equipment is isolated from energy sources. A tag must be installed at the point of power interruption to warn against energizing.
   - a. Each lock or tag must positively identify the person who applied it and locks must be individually keyed.
   - b. If more than one person is involved in the task, each employee will place his or her own lock and tag. Multiple lock hasps are available for this.
2. Release, restrain, or dissipate stored energy such as spring tension, elevated machine members, rotating flywheels, hydraulic pressure, pistons and air, gas, steam, water pressure, etc. by repositioning, blocking, bleeding, or other suitable means.
3. Prior to starting work on equipment and after ensuring that no personnel are exposed, the authorized employee will verify that isolation and de-energization have been accomplished by:
   - a. Attempting, through normal effort, to operate energy isolating devices such as switches, valves, or circuit breakers with locks or tags installed.
   - b. Attempting to operate the equipment or machinery that is locked or tagged out. This includes all sources of energy, i.e. electrical, hydraulic, gravity, air, water, stream pressure, etc.

to ensure that equipment and machinery is de-energizing and isolated from unexpected energization by physically locking (Lockout) energy isolation devices or, in the absence of locking capabilities, tagout (Tagout) the device to warn against energization. These procedures will provide the means of achieving the purpose of this program, prevention of injury to FENLEY & NICOL ENVIRONMENTAL, INC. employees from the unexpected energization or start-up of equipment and machinery, or from the release of stored energy.

APPLICATION -- This program applies to the control of energy during the servicing and/or maintenance of equipment and machinery in the FENLEY & NICOL ENVIRONMENTAL, INC. MOBIL RECYCLING UNITS.

This program covers normal operations only if a guard or other safety device is removed or bypassed, or any part of the body is placed into an area of the equipment or machinery where work is performed on the material, or a danger zone exists during the operating cycle. Minor tool changes, adjustments, and other minor servicing activities that take place during normal production operations do not require isolation and lockout/tagout if they are routine and integral to the use of the equipment.

SCOPE -- This program will include all employees whose duties require them to service, install, repair, adjust, lubricate, inspect, or perform work on powered equipment or machinery that may also have the potential for stored energy.

PROGRAM RESPONSIBILITIES -- The SSO will have the overall responsibility of the program to ensure that; authorized and affected employees receive adequate training and information, the program is evaluated annually, and the lockout/tagout equipment is properly used and the procedures of this program are followed.

The program evaluation will be conducted to ensure that the procedures and requirements of the program are being followed and will be utilized to correct any deviations or inadequacies that may be discovered. The evaluation will consist of one or more inspections or audits of actual lockout/tagout procedures being used to isolate equipment. A review of the authorized and affected employee's responsibilities will be conducted at the time of the inspection / audit. Any authorized employee, except the one(s) utilizing the energy isolation procedure being inspected may perform the inspection/audit. A record will be maintained of program evaluation inspections and will include:

1. The identities of the equipment or machine on which energy control procedures were being utilized.
2. The date(s) of the inspection(s).
3. The employee(s) included in the inspection(s).
4. The person performing the inspection.

Authorized employees (persons who implement lockout/tagout procedures) will be responsible for following the procedures established by this program.

Affected employees are responsible for understanding the significance of a lockout/tagout device and the prohibition relating to attempts to restart or re-energize equipment or machinery that is locked out or tagged out.

TRAINING -- FENLEY & NICOL employees will be provided instruction in the purpose and function of the energy control program to ensure that they understand the significance of locked or tagged out equipment and also has the knowledge and skill to correctly apply and remove energy controls. Training will include:

1. The recognition of applicable hazardous energy source(s), the type and magnitude of energy available, and the policies and procedures of the FENLEY & NICOL energy control program.
2. Affected employees will be made aware of the purpose and use of energy control procedures and the prohibition relating to attempts to remove lockout or tagout devices.
3. Instruction in the limitations of tagout as a sole means of energy control.
   a. Tags are warning devices and <u>do not</u> provide the physical restraint that a lock would.
   b. Tags may provide a false sense of security.
   c. Tags may become detached during use.

Initial training will be provided during to energy control program implementation, when new employees are hired or when job responsibilities change to include utilization of energy control procedures.

Retraining will be conducted whenever there is a change in job assignments that require the employee to utilize energy control procedures, a change in equipment that presents a new hazard, a change in the energy control procedures or when the program evaluation identifies inadequacies in the energy control program procedures.

IV. SHIFT OR PERSONNEL CHANGES

A. The following steps will be followed to ensure continuity of employee protection during personnel changes.
  1. All personnel involved in the maintenance or servicing activity will be notified that a transfer of personal locks/tags is about to occur.
  2. Clear all personnel from hazardous area(s) of equipment.
  3. Under the supervision of the shift supervisor or group designee, the off-going employee will immediately install their locks/tags.
     a. If an entire group or more than one employee will be transferring work responsibility, locks/tags will be removed and replaced one at a time in order of installation.
  4. When the transfer of lockout/tagout devices is complete, the effectiveness of all energy isolation devices will be verified to the satisfaction of all personnel involved.
  5. Once the effectiveness of energy isolation protection is confirmed, the service/maintenance operation may continue.

V. CONTRACTOR NOTIFICATION

A. Whenever outside personnel may be engaged in activities covered by this program, they will inform the contractor of applicable lockout/tagout procedures used to protect FENLEY & NICOL employees from the hazards of working near energized equipment.
  1. The contractor will be expected to ensure that his/her employees understand and comply with the restrictions and prohibitions of this program.
  2. FENLEY & NICOL requires, under these circumstances, the contractor to inform us of their lockout/tagout procedures so that FENLEY & NICOL employees can comply with the restrictions and prohibitions of the contractor's program.
  3. FENLEY & NICOL also requires the contractor to notify the program administrator, the area supervisor, and affected FENLEY & NICOL employees prior to de-energizing, isolating, and locking out FENLEY & NICOL equipment. Conversely, notification is also required when this equipment will be returned to service.

DEFINITIONS

Affected employee - An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee - A person who locks or implements a tagout system procedure on machines or equipment to perform servicing or maintenance. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment that must be locked or tagged out.

"Capable of being locked out" - An energy-isolating device will be considered to be capable of being locked out. These lock out conditions are either if it is designed with a hasp or other attachment or integral part to which, or through which, a lock can be affixed, or if it has a locking mechanism built into it. Other energy isolating devices will also be considered to be capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

Energized - Connected to an energy source or containing residual or stored energy.

Energy isolating device - A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently; a slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch, and other control circuit type devices.

Energy source - any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Lockout - The placement of lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

c. Verifying the presence and effectiveness of restraint (blocking) and energy dissipation or release (bleeding).

4. If there is a possibility of the re-accumulation of stored energy to a hazardous level, verification of isolation will be contained until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

D. Group Lockout/Tagout

1. When more than one individual is involved in locking or tagging equipment out of operation, each individual will attach their individual lock or tag, or the equivalent, to the energy isolating device(s).
   a. An equivalent lockout device may be in the form of a group lockout device such as a multiple lock hasp or lock box.
   b. Primary responsibility for a group of authorized employees working under a group lockout device will be vested in a designated authorized employee.
   c. Group lockout methods will provide a level of protection equal to that afforded by a personal lockout/tagout device.

II. RETURNING EQUIPMENT TO SERVICE

A. Restore Equipment to Normal Operating Status
1. Re-install all parts or subassemblies removed for servicing or maintenance.
2. Re-install all tools, rests, or other operating devices
3. Re-install all guards and protective devices (i.e. limit switches).
4. Remove all blocks, wedges, or other restraints from the operating area of the equipment (ways, slides, etc.).
5. Remove all tools, equipment, shop towels from the operating area of the equipment.

B. Verify Equipment Ready for Operation
1. Inspect area for non-essential items
2. Ensure that all employees are safely positioned clear of the operating areas of the equipment. Post a watch if energy isolation devices are not in line of sight of the equipment.

C. Notify Affected Employees of Impending Start-up

1. The sudden noise of start-up may startle nearby employees.
2. Equipment may need to be tested to determine operational safety by a qualified operator.

D. Remove Energy Isolation Devices

Only by authorized employee(s) who installed it/them.
1. Remove line blanks, reconnect piping (if applicable), remove warning tag.
2. Close bleeder valves, remove warning tag.
3. Replace fuse(s), close circuit breaker(s), remove warning tag.
4. Remove lock and tag from control panel, valve, etc.
5. Exception to removal of lockout/tagout devices by employee who installed it. If it is necessary to operate a piece of equipment that is locked/tagged out, every effort must be made to locate the employee whose lock or tag is on the equipment. If he or she cannot be located and only after positive assurance is made that no one is working on the locked out equipment, the supervisor may personally remove the lock. The supervisor must assure that the equipment is once again locked out, or the employee notified that the equipment has been re-energized, before the employee resumes work.

Employees will recheck locked out equipment if they have left the equipment (breaks, lunch, end of shift) to make sure it is still de-energized and locked out.

III. TEMPORARY REMOVAL OF LOCKOUT/TAGOUT PROTECTION

A. In situations when the equipment must be temporarily energized to test or position the equipment or it's components, the following steps will be followed:
1. Clear the equipment of tools and materials that are non-essential to the operation.
2. Ensure the equipment components are operationally intact.
3. Remove employees from the equipment area.
4. Remove the lockout/tagout devices by the employee who installed in/them.
5. Energize and proceed with testing or positioning.
6. De-energize all systems and re-install all energy control measures.
7. Verify re-installed energy control measures are effective.

Lockout device - A device that utilizes positive means such as a lock, either key or combination type, to hold an energy isolating device in the safety position and prevent the energizing of a machine or equipment.

Normal production operations - The utilization of a machine or equipment to perform its intended production function.

Servicing and/or maintenance - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Setting up - Any work performed to prepare a machine or equipment to perform its normal production operation.

Stored energy - Energy that is available and may cause movement even after energy sources have been isolated. Stored energy may be in the form of compressed springs, elevated equipment components, hydraulic oil pressure, pressurized water, air, steam, or gas, or rotating flywheels, shafts or cams.

Tagout - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device - A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure. The tagout device will indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

MACHINERY AND EQUIPMENT LIST

EQUIPMENT/LOCATION	ENERGY SOURCES/LOCATION
Earthprobe/ Entire Site (For the collection of groundwater samples)	Gasoline combustion engine SK-58 Stanley Percussion Hammer

FENLEY & NICOL has one (1) piece of machinery and equipment that is affected by this Program. This item has energy isolation devices capable of accepting a lock.

7.0 TRAINING

7.1 General Health and Safety Training

In accordance with F&N corporate policy, and pursuant to 29 CFR 1910.120, hazardous waste site workers shall, at the time of job assignment, have received a minimum of 40 hours of initial health and safety training for hazardous waste site operations. As a minimum, the training shall have consisted of instruction in the topics outlined in the above reference. Personnel who have not met the requirements for initial training will not be allowed to work in any site activities in which they may be exposed to hazards (chemical or physical).

Completion of the F&N Health and Safety Training Course for Hazardous Waste Operations or an approved equivalent will fulfill the requirements of this section. In addition to the required initial training, each employee shall have received 3 days of directly supervised on-the-job training. This training will address the duties the employees are expected to perform.

The F&N Health and Safety Supervisor has the responsibility of ensuring that personnel assigned to this project comply with these requirements. Written certification of completion of the required training will be provided to the SSO.

7.2 Manager/Supervisor Training

In accordance with 29 CFR 1910.120, on-site management and supervisors who will be directly responsible for, or who supervise employees engaged in hazardous waste operation shall receive training as required by Section 6.1 of the HSP. In addition, at least 8 additional hours of specialized training on managing such operations at the time of job assignment.

7.3 Annual 8-Hour Refresher Training

Annual 8-hour refresher training will be required of all hazardous waste site field personnel in order to maintain their qualification for fieldwork. The following topics will be reviewed: toxicology, respiratory protection, including air purifying devices and self-contained breathing apparatus (SCBA), medical surveillance, decontamination procedures, and personnel protective clothing. In addition, topics deemed necessary by the SSO might be added to the above list.

7.4 Site Specific Training

Prior to commencement of field activities, all personnel assigned to the project will be provided training that will specifically address the activities, procedures, monitoring, and equipment for the site operations. It will include site and facility layout, hazards, and emergency services at the site, and will highlight all provisions contained within this HSP. This training will also allow field workers to clarify anything they do not understand and to reinforce their responsibilities regarding safety and operations for their particular activity.

7.5 On Site Safety Briefings

Project personnel and visitors will be given periodic on-site health and safety briefings by the SSO, or their designee, to assist site personnel in safely conducting their work activities. The briefings will include information on new operations to be conducted, changes in work practices, or changes in the site's environmental conditions. The briefings will also provide a forum to facilitate conformance with safety requirements and to identify performance deficiencies related to safety during daily activities or as a result of safety audits.

7.6 Additional Training

Additional training may be required by the SSO for participation in certain field tasks during the course of the project. Such additional training could be in the safe operation of heavy or power tool equipment or hazard communication training.

7.7 Subcontractor Training

Subcontractor personnel working on site only occasionally, for a specific limited task (such as land surveying) and who are unlikely to be exposed over permissible exposure limits, may be exempted from the initial 40-hour training requirement. The SSO will determine if this exemption is allowed. In any case, the subcontractor personnel who are exposed to hazards are not exempted from the 40-hours training requirement nor medical surveillance requirements found in Section 8.1.

8.0 MEDICAL SURVEILLANCE

8.1 General

All contractor and subcontractor personnel performing field work at the site are required to have passed a complete medical surveillance examination in accordance with 29 CFR 1910.120 (f). A physician's medical release for work will be confirmed by the SSO before an employee can begin site activities. Such examinations shall include a statement as to the worker's present health status, the ability to work in a hazardous environment (including any required PPE that may be used during temperature extremes), and the worker's ability to wear respiratory protection.

A medical data sheet will be completed by all on-site personnel and kept at the site. Where possible, this medical data sheet will accompany the personnel needing medical assistance or transport to hospital facilities.

8.1.1 Medical Surveillance Protocol

The medical surveillance protocol to be implemented is the occupational physicians' responsibility, but shall meet the requirements of CFR 1910.120 and ANSI Z88.2 (1980). The medical surveillance protocol shall, as a minimum, cover the following:

a. Medical and Occupational History
b. General physical examination (including evaluation of major organ system)
c. Serum lead and ZPP
d. Chest X-ray (performed no more frequently that every four years, except when otherwise indicated).
e. Pulmonary Function Testing (FVC and FEV1.0)
f. Ability to wear respirator
g. Audiometric testing

Additional clinical tests may be included at the discretion of the occupational physician.

9.0 SITE CONTROL, PERSONAL PROTECTIVE EQUIPMENT, AND COMMUNICATIONS

9.1 Site Control

A support zone (SZ) is an uncontaminated area that will be the field support area for most operations. The SZ provides for field team communications and staging for emergency response. Appropriate sanitary facilities and safety equipment will be located in this zone. Potentially contaminated personnel or materials are not allowed in this zone. The only exception will be appropriately packaged/decontaminated and labeled samples. A contamination reduction corridor will be established. This is the route of entry and egress to the site, and it provides an area for decontamination of personnel and portable equipment as well.

The area where contamination exists is considered to be the exclusion zone. All areas where excavation and handling of contaminated materials take place are considered the exclusion zone (EZ). This zone will be clearly delineated by cones, tape, or other means. The SSO may establish more than one EZ where different levels of protection may be employed or where different hazards exist. Personnel are not allowed in the EZ without:

- A partner (buddy)
- Appropriate personal protective equipment
- Medical authorization
- Training certification

9.2 Personal Protective Equipment

9.2.1 General

The level of protection worn by field personnel will be enforced by the SSO. Levels of protection for general operations are provided below and are defined in this section. Levels of protection may be upgraded or downgraded at the discretion of the SSO. The decision shall be based on real-time air monitoring, site history data, and prior site experience. Any changes in the level of protection shall be recorded into the health and safety field logbook.

9.2.2 Personal Protective Equipment Specifications

For tasks requiring Level B PPE, the following equipment shall be used:

Cotton or disposable coveralls
Chemical protective suit (e.g. Saran-coated Tyvek)
Gloves, inner (latex)
Gloves, outer (nitrile)
Boots (PVC), steel toe/shank
Boot Covers (as needed)
Hard Hat
Hearing protection (as needed)

For tasks requiring Level C PPE, the following equipment shall be used:

Cotton or disposable coveralls
Disposable outer coveralls (Poly-coated Tyvek)
Gloves, inner (latex)
Gloves, outer (nitrile)
Boots (PVC), steel toe/shank
Boot covers (as needed)
Hard hat
Hearing protection (as needed)
Splash suit and face shield for decontamination operations (as needed)

For tasks requiring Level D PPE, the following equipment shall be used:

Cotton or disposable coveralls
Gloves, inner (latex)
Gloves, outer (nitrile)
Boots (PVC) steel toe/shank
Boot covers (as needed)
Hard hat
Hearing protection (as needed)
Safety glasses

For tasks requiring respiratory protection, the following equipment shall be used:

Level D - No respiratory protective equipment necessary except for a dust mask.
Level C - A full-face air-purifying respirator equipped with organic vapor/pesticide-HEPA cartridges.

Level B - An air-line respirator or a self-contained breathing apparatus (SCBA)

Fenley and Nicol's Respiratory Protection Program shall be followed.

9.2.3 Initial Levels Of Protection

Levels of protection for the activities may be upgraded or downgraded depending on direct-reading instruments or personnel monitoring. The following are the initial levels of protection that shall be used for each planned field activity.

LEVEL OF PERSONAL PROTECTIVE EQUIPMENT REQUIRED

Activity	Level of Protection Respiratory/PPE
Excavation	C/D
Drilling	C/D
Sampling	C/D

9.3 Communication

Communication is the ability to transmit information to others, either through the written work or verbalized. While working in Level C/B Protection, personnel may find that communication become a more difficult task and process to accomplish. Distance and space further complicate this. In order to address this problem, electronic instruments, mechanical devices or hand signals will be used as follows:

- Walkie-Talkies - Hand held radios would be utilized as much as possible by field teams for communication between downrange operations and the Command Post base station. The Command Post base station will be considered the rear of the Fenley & Nicol Environmental, Inc. vehicle at the site during the fieldwork.

- Telephones - A mobile telephone will be located in the Command Post vehicle in the Support Zone for communication with emergency support services/facilities. If a telephone is demobilized, the nearest public phones will be identified.

- Hand Signals - This communication method will be employed by members of the field team along with use of the buddy system. Signals become especially important

when in the vicinity of heavy moving equipment and when using Level B respiratory equipment. The signals shall become familiar to the entire field team before site operations commence and they will be reinforced and reviewed during site-specific training.

HAND SIGNALS FOR ON-SITE COMMUNICATION

Signal	Meaning
Hand gripping throat	Out of air, can't breathe
Grip partners' wrist	Leave area immediately; no debate
Hands on top of head	Need assistance
Thumbs up	OK, I'm all right; I understand
Thumbs down	No, negative, unable to understand you. I'm not all right

10.0 AIR MONITORING PLAN

10.1 General

Continuous air monitoring in the Exclusion Zone(s) during invasive tasks will accompany site operations, as indicated in this HASP or as required by the SSO. Monitoring will be performed to verify the adequacy of respiratory protection, to aid in site layout and to document work exposure. All monitoring instruments shall be operated by qualified personnel only and will be calibrated daily prior to use, or more often as necessary.

10.2 Real-Time Monitoring

10.2.1 Instrumentation

The following monitoring instruments will be available for use during field operations as necessary:

Photo ionization Detector (PID), Hun Model PI-101 with 10.2 EV probe or equivalent

Flame Ionization Detector (FID), Foxboro Model 128 or equivalent

Combustible Gas Indicator (CGI)/Oxygen (O2) Meter, MSA or equivalent.

A FID or PID shall be used to monitor the organic vapor concentrations in active work areas. Organic vapor concentrations shall be measured upwind of the work areas to determine background concentrations. The SSO will interpret monitoring results using professional judgment. The PPE utilized shall always be the most protective; thus the action level criteria are flexible guidelines.

A CGI/O_2 meter shall be used to monitor for combustible gases and oxygen content in the boreholes during drilling activities.

Calibration records shall be documented, and included in the health and safety logbook or instrument calibration logbook. All instruments shall be calibrated before and after each daily use in accordance with the manufacturers' procedures.

10.2.2 Action Levels

Action levels for upgrading of PPE in this HSP will apply to all site work during the duration of field activities at the site. Action levels are for unknown contaminants using direct reading in the Breathing Zone (BZ) for organic vapors and dusts, and at the source for combustible gases. The action levels to be utilized for the remediation system site are found in Table 10-1.

10.2.3 Monitoring During Field Activities

10.2.3.1 Real-Time Air Monitoring: Exclusion Zone

F&N shall perform real time air monitoring prior to the commencement of work to establish baseline conditions. Baseline conditions will be established at the approximate center of the site and at the perimeter of the site both upwind and downwind.

During all work activities real time monitoring will occur. F&N shall have at each applicable workstation a Photoionization Detector, explosimeter or oxygen deficiency meter. The real time monitoring for remedial activities will be conducted approximating the Breathing Zone of the workers. The monitoring will be continuous during working operations.

The air-monitoring instrument may indicate that personnel working in the exclusion zone increase their level of protection. All personnel will be trained in the action levels. When conditions warrant an increase in protection, all personnel will stop working and immediately leave the exclusion zone. They will then don the appropriate safety equipment necessary and return to their current workstation. The Site Safety Officer (SSO) will monitor all of this activity. The SSO will keep the F&N Project Manager aware of any extraordinary situations and conditions that may occur. Working conditions and monitoring levels will be noted in the Field Notebook along with the time, date, and page number. Verbal reports will be given to the Project Manager when there is a change in the PPE level.

The previous days results shall be reviewed each morning to determine what actions are necessary and the general conditions resulting from and around the site.

The record keeping will include:

- Date & Time of Monitoring
- Air Monitoring Location
- Instrument, Model #, Serial #
- Calibration/Background Levels
- Results of Monitoring
- SSO Signature
- Comments

Appendix B provides a generic community air-monitoring plan

Excavation Operations - Monitoring will be performed continuously during all excavation and demolition operations. A PID and/or FID shall be utilized to monitor the breathing zone, the excavated area and any material taken from the excavation. A CGI/O2 meter shall be used to monitor the excavation for the presence of combustible gases.

TABLE 10-1: ACTION LEVELS OF AIRBORNE CONTAMINANTS

Instrument	Action Level	Action to be Taken
FID/PID	10-100 ppm, for a 15 minute average	Stop work & initiate vapor control
	> 100 ppm, for a	Stop work & initiate evacuation

	15 minute average	procedure
CGI	10% LEL	Stop work, initiate ventilating
	50% LEL	Stop work, initiate evacuation procedure and contact fire dept.

10.3 Personnel Monitoring Procedure

Assessment and evaluation of field personnel exposures to airborne contaminants may be performed by the site SSO concurrent with activities which may generate the contaminants in excess of OSHA PEL's.

Procedures to be followed include:

Selection of high-risk individuals, who may be subject to contaminant exposure, based on job assignment and observations of the SSO.

The Personal Sampling is being conducted to determine the proper levels of respiratory protection required, to document potential exposures to compounds, and to assure compliance with OSHA standards. Therefore it is important that the data collected be from "worst case" locations and personnel.

For example: when work is being conducted to excavate at an underground tank location, those persons closest to the excavation and most intimately involved with the work should be sampled. If a backhoe operator solely conducted the excavation, then that employee should be monitored. However, if there are additional workers who must enter the excavation and work with the freshly excavated soil, these persons would be closer to the potential contaminants and they should be sampled.

To meet the intent of the sampling will require sampling at periods of the most disturbances. To be accurate in determining potential exposures, as many tasks/trades shall be sampled as possible during the course of this project. At completion of the project, a goal of 20% of all workers who must perform their duties in or around the contaminated soil, tanks, and excavations is sought.

F&N must provide all sampling data in writing to the employees within three (3) days of receipt of results.

Air sampling pumps used to collect employee exposure samples shall be calibrated before and after use each day. Calibration shall be accomplished using a primary standard calibration system, e.g. the bubble tube method. Results of the calibrations shall be included in the health and safety field logbook and with the exposure report.

Chemical analysis of samples collected for assessment of employee exposures shall be performed in accordance with NIOSH or OSHA analytical methods only by laboratories accredited by the American Industrial Hygiene Association.

Results of the personal exposure assessment shall be provided to the individual, in writing within 15 working days after receipt of laboratory reports. Reports to field personnel shall provide calculated time-weighted average exposures and shall provide comparative information relative to established permissible exposure limits. The air sampling data sheet and laboratory report is considered a part of the employee exposure report. A copy of the employee personal exposure assessment report shall also be included in the project file, and the employees' medical record for F&N employees. Reports for subcontractor employees will be sent directly to the subcontractors' employer.

10.4 Air Monitoring Reports

Air Monitoring Reports will be completed by the SSO and/or CIH and submitted to the Project Manager in the daily safety logs and will include the following:

a. Date of monitoring
b. Equipment utilized for air monitoring
c. Real-time air monitoring results from each work location
d. Calibration method of equipment and results

11.0 SAFETY CONSIDERATIONS

11.1 General

In addition to the specific requirements of this HSP, common sense should be used at all times. The following general safety rules and practices will be in effect at the site.

The site will be suitably marked or barricaded as necessary to prevent unauthorized visitors but not hinder emergency services if needed.

All open holes, trenches, and obstacles will be properly barricaded in accordance with local site needs. The needs will be determined by proximity to traffic ways, both pedestrian and vehicular, and site of the hole, trench, or obstacle. If holes are required to be left open during non-working hours, they will be adequately decked over or barricaded and sufficiently lighted.

Before any digging or boring operations are conducted, underground utility locations will be identified. All boring, excavation, and other site work will be planned and performed with consideration for underground lines. Any excavation work will be performed in accordance with F&N's Standard Operating Procedures for Excavations.

Smoking and ignition sources in the vicinity of potentially flammable or contaminated material strictly prohibited.

Drilling, boring, and use of cranes and drilling rigs, erection of towers, movement of vehicles and equipment and other activities will be planned and performed with consideration for the location, height. In addition, the relative position of aboveground utilities and fixtures, including signs; canopies; building and other structures and construction; and natural features such as trees, boulders, bodies of water, and terrain will be taken into consideration.

When working in areas where flammable vapors may be present, particular care shall be exercised with tools and equipment that may be sources of ignition. All tools and equipment provided must be properly bonded and/or grounded. Metal buttons and zippers are prohibited on safety clothing for areas that may contain a flammable or explosive atmosphere.

Approved and appropriate safety equipment (as specified in this HSP), such as eye protection, hard hats, foot protection, and respirators, must be worn in areas where required. In addition, eye protection must be worn when sampling soil or water that may be contaminated.

Beards interfere with respirator fit and are not allowed within the site boundaries because all site personnel may be called upon to use respirator protection in some situations.

No smoking, eating, chewing tobacco, gum chewing, or drinking will be allowed in the contaminated areas.

Contaminated tools and hands must be kept away from the face.

12.5 Disposal Procedures

The SSO and PM will develop a segregating system of non-hazardous waste and hazardous waste. All discarded material, waste materials, or other objects shall be handled in such a way as to preclude the potential for spreading contamination, creating sanitary hazards, or causing litter to be left on site. All potentially contaminated materials, e.g. clothing, gloves, etc., will be bagged or drummed as necessary, labeled and segregated for disposal. All non-contaminated materials shall be collected and bagged for appropriate disposal as normal domestic waste.

13.0 EMERGENCY PLAN

The potential for the development of an emergency situation is low considering the low concentrations of hazardous substances at the work site. Nevertheless, an emergency situation could occur. All F&N members and subcontractor field team will know the emergency plan, outlined in this section, prior to the start of work. The emergency plan will be available for use at all times during site work.

Various individual site characteristics will determine preliminary actions taken to assure that this emergency plan is successfully implemented in the event of a site emergency. Careful consideration must be given to the proximity of neighborhood housing or places of employment and to the relative possibility of site fire, explosion or release of vapors or gases that could affect the surrounding community.

The Project Manager shall make contact with local fire, police, and other emergency units prior to beginning work on site. In these contacts, the Project Manager will inform the emergency units about the nature and duration of work expected to the site and the type of contaminants and the possible health or safety effects of emergencies involving these contaminates. At this time, the Project Manager and the emergency response units shall make the necessary arrangements to be prepared for any emergencies that could occur.

The Project Manager shall implement the contingency plan whenever conditions at the site warrant such action. The Project Manager will be responsible for coordination of the evacuation emergency treatment, and transportation of site personnel as necessary, and notification of emergency response units and the appropriate management staff.

The cases where the PM is not available, the SSO shall serve as the alternate emergency coordinator.

13.1 Evacuation

In the event of an emergency situation, such as fire, explosion, or significant release of toxic gases, an air horn or other appropriate device will be sounded for approximately 10-second intervals indicating the initiation of evacuation procedures. All personnel will evacuate and assemble near the entrance to the site. The location shall be upwind of the site where possible.

For efficient and safe site evacuation and assessment of the emergency situation, the Project Manager will have authority to initiate action if outside services are required. Under no circumstances will incoming personnel or visitors be allowed to proceed into the area once the emergency signal has been given. The SSO or designated SSO must ensure that access for emergency equipment is provided and that all combustion apparatuses have been shut down once the alarm has been sounded. Once the safety of all personnel is established, the Fire Department and other emergency response groups as necessary will be notified by telephone of the emergency.

13.2 Potential or Actual Fire or Explosion

Immediately evacuate the site, notify the local fire and police departments, and other appropriate emergency response groups if an actual fire or explosion has taken place.

13.3 Personnel Injury

Emergency first aid shall be applied on site as deemed necessary. If necessary, the individual shall be decontaminated and transported to the nearest medical facility.

The ambulance/rescue squad shall be contacted for transport as necessary in an emergency. However, since some situations may require transport of an injured party by other means, the hospital route is identified below.

Directions to Hospitals:
From the Subject Site:
Make a left out of the site and go south on Deer Park Avenue. Continue south on Deer Park Avenue and a left (toward the east) onto Montauk Highway (a.k.a. Route 27A). Continue east on Montauk Highway for eleven (11) blocks. Good Samaritan Hospital is on the left (north) side of Montauk Highway.

13.4 Accident/Incident Reporting

As soon as first aid and/or emergency response needs have been met, the following parties are to be contacted by telephone:

1. Thomas Hudson, Safety Officer (631) 586-4900 ext. 139
2. David Oloke, Project Geologist (631) 586-4900 ext. 144
3. The employer of any injured worker if not an F&N employee

Written confirmation of verbal reports are to be submitted within 24 hours. The report form entitled "Accident Data Report" is to be used for this purpose. All F&N representatives contacted by telephone are to receive a copy of this report. If the employee involved is not an F&N employee, his employer shall receive a copy of this report.

For reporting purposes, the term accident refers to fatalities, lost time injuries, spill, or exposure to hazardous materials (toxic materials, explosive or flammable materials).

Any information released from the health care provider, which is not deemed confidential patient information, is to be attached to the appropriate form. Any medical information that is released by patient consent is to be filed in the individuals' medical records and treated as confidential.

See Appendix C for a copy of the Accident Report.

13.5 Overt Personnel Exposure

SKIN CONTACT:	Use copious amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eyes should be rinsed for 15 minutes upon chemical contamination.
INHALATION:	Move to fresh air and/or decontaminate/transport to hospital.
INGESTION:	Decontamination and transport to emergency medical facility.

PUNCTURE WOUND
OR LACERATION: Decontaminate and transport to emergency medical facility.

13.6 Adverse Weather Conditions

In the event of adverse weather conditions, the SSO or designee will determine if work can continue without sacrificing the health and safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat stress and heat-related injuries
- Potential for cold stress and cold-related injuries
- Treacherous weather-related conditions
- Limited visibility
- Potential for electrical storms

Site activities will be limited to daylight hours and acceptable weather conditions. Inclement working conditions include heavy rain, fog, high winds, and lighting. Observe daily weather reports and evacuate if necessary in case of inclement weather conditions.

13.7 Emergency Response Equipment List

The following items will be on-site for use:

- 55 Gallon Drums
- Absorbent Pads
- Plastic Sheeting

The following items will be available for use if required and will be stored at the offices of F&N:

- Absorbent Booms
- Speedi-Dry
- Hay Bales
- Pneumatic Nibbler
- Back Hoe
- Pressure Washer
- Air Compressor
- Wilden Pumps
- Equipment Storage Trailer

- Submersible Pumps
- Miscellaneous Hand Tools
- Portable Lighting
- 85 Gallon Drums

13.8 Large Equipment

F&N owns and can mobilize the following large equipment:

- Large Vacuum Truck
- Super Sucker
- Dump Trucks
- Drill Rig
- Utility Vehicle
- Excavator (Rubber Tire)

14.0 LOGS, REPORTS AND RECORDKEEPING

14.1 Medical and Training Records

The employer keeps medical and training records. Verification of training and medical qualifications must be provided to the SSO by the subcontractor employer of F&N record coordinator. The SSO will keep a log of personnel meeting appropriate training and medical qualifications for site work. The log will be kept in the project file. Medical records will be maintained in accordance with 29 CFR 1910.20.

14.2 On-Site Log

A log of personnel on-site each day will be kept by the SSO or designee. A copy of these logs will be sent to the F&N record coordinator for data entry. Originals will be kept in the project file.

14.3 Exposure Records

Any personal monitoring results, laboratory reports, calculations and air sampling data sheets are part of an employee exposure record. These records will be kept in accordance with 29 CFR 1910.20. For F&N employees, the originals will be sent to the F&N record coordinator. For subcontractor employees, the original will be sent to the subcontractor employer and a copy kept in the project file.

14.4 Accident/Incident Reports

An accident/incident report must be completed for all accidents and incidents. The originals will be sent to the appropriate F&N record coordinator for maintenance by F&N. Copies will be distributed as stated. A copy of the forms will be kept in the project file.

14.5 OSHA Form 200

An OSHA Form 200 (Log of Occupational Injuries and Illnesses) will be kept at the project site. All recordable injuries or illnesses will be recorded on this form. At the end of the project, the original will be sent to the F&N corporate records administrator for maintenance. Subcontractor employers must also meet the requirements of maintaining an OSHA 200 form. The F&N accident/incident report meets the requirements of the OSHA Form 101 (Supplemental Record) and must be maintained with the OSHA Form 200 for all recordable injuries or illnesses.

14.6 Health and Safety Field Log Book

The SSO or designee will maintain the logbook in accordance with standard F&N procedures. Daily site conditions, activities, personnel, calibration records, monitoring results and significant events will be recorded. The original logbooks will become part of the exposure records file.

15.0 SANITATION AT TEMPORARY WORK STATIONS

If sanitary sewers are not provided at the site, provisions shall be made for access to sanitary systems by using nearby public facilities or on-site facilities consistent with provisions of governing local ordinance codes. In the latter case, provisions are required for the removal of accumulated waste products within those units.

If a commercial/industrial laundry is used to clean or launder clothing that is potentially contaminated, they shall be informed of the potential harmful effects of exposure to hazardous substances related to the affected clothing.

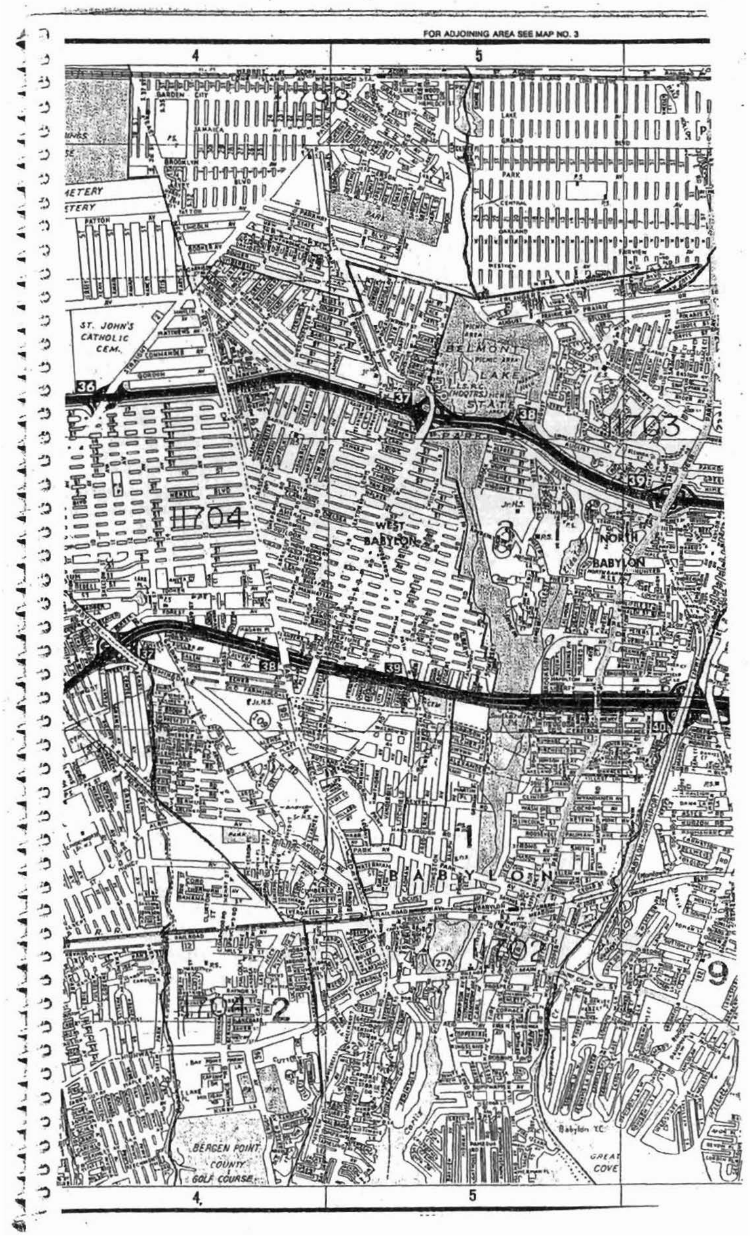
Personnel and subcontractors assigned to the project shall follow decontamination procedures described in the HSP, or as directed by the SSO. This will generally include at a minimum site-specific training in shower usage and cleanup, personal hygiene requirements and the donning of protective equipment/clothing.

Appendix A
Directions to Hospital / Hospital Route Map

Directions to Hospital

From the Subject Site:

Make a left out the site and go south on Deer Park Avenue. Continue south on Deer Park Avenue and a left (toward the east) onto Montauk Highway (a.k.a Route 27A). Continue east on Montauk Highway for eleven (11) blocks. Good Samaritan Hospital is on the right (south) side of Montauk Highway.



Appendix B
Generic Community Air-Monitoring Plan

New York State Department of Health
Generic Community Air Monitoring Plan

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical-specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate NYSDEC/NYSDOH staff.

Continuous monitoring will be required for all <u>ground intrusive</u> activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) must be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations should be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work should be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment should be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment should be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings must be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

Particulate concentrations should be monitored **continuously** at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring should be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment must be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

June 20, 2000

P:\BBB\Bureau\Common\CAMP\GCAMPR1.DOC

Appendix C
Accident Report Form

ACCIDENT, LOSS OR DAMAGE

date ____________ truck number ____________

name ____________ position ____________

damage ____________

date occurred ____________ time ____________

location ____________

description of accident or loss: ____________

____

____

vehicles involved or equipment (list those belonging to F&N or others)

____

____

name of person at fault ____________

preventative measures taken ____________

____

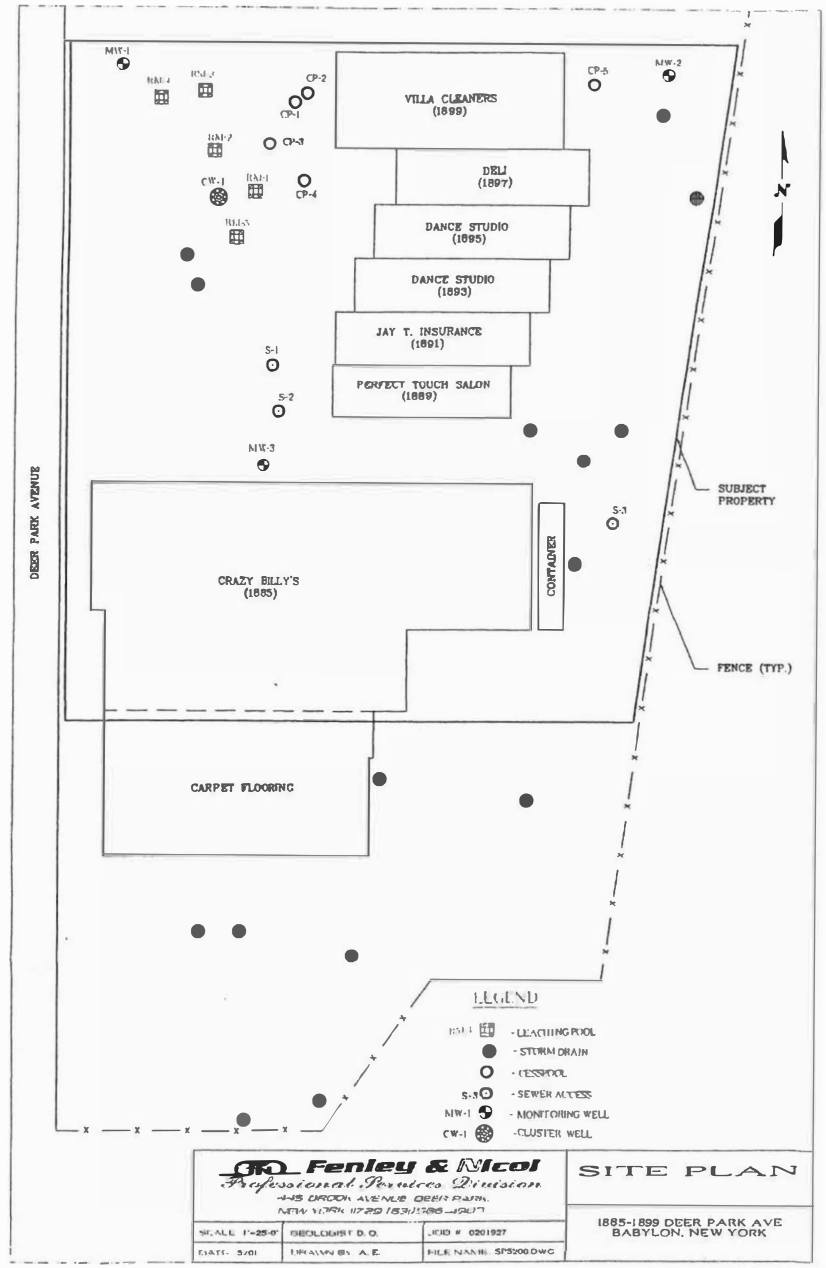
corrective measures ____________

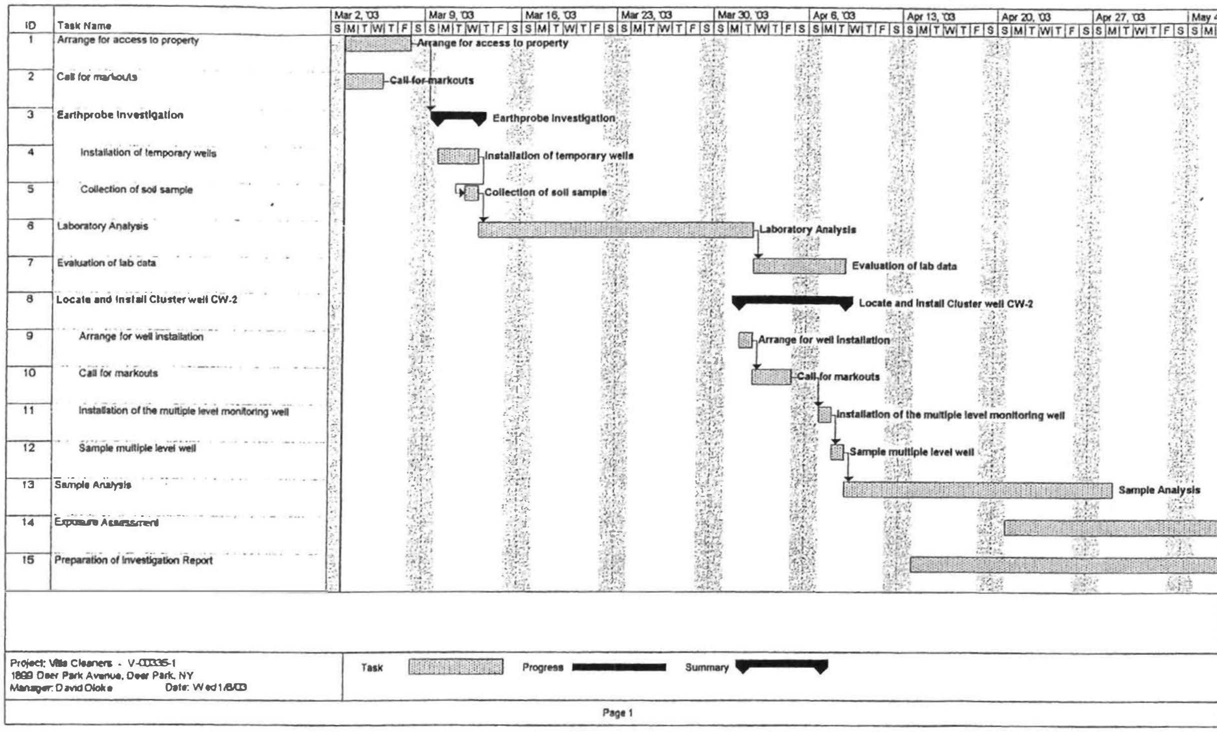
____

estimate of damage or loss ____________

____

Appendix C
Proposed Project Schedule




ID
Task Name
Mar 2, '03
Mar 9, '03
Mar 16, '03
Mar 23, '03
Mar 30, '03
Apr 6, '03
Apr 13, '03
Apr 20, '03
Apr 27, '03
May 4, '
1 Arrange for access to property
2 Call for markouts
3 Earthprobe Investigation
4 Installation of temporary wells
5 Collection of soil sample
6 Laboratory Analysis
7 Evaluation of lab data
8 Locate and Install Cluster well CW-2
9 Arrange for well installation
10 Call for markouts
11 Installation of the multiple level monitoring well
12 Sample multiple level well
13 Sample Analysis
14 Exposure Assessment
15 Preparation of Investigation Report
Project: Villa Cleaners - V-00335-1
1899 Deer Park Avenue, Deer Park, NY
Manager: David Oloke Date: Wed 1/8/03
Task
Progress
Summary
Page 1

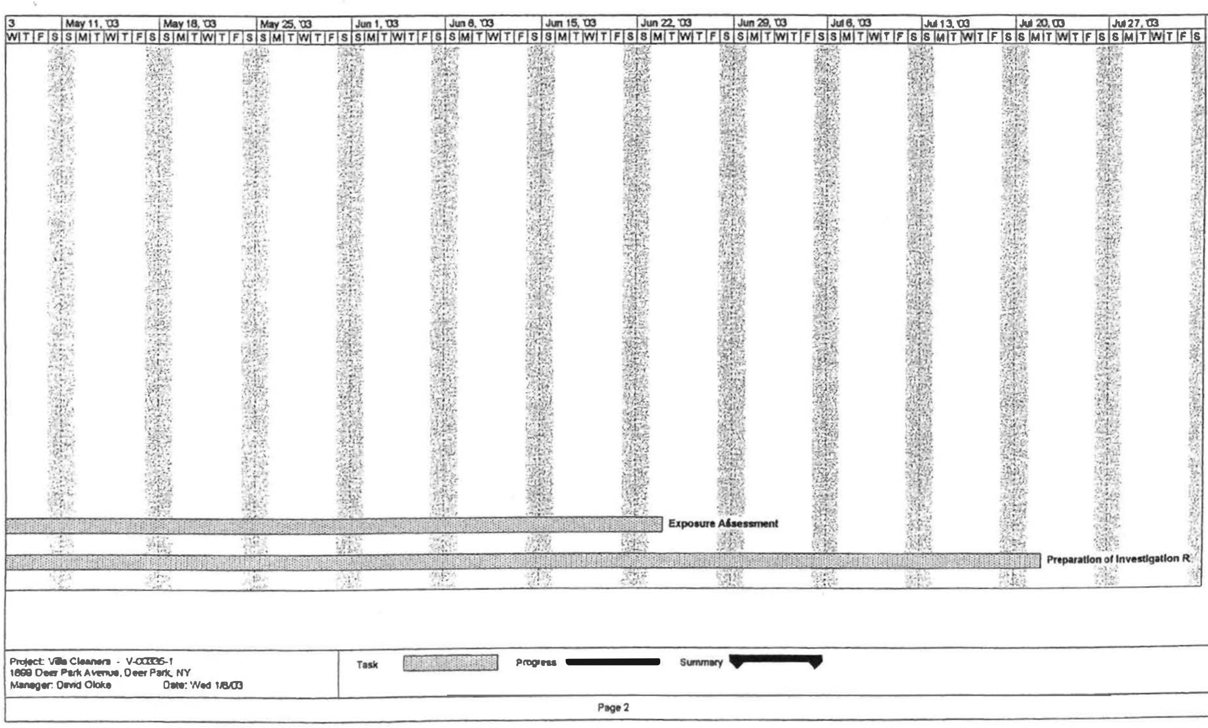
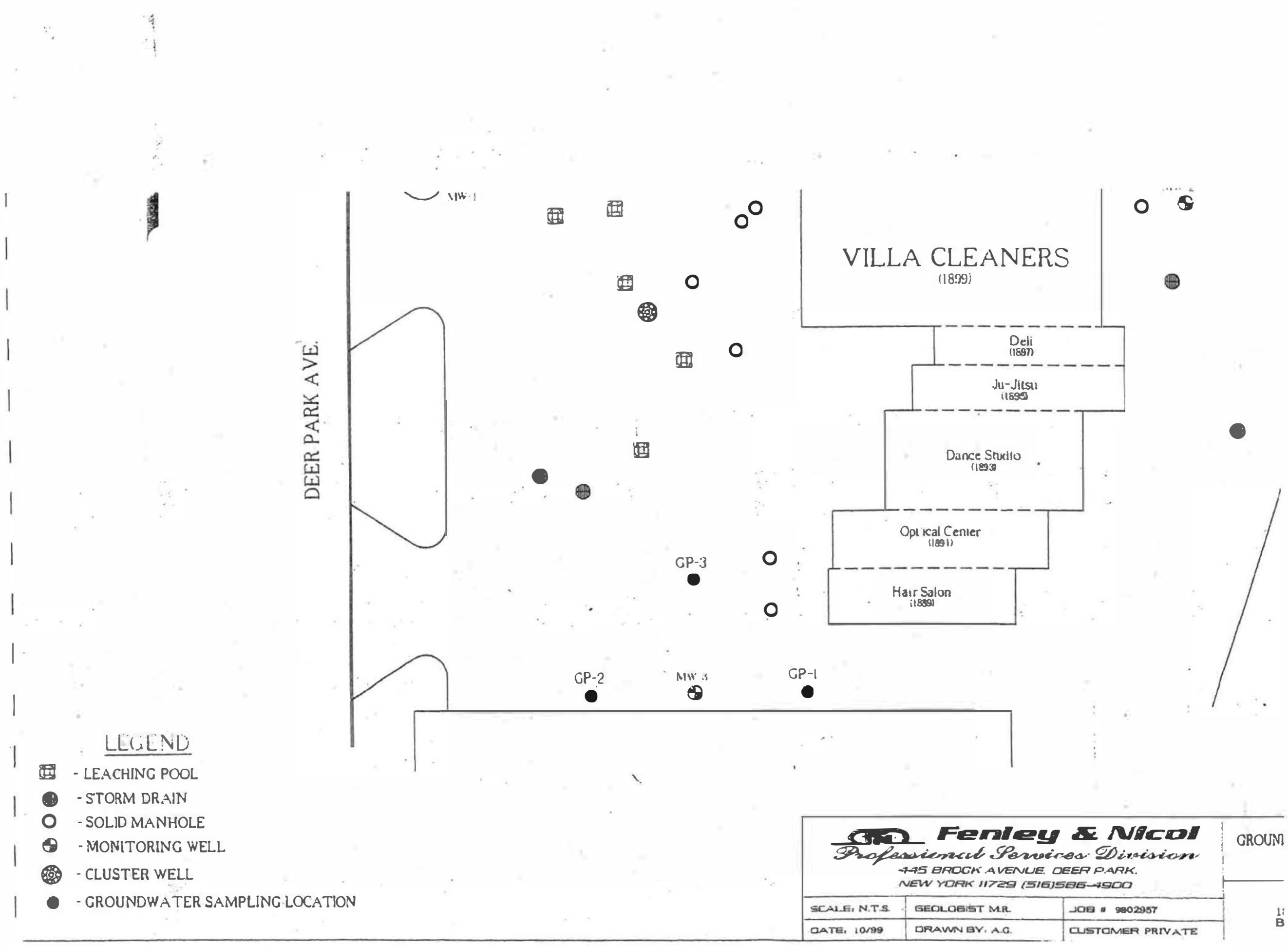
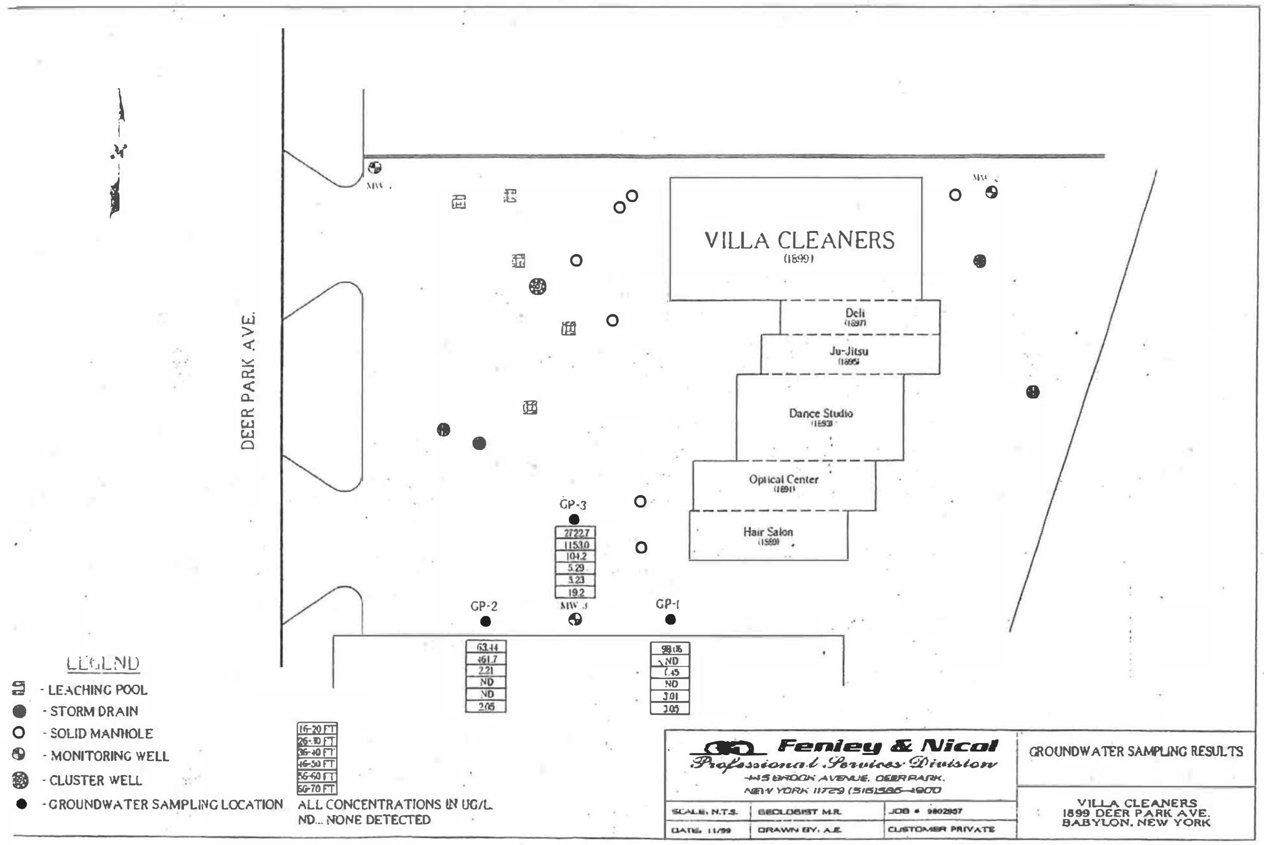

May 11, '03
May 18, '03
May 25, '03
Jun 1, '03
Jun 8, '03
Jun 15, '03
Jun 22, '03
Jun 29, '03
Jul 6, '03
Jul 13, '03
Jul 20, '03
Jul 27, '03
Exposure Assessment
Preparation of Investigation R
Project: Villa Cleaners - V-00335-1
1899 Deer Park Avenue, Deer Park, NY
Manager: David Oloke Date: Wed 1/8/03
Task
Progress
Summary
Page 2

Figure 3
Proposed Sampling Location Map





Appendix D
Personnel Resumes

Tom Hudson
Director of Waste Management

> **RESPONSIBLE FOR OVERSEEING F&N'S WASTE MANAGEMENT PROGRAM**

- Site Remediation
- Non-Hazardous and Hazardous Waste Removal and Disposal
- Emergency Spill Response
- Staff Hiring, Marketing
- Budget Management, Project Management

> **RESPONSIBLE FOR MAINTAINING F&N'S SAFETY MANAGEMENT PROGRAM**

- Right to Know-OSHA
- Health & Safety
- Hazwhopper – PPE
- Fire Protection – CPR
- Confined Space Entry
- Lock-Out Tagout

> **QUALIFICATIONS:**

Mr. Hudson has over twelve – years experience in Environmental Management, Health and Safety. Over twenty-five years experience in Facility Management involving OSHA and other regulatory agency interaction.

1990 – 1999: Safety Kleen Systems – Operations Manager Health & Safety Officer

1980 – 1990: Facility/Service Manager – Mercedes Benz of North America

Suffolk County Community College

> **CERTIFICATIONS:**

- Instructor for Hazardous Waste Operations and Emergency Response (RCRA)
- 3M Certified Respirator Training Instructor
- OSHA Certified Trainer CFR 29
- Certified Trainer Dept. of Transportation CFR 49
- Certified Facility Manager for Hazardous Materials and Waste Management

Brian McCabe

Assistant Director

Responsibilities:

- *Project Manager - NYSDEC & Private Sector*
- *Phase I & Phase II Environmental Site Assessments*
- *Monitoring Well Installation & Development*
- *Soil & Groundwater Sampling / Field Screening of Soils*
- *Well Logging*
- *Evaluate Effectiveness of Remediation Systems*
- *Evaluation & Interpretation of Data*
- *Tank Abandonments*
- *Tank Closure Reports*
- *Drywell Closures*
- *Status / Quarterly Reporting*
- *Vacuum Enhanced Fluid Recovery (EFR)*

Qualifications:

1997 *Fenley & Nicol Environmental, Inc.*
Staff Geologist

1990 *Professional Service Industries, Farmingdale, New York*
Field Technician / Laboratory Supervisor

1989 *United States Geological Survey, Columbus, Ohio*
Ground Water Resource Division
Hydrologist

State University of New York at Stony Brook
Masters of Science, Hydrology (pending)

1991 *Bachelor of Science, Geology / Marine Science*

Affiliations / Certifications:

Long Island Geologist Organization
PADI Certified Open Water Diver
National Institute of Occupational Safety & Health (NIOSH 582)
40 Hour OSHA - Right to Know
Princeton Groundwater Remediation Course
Waterloo Groundwater Modeling I

Dave Oloke
Project Geologist

Responsibilities:

- Soil & Groundwater Sampling
- Field Screening of Soils
- Soil Gas Surveys
- Well Logging
- Evaluation & Interpretation of Data
- Tank Abandonments
- Vacuum Enhanced Fluid Recovery
- Phase I & Phase II Environmental site assessments

Qualifications:

1998 Fenley & Nicol Environmental, Inc.
Project Geologist

1990 Ahmadu Bello University, Zaire
B.S., Geology

Affiliations / Certifications:

Long Island Geologist Organization
40 Hour OSHA - Right to Know

Brian McDaniel
Project Geologist

Responsibilities:

- Soil & Groundwater Sampling / Field Screening of Soils
- Soil Gas Surveys
- Well Logging
- Groundwater Sampling
- Evaluation & Interpretation of Data
- Tank Abandonment's
- Vacuum Enhanced Fluid Recovery
- Phase I & Phase II Environmental site assessments.

Qualifications:

2000 - BS Geology SUNY Oneonta

2000 - Fenley & Nicol Environmental, Inc.
Project Geologist

Affiliations / Certifications:

Long Island Geologist Organization
40 Hour OSHA - Right to Know

APPENDIX B

Interim Remedial Measure by Anson Environmental with Correspondence from SCDHS

ANSON
ENVIRONMENTAL LTD.

771 New York Avenue
Huntington, New York 11743
516-351-3555
Fax: 516-351-3615

November 28, 1997

Mr. Peter Schramel
Suffolk County Department of Health Services
15 Horseblock Road
Farmingville, New York 11738

Re: Villa Cleaners
1899 Route 231
Deer Park, NY 11729

Dear Mr. Schramel,

On Monday October 27 and Tuesday October 28, 1997, Dennis Madigan of Anson Environmental Ltd. (AEL) was on site to over see Bill Mallins of Ronkonkoma, remove the contaminated sediment from within the leaching pools and the rear storm drain. Mr. Robert Morcerf of the Suffolk County Department of Health (SCDHS) was on site to witness the clean out of these subsurface structures as well as to collect several endpoint samples of the leaching pools after they had been cleaned out.

Lange Cesspool Services removed the liquid from within the leaching pools. The liquid was transported to Bergen Point, where approximately 18,000 gallons were properly disposed of. A copy of the, Acceptability of Waste, letter appears in Appendix One. A copy of the waste manifest will be furnished to upon receipt to our office.

Bill Mallins Incorporated of Ronkonkoma removed the contaminated sediment using a Guzzler vacuum unit. Approximately 12-15 cubic yards of contaminated sediment was removed from within the leaching pools and rear storm drain.

Maymee Express Incorporated of Sommerville New Jersery transported the waste to Wayne Disposal Landfill of Bellville Michigan. The waste manifest for the sediment will be furnished to your office upon receipt to our office.

The SCDHS split the endpoint samples with AEL from several of the leaching pools. There were a total of five leaching pool endpoint samples collected by AEL which were labeled Initial leaching pool, 1 RM, 2 RM, 3 RM and 4 RM. AEL also collected an endpoint sample from the rear storm drain as well.

AEL forwarded the samples to EcoTest Laboratories of North Babylon which analyzed the samples using EPA method 8260 for the volatile organics. EcoTest also analyzed the soil for metals according to the Suffolk County Department of Health Services requirements.

The results from the laboratory data appear below in Table One. The actual laboratory data for the soil appears in Appendix **Two**.

Table One

Sample #	Constituent	Laboratory result	(SOP No. 9-95)*
Initial	cis-1,2- Dichloroethene	1 ppb	300 ppb
	1,2,4-Trimethylbenzene	1 ppb	2,400 ppb
	Tetrachloroethene	3 ppb	1,400 ppb
	Acetone	90 ppb	200 ppb
1 RM	p-Ethyltoulene	24 ppb	1,800 ppb
	1,3,5-Trimethylbenzene	16 ppb	2,600 ppb
	1,2,4-Trimethylbenzene	39 ppb	2,400 ppb
	1,2,4,5-Trimethylbenzene	6 ppb	10,000 ppb
	Naphthalene	11 ppb	10,000 ppb
	p-Isopropylbenzene	150 ppb	NS
2 RM	Ethyl Benzene	1 ppb	5,500 ppb
	m+p- Xylene	7 ppb	1,200 ppb
	o Xylene	4 ppb	1,200 ppb
	Xylene	10 ppb	1,200 ppb
	p-Ethyltoulene	2 ppb	1,800 ppb
	1,3,5-Trimethylbenzene	3 ppb	2,600 ppb
	1,2,4-Trimethylbenzene	8 ppb	2,400 ppb
	Naphthalene	1 ppb	10,000 ppb
	Acetone	73 ppb	200 ppb
	p-Isopropylbenzene	3 ppb	NS
	n-Propylbenzene	1 ppb	300 ppb

Table One (Continued)

3 RM	1,3,5-Trimethylbenzene	1 ppb	2,600 ppb
	1,2,4-Trimethylbenzene	3 ppb	2,400 ppb
	Naphthalene	1 ppb	10,000 ppb
	p-Isopropylbenzene	4 ppb	NS
4 RM	1,3,5-Trimethylbenzene	1 ppb	2,600 ppb
	1,2,4-Trimethylbenzene	4 ppb	2,400 ppb
	Acetone	78 ppb	200 ppb

Rear Storm Drain

No volatile organic constituents were found above the method detection limit.

* = SCDHS Standard Operating Procedure for the Administration of Article 12 of the Suffolk County Sanitary Code (SOP No. 9-95)

NS = No Standard
ppb= Parts Per Billion

On Monday July 14, 1997, Dennis Madigan was on site using a Geoprobe unit to collect a total of five (5) groundwater samples. The samples were brought to EcoTest Laboratories and analyzed using EPA method 601. The purpose of this investigation was to see if the groundwater in the area has any elevated readings of chlorinated solvents. Mr. Morcerf was on site to verify locations and depths of the samples that were being collected by AEL. A Map of the subject property appears in Appendix **Three**.

Sample point G W 1 was collected approximately ten feet north of the midpoint between the solid covers of the two leaching pools labeled 3 RM 5-5 and 4 RM 5-5. This sample was collected to observe the quality of the groundwater coming on to the site.

The samples labeled GW 2, GW 3 and GW 4 were collected to observe the quality of the groundwater to the south of the leaching pools labeled 4 RM 5-5, 2 RM 5-5 and 1 RM 5-5, (See Map). Each of the groundwater samples were collected at a distance of approximately ten feet to the south of each leaching pool's solid cover. The rear storm drain, which is located on the eastern side of the property, was investigated too. The groundwater sample labeled GW 5 was collected at a distance of two and a half feet to the south of the storm drain. All of the groundwater samples were collected from a depth below grade of approximately 18 to 20 feet. The laboratory data for the groundwater samples appear in Appendix **Four**. The data can been seen below in Table Two.

Table Two

Sample #	Constituent	Laboratory result	NYSDEC (TAGM)*
GW1	1,2 Dichloroethene	40 ppb	5 ppb
	Trichloroethylene	2 ppb	5 ppb
	Tetrachloroethene	61 ppb	5 ppb
GW2	Vinyl Chloride	20 ppb	2 ppb
	1,2 Dichloroethene	100 ppb	5 ppb
	Trichloroethylene	19 ppb	5 ppb
GW3	Vinyl Chloride	8 ppb	2 ppb
	1,2 Dichloroethene	7900 ppb	5 ppb
	Trichloroethylene	100 ppb	5 ppb
	Tetrachloroethene	100 ppb	5 ppb
GW4	Tetrachloroethene	280 ppb	5 ppb
GW5	1,2 Dichloroethene	6 ppb	5 ppb
	Trichloroethylene	2 ppb	5 ppb
	Tetrachloroethene	5 ppb	5 ppb

* = New York State Department of Environmental Conservation; Technical Administrative Guidance Memorandum.

ppb= Parts Per Billion

Recommended Activities

The endpoint soil sample results indicate that the clean out of the sanitary leaching pools was successful. The elevated levels of the constituents that were found, above the method detection limit, fall below the SOP No. 9-95 cleanup objectives. AEL believes that no further work, on the sanitary leaching pools, is required at this time.

If groundwater monitoring wells are required by the SCDHS, do to the elevated levels of constituents that were found in the groundwater samples, AEL will install three permanent monitoring wells on the property. The monitoring wells will be used for the purposes of determining the direction of groundwater flow and the quality of the groundwater on the subject property. If additional remediation is required on this site, we will prepare the necessary proposals and work plans for consideration by the client.

Prior to any on site activities, AEL will notify the SCDHS at least 48 hours in advance

If you have any questions regarding this matter, please do not hesitate to give us a call at 351-3555.

Very truly yours,

Dean Anson II

Dean Anson II

cc Mr. John Gennaro, Villa Cleaners
Mr. John Soderberg, Esq., Farrel, Fritz, Caemmerer, et al

COUNTY OF SUFFOLK

ROBERT J. GAFFNEY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF PUBLIC WORKS

STEPHEN G. HAYDUK, P.E.
COMMISSIONER

October 29, 1997

Dennis Madigan
Anson Environmental
33 Gerard St. - Suite 100
Huntington, NY 11743

Re: Villa Cleaners - Deer Park
Acceptability of Waste

Dear Mr. Madigan:

This is written to confirm that the contents of the sanitary system servicing the above referenced was acceptable for disposal at the County's Bergen Point facility and that this work was done on 27 October 97.

Very truly yours,

Robert N. Falk
Permit Administrator

RNF:cs
cc: R. Strzepek
D. Krol
P. Schramel

Appendix Two

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/1 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, Initial

ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Bromomethane	ug/Kg	<1
Chloroethane	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
t-1,2-Dichloroethene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1
Chloroform	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Benzene	ug/Kg	<1
1,2 Dichloroethane	ug/Kg	<1
Trichloroethene	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
t-1,3Dichloropropene	ug/Kg	<1
Toluene	ug/Kg	<1
c-1,3Dichloropropene	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
Tetrachloroethene	ug/Kg	3
Chlorodibromomethane	ug/Kg	<1
Chlorobenzene	ug/Kg	<1
Ethyl Benzene	ug/Kg	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/Kg	<2
o Xylene	ug/Kg	<1
Xylene	ug/Kg	<3
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
1,2 Dichlorobenzene	ug/Kg	<1
1,3 Dichlorobenzene	ug/Kg	<1
1,4 Dichlorobenzene	ug/Kg	<1
Styrene	ug/Kg	<1
Bromobenzene	ug/Kg	<1
Chlorotoluene	ug/Kg	<2
p-Ethyltoluene	ug/Kg	<1
135-Trimethylbenzene	ug/Kg	<1
124-Trimethylbenzene	ug/Kg	1
Freon 113	ug/Kg	<1
Dichlordifluomethane	ug/Kg	<1
1245 Tetramethylbenz	ug/Kg!	<1
124-Trichlorobenzene	ug/Kg	<1
c-1,2-Dichloroethene	ug/Kg	1
Dibromochloropropane	ug/Kg	<1
Bromochloromethane	ug/Kg	<1
2,2-Dichloropropane	ug/Kg	<1
1,1-Dichloropropene	ug/Kg	<1

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
Page 1 of 2.

DIRECTOR ____________

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/1 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, Initial

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/Kg	<1	
Naphthalene	ug/Kg	<1	
1,3-Dichloropropane	ug/Kg	<1	
1,2 Dibromoethane	ug/Kg	<1	
1112Tetrachloroethan	ug/Kg	<1	
123-Trichloropropane	ug/Kg	<1	
Hexachlorobutadiene	ug/Kg	<1	
Acetone	ug/Kg	90	
Methyl Ethyl Ketone	ug/Kg	<10	
Methylisobutylketone	ug/Kg	<10	
Isopropylbenzene	ug/Kg	<1	
p-Isopropyltoluene	ug/Kg	<1	
n-Butylbenzene	ug/Kg	<1	
Chlorodifluoromethan	ug/Kg	<1	
n-Propylbenzene	ug/Kg	<1	
tert-Butylbenzene	ug/Kg	<1	
sec-Butylbenzene	ug/Kg	<1	
p Diethylbenzene	ug/Kg	<1	
123-Trichlorobenzene	ug/Kg	<1	
ter.ButylMethylEther	ug/Kg	<1	
% Solids		95	

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
Page 2 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/1 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, Initial

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/Kg	<0.4	
Beryllium as Be	mg/Kg	<0.01	
Cadmium as Cd	mg/Kg	<0.1	
Chromium as Cr	mg/Kg	0.51	
Copper as Cu	mg/Kg	3.2	
Lead as Pb	mg/Kg	<1	
Mercury as Hg	mg/Kg	0.025	
Nickel as Ni	mg/Kg	<0.5	
Silver as Ag	mg/Kg	0.37	

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/2 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 1 RM

ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<5
Vinyl Chloride	ug/Kg	<5
Bromomethane	ug/Kg	<5
Chloroethane	ug/Kg	<5
Trichlorofluomethane	ug/Kg	<5
1,1 Dichloroethene	ug/Kg	<5
Methylene Chloride	ug/Kg	<5
t-1,2-Dichloroethene	ug/Kg	<5
1,1 Dichloroethane	ug/Kg	<5
Chloroform	ug/Kg	<5
111 Trichloroethane	ug/Kg	<5
Carbon Tetrachloride	ug/Kg	<5
Benzene	ug/Kg	<5
1,2 Dichloroethane	ug/Kg	<5
Trichloroethene	ug/Kg	<5
1,2 Dichloropropane	ug/Kg	<5
Bromodichloromethane	ug/Kg	<5
t-1,3Dichloropropene	ug/Kg	<5
Toluene	ug/Kg	<5
c-1,3Dichloropropene	ug/Kg	<5
112 Trichloroethane	ug/Kg	<5
Tetrachloroethene	ug/Kg	<5
Chlorodibromomethane	ug/Kg	<5
Chlorobenzene	ug/Kg	<5
Ethyl Benzene	ug/Kg	<5

ANALYTICAL PARAMETERS		
m + p Xylene	ug/Kg	<10
o Xylene	ug/Kg	<5
Xylene	ug/Kg	<15
Bromoform	ug/Kg	<5
1122Tetrachloroethan	ug/Kg	<5
1,2 Dichlorobenzene	ug/Kg	<5
1,3 Dichlorobenzene	ug/Kg	<5
1,4 Dichlorobenzene	ug/Kg	<5
Styrene	ug/Kg	<5
Bromobenzene	ug/Kg	<5
Chlorotoluene	ug/Kg	<10
p-Ethyltoluene	ug/Kg	24
135-Trimethylbenzene	ug/Kg	16
124-Trimethylbenzene	ug/Kg	39
Freon 113	ug/Kg	<5
Dichlordifluomethane	ug/Kg	<5
1245 Tetramethylbenz	ug/Kg!	6
124-Trichlorobenzene	ug/Kg	<5
c-1,2-Dichloroethene	ug/Kg	<5
Dibromochloropropane	ug/Kg	<5
Bromochloromethane	ug/Kg	<5
2,2-Dichloropropane	ug/Kg	<5
1,1-Dichloropropene	ug/Kg	<5

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
Page 1 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/2 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 1 RM

ANALYTICAL PARAMETERS		
Dibromomethane	ug/Kg	<5
Naphthalene	ug/Kg	11
1,3-Dichloropropane	ug/Kg	<5
1,2 Dibromoethane	ug/Kg	<5
1112Tetrachloroethan	ug/Kg	<5
123-Trichloropropane	ug/Kg	<5
Hexachlorobutadiene	ug/Kg	<5
Acetone	ug/Kg	<50
Methyl Ethyl Ketone	ug/Kg	<50
Methylisobutylketone	ug/Kg	<50
Isopropylbenzene	ug/Kg	<5
p-Isopropyltoluene	ug/Kg	150
n-Butylbenzene	ug/Kg	<5
Chlorodifluoromethan	ug/Kg	<5
n-Propylbenzene	ug/Kg	<5
tert-Butylbenzene	ug/Kg	<5
sec-Butylbenzene	ug/Kg	<5
p Diethylbenzene	ug/Kg	<5
123-Trichlorobenzene	ug/Kg	<5
ter.ButylMethylEther	ug/Kg	<5

ANALYTICAL PARAMETERS

% Solids 90

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
Page 2 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/2 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 1 RM

ANALYTICAL PARAMETERS		
Arsenic as As	mg/Kg	<0.4
Beryllium as Be	mg/Kg	0.02
Cadmium as Cd	mg/Kg	<0.1
Chromium as Cr	mg/Kg	1.6
Copper as Cu	mg/Kg	8.2
Lead as Pb	mg/Kg	2.0
Mercury as Hg	mg/Kg	0.058
Nickel as Ni	mg/Kg	0.7
Silver as Ag	mg/Kg	<0.2

ANALYTICAL PARAMETERS

cc:

REMARKS:

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/3 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 2 RM

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<1	m + p Xylene	ug/Kg	7
Vinyl Chloride	ug/Kg	<1	o Xylene	ug/Kg	4
Bromomethane	ug/Kg	<1	Xylene	ug/Kg	10
Chloroethane	ug/Kg	<1	Bromoform	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1	1122Tetrachloroethan	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1	1,2 Dichlorobenzene	ug/Kg	<1
Methylene Chloride	ug/Kg	<1	1,3 Dichlorobenzene	ug/Kg	<1
t-1,2-Dichloroethene	ug/Kg	<1	1,4 Dichlorobenzene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1	Styrene	ug/Kg	<1
Chloroform	ug/Kg	<1	Bromobenzene	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1	Chlorotoluene	ug/Kg	<2
Carbon Tetrachloride	ug/Kg	<1	p-Ethyltoluene	ug/Kg	2
Benzene	ug/Kg	<1	135-Trimethylbenzene	ug/Kg	3
1,2 Dichloroethane	ug/Kg	<1	124-Trimethylbenzene	ug/Kg	8
Trichloroethene	ug/Kg	<1	Freon 113	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1	Dichlordifluomethane	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1	1245 Tetramethylbenz	ug/Kg	<1
t-1,3Dichloropropene	ug/Kg	<1	124-Trichlorobenzene	ug/Kg	<1
Toluene	ug/Kg	<1	c-1,2-Dichloroethene	ug/Kg	<1
c-1,3Dichloropropene	ug/Kg	<1	Dibromochloropropane	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1	Bromochloromethane	ug/Kg	<1
Tetrachloroethene	ug/Kg	<1	2,2-Dichloropropane	ug/Kg	<1
Chlorodibromomethane	ug/Kg	<1	1,1-Dichloropropene	ug/Kg	<1
Chlorobenzene	ug/Kg	<1			
Ethyl Benzene	ug/Kg	1			

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
Page 1 of 2.

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/3 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client, DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 2 RM

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/Kg	<1	
Naphthalene	ug/Kg	1	
1,3-Dichloropropane	ug/Kg	<1	
1,2 Dibromoethane	ug/Kg	<1	
1112Tetrachloroethan	ug/Kg	<1	
123-Trichloropropane	ug/Kg	<1	
Hexachlorobutadiene	ug/Kg	<1	
Acetone	ug/Kg	73	
Methyl Ethyl Ketone	ug/Kg	<10	
Methylisobutylketone	ug/Kg	<10	
Isopropylbenzene	ug/Kg	<1	
p-Isopropyltoluene	ug/Kg	3	
n-Butylbenzene	ug/Kg	<1	
Chlorodifluoromethan	ug/Kg	<1	
n-Propylbenzene	ug/Kg	1	
tert-Butylbenzene	ug/Kg	<1	
sec-Butylbenzene	ug/Kg	<1	
p Diethylbenzene	ug/Kg	<1	
123-Trichlorobenzene	ug/Kg	<1	
ter.ButylMethylEther	ug/Kg	<1	

% Solids 97

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
Page 2 of 2.

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/3 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 2 RM

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/Kg	<0.4	
Beryllium as Be	mg/Kg	0.03	
Cadmium as Cd	mg/Kg	<0.1	
Chromium as Cr	mg/Kg	0.94	
Copper as Cu	mg/Kg	3.4	
Lead as Pb	mg/Kg	<1	
Mercury as Hg	mg/Kg	0.015	
Nickel as Ni	mg/Kg	<0.5	
Silver as Ag	mg/Kg	<0.2	

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/4 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 3 RM

ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Bromomethane	ug/Kg	<1
Chloroethane	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
t-1,2-Dichloroethene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1
Chloroform	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Benzene	ug/Kg	<1
1,2 Dichloroethane	ug/Kg	<1
Trichloroethene	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
t-1,3Dichloropropene	ug/Kg	<1
Toluene	ug/Kg	<1
c-1,3Dichloropropene	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
Tetrachloroethene	ug/Kg	<1
Chlorodibromomethane	ug/Kg	<1
Chlorobenzene	ug/Kg	<1
Ethyl Benzene	ug/Kg	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/Kg	<2
o Xylene	ug/Kg	<1
Xylene	ug/Kg	<3
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
1,2 Dichlorobenzene	ug/Kg	<1
1,3 Dichlorobenzene	ug/Kg	<1
1,4 Dichlorobenzene	ug/Kg	<1
Styrene	ug/Kg	<1
Bromobenzene	ug/Kg	<1
Chlorotoluene	ug/Kg	<2
p-Ethyltoluene	ug/Kg	<1
135-Trimethylbenzene	ug/Kg	1
124-Trimethylbenzene	ug/Kg	3
Freon 113	ug/Kg	<1
Dichlordifluomethane	ug/Kg	<1
1245 Tetramethylbenz	ug/Kg!	<1
124-Trichlorobenzene	ug/Kg	<1
c-1,2-Dichloroethene	ug/Kg	<1
Dibromochloropropane	ug/Kg	<1
Bromochloromethane	ug/Kg	<1
2,2-Dichloropropane	ug/Kg	<1
1,1-Dichloropropene	ug/Kg	<1

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
Page 1 of 2.

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/4 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 3 RM

ANALYTICAL PARAMETERS		
Dibromomethane	ug/Kg	<1
Naphthalene	ug/Kg	1
1,3-Dichloropropane	ug/Kg	<1
1,2 Dibromoethane	ug/Kg	<1
1112Tetrachloroethan	ug/Kg	<1
123-Trichloropropane	ug/Kg	<1
Hexachlorobutadiene	ug/Kg	<1
Acetone	ug/Kg	<10
Methyl Ethyl Ketone	ug/Kg	<10
Methylisobutylketone	ug/Kg	<10
Isopropylbenzene	ug/Kg	<1
p-Isopropyltoluene	ug/Kg	4
n-Butylbenzene	ug/Kg	<1
Chlorodifluorometban	ug/Kg	<1
n-Propylbenzene	ug/Kg	<1
tert-Butylbenzene	ug/Kg	<1
sec-Butylbenzene	ug/Kg	<1
p Diethylbenzene	ug/Kg	<1
123-Trichlorobenzene	ug/Kg	<1
ter.ButylMethylEther	ug/Kg	<1

ANALYTICAL PARAMETERS

% Solids 94

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
Page 2 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/4 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 3 RM

ANALYTICAL PARAMETERS		
Arsenic as As	mg/Kg	<0.4
Beryllium as Be	mg/Kg	<0.01
Cadmium as Cd	mg/Kg	<0.1
Chromium as Cr	mg/Kg	0.57
Copper as Cu	mg/Kg	2.4
Lead as Pb	mg/Kg	<1
Mercury as Hg	mg/Kg	0.021
Nickel as Ni	mg/Kg	<0.5
Silver as Ag	mg/Kg	<0.2

ANALYTICAL PARAMETERS

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/5 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 4 RM

ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<1
Vinyl Chloride	ug/Kg	<1
Bromomethane	ug/Kg	<1
Chloroethane	ug/Kg	<1
Trichlorofluomethane	ug/Kg	<1
1,1 Dichloroethene	ug/Kg	<1
Methylene Chloride	ug/Kg	<1
t-1,2-Dichloroethene	ug/Kg	<1
1,1 Dichloroethane	ug/Kg	<1
Chloroform	ug/Kg	<1
111 Trichloroethane	ug/Kg	<1
Carbon Tetrachloride	ug/Kg	<1
Benzene	ug/Kg	<1
1,2 Dichloroethane	ug/Kg	<1
Trichloroethene	ug/Kg	<1
1,2 Dichloropropane	ug/Kg	<1
Bromodichloromethane	ug/Kg	<1
t-1,3Dichloropropene	ug/Kg	<1
Toluene	ug/Kg	<1
c-1,3Dichloropropene	ug/Kg	<1
112 Trichloroethane	ug/Kg	<1
Tetrachloroethene	ug/Kg	<1
Chlorodibromomethane	ug/Kg	<1
Chlorobenzene	ug/Kg	<1
Ethyl Benzene	ug/Kg	<1

ANALYTICAL PARAMETERS		
m + p Xylene	ug/Kg	<2
o Xylene	ug/Kg	<1
Xylene	ug/Kg	<3
Bromoform	ug/Kg	<1
1122Tetrachloroethan	ug/Kg	<1
1,2 Dichlorobenzene	ug/Kg	<1
1,3 Dichlorobenzene	ug/Kg	<1
1,4 Dichlorobenzene	ug/Kg	<1
Styrene	ug/Kg	<1
Bromobenzene	ug/Kg	<1
Chlorotoluene	ug/Kg	<2
p-Ethyltoluene	ug/Kg	<1
135-Trimethylbenzene	ug/Kg	1
124-Trimethylbenzene	ug/Kg	4
Freon 113	ug/Kg	<1
Dichlordifluomethane	ug/Kg	<1
1245 Tetramethylbenz	ug/Kg!	<1
124-Trichlorobenzene	ug/Kg	<1
c-1,2-Dichloroethene	ug/Kg	<1
Dibromochloropropane	ug/Kg	<1
Bromochloromethane	ug/Kg	<1
2,2-Dichloropropane	ug/Kg	<1
1,1-Dichloropropene	ug/Kg	<1

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
Page 1 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/5 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 4 RM

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/Kg	<1	
Naphthalene	ug/Kg	<1	
1,3-Dichloropropane	ug/Kg	<1	
1,2 Dibromoethane	ug/Kg	<1	
1112Tetrachloroethan	ug/Kg	<1	
123-Trichloropropane	ug/Kg	<1	
Hexachlorobutadiene	ug/Kg	<1	
Acetone	ug/Kg	78	
Methyl Ethyl Ketone	ug/Kg	<10	
Methylisobutylketone	ug/Kg	<10	
Isopropylbenzene	ug/Kg	<1	
p-Isopropyltoluene	ug/Kg	<1	
n-Butylbenzene	ug/Kg	<1	
Chlorodifluoromethan	ug/Kg	<1	
n-Propylbenzene	ug/Kg	<1	
tert-Butylbenzene	ug/Kg	<1	
sec-Butylbenzene	ug/Kg	<1	
p Diethylbenzene	ug/Kg	<1	
123-Trichlorobenzene	ug/Kg	<1	
ter.ButylMethylEther	ug/Kg	<1	

% Solids 95

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
Page 2 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/5 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, 4 RM

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/Kg	<0.4	
Beryllium as Be	mg/Kg	<0.01	
Cadmium as Cd	mg/Kg	<0.1	
Chromium as Cr	mg/Kg	0.58	
Copper as Cu	mg/Kg	4.3	
Lead as Pb	mg/Kg	<1	
Mercury as Hg	mg/Kg	<0.005	
Nickel as Ni	mg/Kg	<0.5	
Silver as Ag	mg/Kg	<0.2	

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/6 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, Rear Storm

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS		
Chloromethane	ug/Kg	<2	m + p Xylene	ug/Kg	<4
Vinyl Chloride	ug/Kg	<2	o Xylene	ug/Kg	<2
Bromomethane	ug/Kg	<2	Xylene	ug/Kg	<6
Chloroethane	ug/Kg	<2	Bromoform	ug/Kg	<2
Trichlorofluomethane	ug/Kg	<2	1122Tetrachloroethan	ug/Kg	<2
1,1 Dichloroethene	ug/Kg	<2	1,2 Dichlorobenzene	ug/Kg	<2
Methylene Chloride	ug/Kg	<2	1,3 Dichlorobenzene	ug/Kg	<2
t-1,2-Dichloroethene	ug/Kg	<2	1,4 Dichlorobenzene	ug/Kg	<2
1,1 Dichloroethane	ug/Kg	<2	Styrene	ug/Kg	<2
Chloroform	ug/Kg	<2	Bromobenzene	ug/Kg	<2
111 Trichloroethane	ug/Kg	<2	Chlorotoluene	ug/Kg	<4
Carbon Tetrachloride	ug/Kg	<2	p-Ethyltoluene	ug/Kg	<2
Benzene	ug/Kg	<2	135-Trimethylbenzene	ug/Kg	<2
1,2 Dichloroethane	ug/Kg	<2	124-Trimethylbenzene	ug/Kg	<2
Trichloroethene	ug/Kg	<2	Freon 113	ug/Kg	<2
1,2 Dichloropropane	ug/Kg	<2	Dichlordifluomethane	ug/Kg	<2
Bromodichloromethane	ug/Kg	<2	1245 Tetramethylbenz	ug/Kg!	<2
t-1,3Dichloropropene	ug/Kg	<2	124-Trichlorobenzene	ug/Kg	<2
Toluene	ug/Kg	<2	c-1,2-Dichloroethene	ug/Kg	<2
c-1,3Dichloropropene	ug/Kg	<2	Dibromochloropropane	ug/Kg	<2
112 Trichloroethane	ug/Kg	<2	Bromochloromethane	ug/Kg	<2
Tetrachloroethene	ug/Kg	<2	2,2-Dichloropropane	ug/Kg	<2
Chlorodibromomethane	ug/Kg	<2	1,1-Dichloropropene	ug/Kg	<2
Chlorobenzene	ug/Kg	<2			
Ethyl Benzene	ug/Kg	<2			

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
!1245 Tetramethylbenz = 1,2,4,5-Tetramethylbenzene
Page 1 of 2.

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/6 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, Rear Storm

ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Dibromomethane	ug/Kg	<2	
Naphthalene	ug/Kg	<2	
1,3-Dichloropropane	ug/Kg	<2	
1,2 Dibromoethane	ug/Kg	<2	
1112Tetrachloroethan	ug/Kg	<2	
123-Trichloropropane	ug/Kg	<2	
Hexachlorobutadiene	ug/Kg	<2	
Acetone	ug/Kg	<20	
Methyl Ethyl Ketone	ug/Kg	<20	
Methylisobutylketone	ug/Kg	<20	
Isopropylbenzene	ug/Kg	<2	
p-Isopropyltoluene	ug/Kg	<2	
n-Butylbenzene	ug/Kg	<2	
Chlorodifluoromethan	ug/Kg	<2	
n-Propylbenzene	ug/Kg	<2	
tert-Butylbenzene	ug/Kg	<2	
sec-Butylbenzene	ug/Kg	<2	
p Diethylbenzene	ug/Kg	<2	
123-Trichlorobenzene	ug/Kg	<2	
ter.ButylMethylEther	ug/Kg	<2	

% Solids 96

cc:

REMARKS: Analysis was performed by GC/MS, EPA Method 8260.
Page 2 of 2.

DIRECTOR

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C974532/6 11/11/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:10/28/97 RECEIVED:10/28/97

SAMPLE: Soil sample, Rear Storm

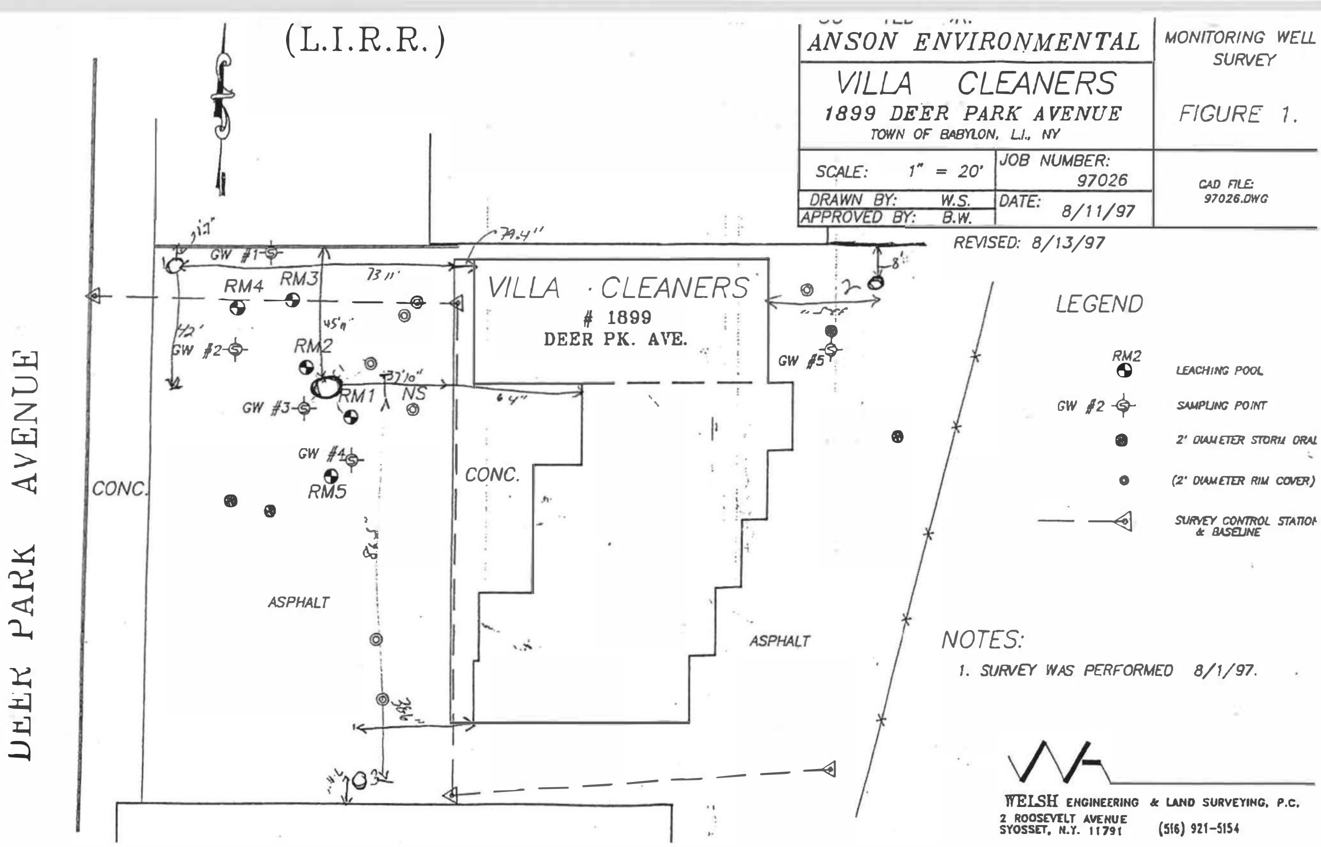
ANALYTICAL PARAMETERS			ANALYTICAL PARAMETERS
Arsenic as As	mg/Kg	<0.4	
Beryllium as Be	mg/Kg	<0.01	
Cadmium as Cd	mg/Kg	<0.1	
Chromium as Cr	mg/Kg	0.78	
Copper as Cu	mg/Kg	0.41	
Lead as Pb	mg/Kg	<1	
Mercury as Hg	mg/Kg	0.011	
Nickel as Ni	mg/Kg	<0.5	
Silver as Ag	mg/Kg	<0.2	

cc:

REMARKS:

DIRECTOR

Appendix Three



Appendix Four

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C972951/1 07/18/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:07/14/97 RECEIVED:07/14/97

SAMPLE: Water sample, GW1 (18-20)

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<2
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<2
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	40
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
t-1,3Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	2
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c-1,3Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	61

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<2
1,2 Dichlorobenzene	ug/L	<2
1,4 Dichlorobenzene	ug/L	<2

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC. *ENVIRONMENTAL TESTING*

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C972951/2 07/18/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:07/14/97 RECEIVED:07/14/97

SAMPLE: Water sample, GW2 (18-20)

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<2
Vinyl Chloride	ug/L	20
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<2
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	100
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
t-1,3Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	19
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c-1,3Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	<1

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<2
1,2 Dichlorobenzene	ug/L	<2
1,4 Dichlorobenzene	ug/L	<2

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C972951/3 07/18/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:07/14/97 RECEIVED:07/14/97

SAMPLE: Water sample, GW3 (18-20)

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<2
Vinyl Chloride	ug/L	8
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<2
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	7900
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
t-1,3Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	100
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c-1,3Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	100

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<2
1,2 Dichlorobenzene	ug/L	<2
1,4 Dichlorobenzene	ug/L	<2

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC. ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C972951/4 07/18/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:07/14/97 RECEIVED:07/14/97

SAMPLE: Water sample, GW4 (18-20)

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<2
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<2
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	<1
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
t-1,3Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	<1
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c-1,3Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	280

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<2
1,2 Dichlorobenzene	ug/L	<2
1,4 Dichlorobenzene	ug/L	<2

cc:

REMARKS:

DIRECTOR

ECOTEST LABORATORIES, INC.

ENVIRONMENTAL TESTING

377 SHEFFIELD AVE. • N. BABYLON, N.Y. 11703 • (516) 422-5777 • FAX (516) 422-5770

LAB NO.C972951/5 07/18/97

Anson Environmental Ltd.
33 Gerard Street, Suite 100
Huntington, NY 11743
ATTN: Dennis Madigan

SOURCE OF SAMPLE: Villa Cleaners, #97044
COLLECTED BY: Client DATE COL'D:07/14/97 RECEIVED:07/14/97

SAMPLE: Water sample, GW5 (18-20)

ANALYTICAL PARAMETERS		
Chloromethane	ug/L	<1
Bromomethane	ug/L	<1
Dichlordifluomethane	ug/L	<2
Vinyl Chloride	ug/L	<1
Chloroethane	ug/L	<1
Methylene Chloride	ug/L	<1
Trichlorofluomethane	ug/L	<2
1,1 Dichloroethene	ug/L	<1
1,1 Dichloroethane	ug/L	<1
1,2 Dichloroethene	ug/L	6
Chloroform	ug/L	<1
1,2 Dichloroethane	ug/L	<1
111 Trichloroethane	ug/L	<1
Carbon Tetrachloride	ug/L	<1
Bromodichloromethane	ug/L	<1
1,2 Dichloropropane	ug/L	<1
t-1,3Dichloropropene	ug/L	<2
Trichloroethylene	ug/L	2
Chlorodibromomethane	ug/L	<1
112 Trichloroethane	ug/L	<2
c-1,3Dichloropropene	ug/L	<2
2chloroethvinylether	ug/L	<2
Bromoform	ug/L	<2
1122Tetrachloroethan	ug/L	<2
Tetrachloroethene	ug/L	5

ANALYTICAL PARAMETERS		
Chlorobenzene	ug/L	<1
1,3 Dichlorobenzene	ug/L	<2
1,2 Dichlorobenzene	ug/L	<2
1,4 Dichlorobenzene	ug/L	<2

cc:

REMARKS:

DIRECTOR

(35)

...effield Avenue, North Babylon, New York 11703
...22-5777 • FAX (516) 422-5770

Anson Environmental LTD
33 Gerard St
Huntington N.Y. 11743
351-3555 FAX: 351-3615
receiving report: Dennis Madigan
Villa Cleaners
97044

SAMPLE IDENTIFICATION	TOTAL NUMBER OF CONTAINERS
GW1 (18-20)	1L
GW2 (18-20)	1L
GW3 (18-20)	1L
GW4 (18-20)	1L
GW5 (18-20)	1L

TYPE & NUMBER OF CONTAINERS

REMARKS / SPECIAL TURNAROUND: Normal T/A

Relinquished by: (Signature) | DATE/TIME | Received by: (Signature) | SEAL INTACT? YES NO NA | Representing:

ROBERT J. GAFFNEY
SUFFOLK COUNTY EXECUTIVE

DEPARTMENT OF HEALTH SERVICES

MARY E. HIBBERD, M.D., M.P.H.
COMMISSIONER

June 12, 1997

CERTIFIED MAIL R.R.R.
Z 224 478 915
Z 224 478 916

Villa Cleaners
1899 Route 231
Deer Park, NY 11729

Sandra Bresalier
49 Hamlet Drive
Commack, NY 11725

Re: ***Additional Sampling @ 1899 Route 231, Deer Park, NY 11729***

Gentlemen/Madam:

This letter is to advise you that during our routine inspection of businesses operating within Suffolk County, samples were taken at the above-captioned location on May 5, 1997.

Review of the laboratory analyses found the following compounds at concentrations indicative of unpermitted discharges of industrial waste.

1RM 5-5 ~ Soil ~ Sanitary Leaching Pool

cis-1,2 Dichloroethene	*5700 ppb*
Toluene	*170 ppb*
p-Ethyltoluene	*310 ppb*
1,3,5-Trimethylbenzene	*150 ppb*
1,2,4-Trimethylbenzene	*400 ppb*
p-Isopropyltoluene	*1000 ppb*

2RM 5-5 ~ Soil ~ Sanitary Leaching Pool

trans-1,2-Dichloroethene	*540 ppb*
cis-1,2 Dichloroethene	*20000 ppb*
Toluene	*400 ppb*
p-Ethyltoluene	*400 ppb*
1,2,4-Trimethylbenzene	*760 ppb*
p-Isopropyltoluene	*1800 ppb*
Naphthalene	*190 ppb*

3RM 5-5 ~Soil ~ Sanitary Leaching Pool

trans-1,2-Dichloroethene	*100 ppb*
cis-1,2 Dichloroethene	*30000 ppb*
Tetrachloroethene	*100 ppb*
Toluene	*170 ppb*
p-Ethyltoluene	*250 ppb*
1,2,4-Trimethylbenzene	*360 ppb*
p-Isopropyltoluene	*1300 ppb*

4RM 5-5 Soil ~ Sanitary Leaching Pool

trans-1,2-Dichloroethene	*420 ppb*
cis-1,2 Dichloroethene	*87000 ppb*
Acetone	*2900 ppb*
Toluene	*410 ppb*
p-Isopropyltoluene	*7300 ppb*

5RM 5-5 ~ Soil ~ Sanitary Leaching Pool

No elevated levels detected.

ugm/gm = micrograms per gram or parts per million.
mg/l = milligrams per liter or parts per million.
ppb = parts per billion.

These compounds are considered toxic or hazardous and are not to be discharged to the ground, sanitary system, storm drain or other leaching system. The discharge of any liquid from an industrial process without having first obtained a SPDES Permit for that discharge is a violation of the New York State Environmental Conservation Law and Article 12 of the Suffolk County Sanitary Code, which was promulgated to protect the groundwater.

Due to the elevated levels found, **YOU ARE DIRECTED** to have all contaminated solids/sludge and liquids pumped from this and all other pools and/or tanks within the system by an industrial waste hauler before August 4, 1997. The requirement to remediate specific structures in the system may be waived if samples from the structures demonstrate that the concentrations of contaminants do not warrant remediation. To make this determination, samples of both the liquid portion and bottom sediments must be collected from each location and analyzed using EPA Method 8240 or 8260 for VOCs and total heavy metals by acid digestion. The analysis must include all Suffolk County parameters listed in attached Tables 1 and 2. Analysis reports must then be submitted to the department for review. Be advised that under the Suffolk County Sanitary Code, you may be subject to the imposition of a $500 civil penalty for **each day** that these contaminants are allowed to leach out from the subsurface collection systems. Immediate action is, therefore, expected.

At the above concentrations, the liquid portion of this pool may be acceptable at the Bergen Point Sewage Treatment facility. Contact Robert Falk at 852-4107 for approval prior to pumping this material. If the liquid is not acceptable to the Department of Public Works, it must be removed and disposed of by a licensed industrial waste hauler along with the sludge. Kindly notify this office **three working days** in advance of the scheduled cleanup date so that one of our representatives may be present. In addition, high-pressure washing or scraping of the interior walls is required to eliminate any residual contamination. End point samples will be required to determine the adequacy of the remediation. Your contractor must be prepared to collect the samples and have them analyzed by a State approved laboratory for the Suffolk County parameter list unless other arrangements are made with this department in advance. The department reserves the right to split samples as deemed necessary.

Be advised that aeration and/or chemical treatment of any subsurface leaching system to enhance the leachability of hazardous material is not only a separate and distinct violation of Article 12, Section 1205 of the Suffolk County Sanitary Code, but is also considered a willful violation of the code which carries criminal penalties as well as administrative fines.

Performing onsite cleanup activities such as pumping pools, drumming wastes or excavating soils, requires no state or county certification. However, all transportation of industrial wastes for offsite disposal must be done by State licensed scavengers. A partial listing of State approved industrial waste haulers is enclosed for your use. For a complete and up-to-date listing of licensed scavengers, you should contact the Division of Regulatory Affairs, Waste Transporter Section of the New York State Department of Environmental Conservation at (518) 457-3254. The hiring of a cesspool pumping service which is not licensed to haul toxic industrial waste is a violation of state and county law and may subject both you and the non-licensed hauler to civil liability (fines). It is your responsibility to determine if the scavenger is licensed to haul industrial waste.

Since this work may require a Federal Industrial Waste Generator's Permit before a pumpout is accomplished, you should contact Mr. John Kushwara (Chief of Groundwater Compliance Section) at the USEPA, UIC/UST Programs, 290 Broadway, 20th floor, New York, New York 10007-1866, telephone (212) 637-4106 and request form #8700-12. This will expedite your request so that the cleanout can be executed within the time frame allotted. Please be advised that samples for waste characterization may be required. These must be collected and analyzed prior to removing the material from the site.

Fees for removal of toxic materials may vary between scavengers; therefore, you may wish to secure written estimates for your cleanout. This, however, is not to be construed that the department will accept delays in this matter. In addition, it is expected that a thorough evaluation of your company's waste disposal practices be implemented without delay to ensure that unpermitted discharges of your generated industri...

Failure to comply with the directives set forth in this letter by <u>August 4, 1997</u> will result in this matter being scheduled for a Formal Administrative Hearing at which time the department will be seeking the imposition of the maximum penalties of $500/day for each and every violation of the Suffolk County Sanitary Code including, but not limited to, failure to comply with the directives set forth in this letter. It is in your best interest to implement the remediation process outlined above.

If this department can be of any assistance in this regard, feel free to contact the undersigned.

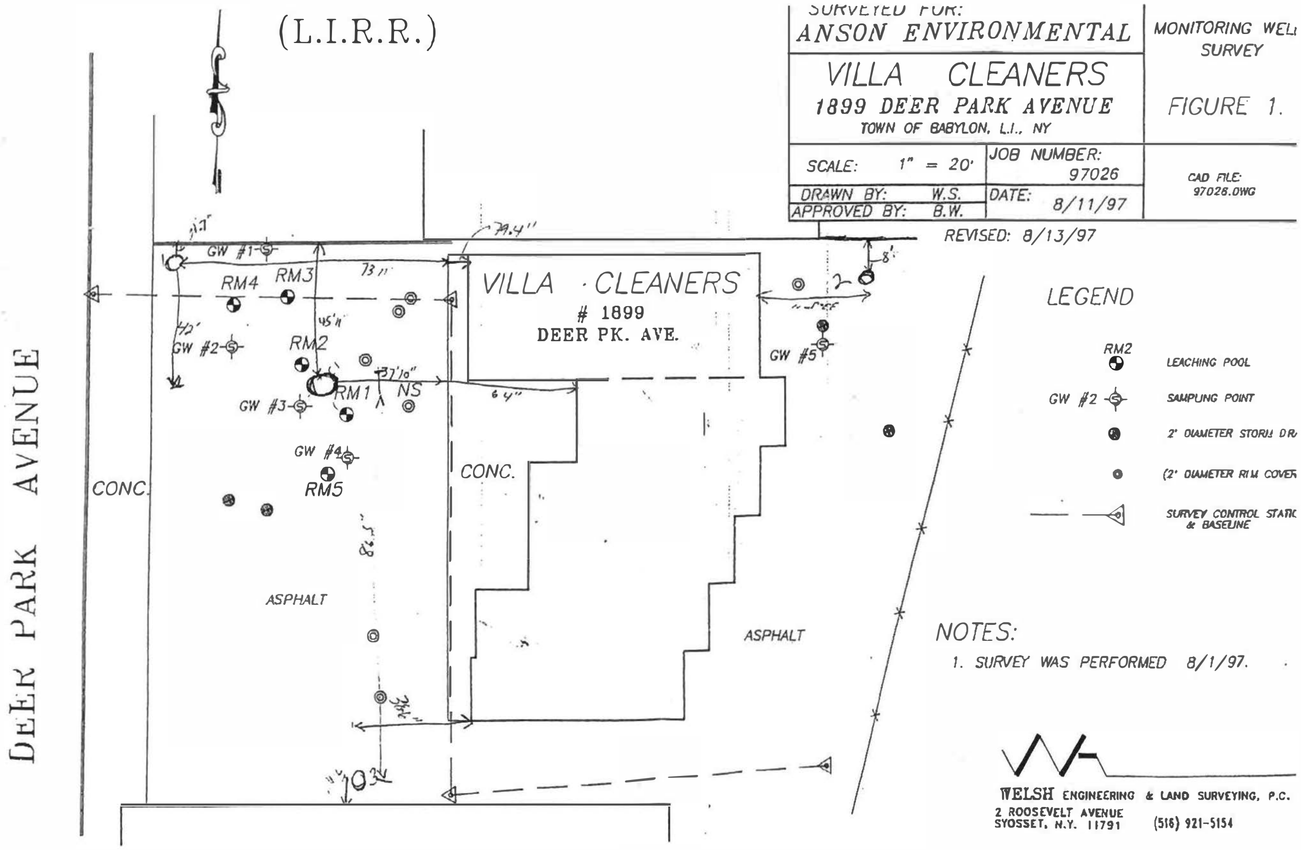
Sincerely,

Peter Schramel

Peter Schramel
Senior Public Health Sanitarian
Inspection Services Bureau

PS/cs
Enclosure

cc: New York State DEC



(L.I.R.R.)
SURVEYED FOR:
ANSON ENVIRONMENTAL
VILLA CLEANERS
1899 DEER PARK AVENUE
TOWN OF BABYLON, L.I., NY
MONITORING WELL SURVEY
FIGURE 1.
SCALE: 1" = 20'
JOB NUMBER: 97026
DRAWN BY: W.S.
APPROVED BY: B.W.
DATE: 8/11/97
CAD FILE: 97026.DWG
REVISED: 8/13/97
DEER PARK AVENUE
VILLA CLEANERS
1899
DEER PK. AVE.
GW #1
GW #2
GW #3
GW #4
GW #5
RM1
RM2
RM3
RM4
RM5
NS
CONC.
CONC.
ASPHALT
ASPHALT
LEGEND
LEACHING POOL
SAMPLING POINT
2' DIAMETER STORM DRAIN
(2' DIAMETER RIM COVER
SURVEY CONTROL STATION & BASELINE
NOTES:
1. SURVEY WAS PERFORMED 8/1/97.
WELSH ENGINEERING & LAND SURVEYING, P.C.
2 ROOSEVELT AVENUE
SYOSSET, N.Y. 11791
(516) 921-5154

APPENDIX C

Health and Safety Plan

Laurel
ENVIRONMENTAL
ASSOCIATES, LTD.

HEALTH AND SAFETY PLAN
REMEDIAL INVESTIGATION

LOCATION:

Villa Cleaners
1899 Deer Park Avenue
Deer Park, New York

July 19, 2005

Prepared by:

Laurel Environmental Associates, Ltd.

Sheila Bubka, CIH
Sheila Bubka, CIH
Health and Safety Officer
AIHA Certification Number 6111

52 ELM STREET, HUNTINGTON, NEW YORK 11743-3402
TELEPHONE: (631) 673-0612 • FAX: (631) 427-5323
WWW.LAURELENV.COM

HEALTH AND SAFETY PLAN
FOR USE DURING REMEDIAL INVESTIGATION

PURPOSE

The purpose of this Health and Safety Plan (HASP) is to assign responsibilities, establish minimum personnel protection standards and operating procedures and provide for contingencies that may arise while investigations are being performed at 1899 Deer Park Avenue, Deer Park, New York. The proposed Remedial Investigation will include the installation of permanent and temporary groundwater monitoring wells, the collection of soil samples at depth and the collection of groundwater and soil gas samples. All subsurface work will be completed using GeoProbe direct push technology, which reduces risk to worker injury and worker/public exposure to contaminants.

Laurel Environmental Associates, Ltd. (LEA) will be responsible for providing materials, equipment and labor required by the HASP. The protocols of the HASP will be followed by all personnel involved in the work, including employees and agents of Contractors, Subcontractors and Owner. Sheila Bubka, CIH, is the Health and Safety Manager, and while on-site during field activities, Carla Sullivan and Scott Yanuck will be the Health and Safety Officers for ***Laurel Environmental Associates, Ltd.*** during the investigation.

This HASP establishes the minimum level of personnel protection. Additional measures will be implemented if necessary to protect personnel involved in the work and the public at large.

Conditions at the site are not expected to warrant either Level B or Level C protection during the investigation based on known site conditions. Regardless, all workers present on site will be familiar with proper protection procedures and the HASP. All personnel scheduled to work at the site are 40-hour OSHA HAZWOPER CFR 1910.120 trained, with 8-hour refreshers up to date.

Given the scope of the work, and the type of contaminants which have the potential of being on-site, there is very little, if any, potential of the surrounding community being negatively impacted by activities which will be conducted during this investigation. However, ***Laurel Environmental Associates, Ltd.*** will take every possible step to avoid any type of negative impact.

During collection of soil samples and/or installation of monitoring wells by rotary stem auger (if needed) drill cuttings with no obvious sign of contamination will be placed under plastic tarps after being screened with a Photoionization Detector to determine the presence of organic contamination. Drill Cuttings which appear to be contaminated, discolored, or emit chemical-like odors etc., will be stored on-site in DOT approved steel 55-gallon drums. If an emergency occurs during the investigation, which in any event may impact the surrounding community, all appropriate emergency resources listed under the Emergency Contingency Plan Section of this plan will be immediately notified.

HAZARD EVALUATION

Elevated levels of VOCs in the atmosphere are not anticipated during on-site activities. However, the presence of VOCs will be evaluated using a Photovac Photoionization Detector (PID). Continuous air monitoring for VOCs will be conducted at the downwind perimeter of the work area. If the total VOC vapor level exceeds 5 parts per million (ppm) above background, work will be halted and actions dictated in the Vapor Emission Response Plan will be followed. Particulate levels will be monitored upwind, downwind, and within the work area. If downwind concentrations of particulates exceed 150 micrograms per cubic meter above upwind concentrations, work will halt and a more rigorous dust control program will be implemented. Prior to undertaking field activities, ***LEA*** will complete monitoring of air quality at the site as discussed in Section 2.1 of the Remedial Investigation Workplan of which this HASP is a part. Results from the air monitoring will determine if Level D personnel protection of workers is appropriate or a higher level of protection is required.

During all sampling and drilling operations, ***LEA*** personnel will monitor the area around of the drill rig, using a Photoionization Detector to ensure that the appropriate worker protection is maintained for the level of pollutants found. If air monitoring indicates contaminant concentrations pose a risk to workers, the area will be immediately evacuated. Guidelines that will be followed before continuing are noted in Table 1. If conditions warrant, Level B and C protection will be worn.

PERSONAL PROTECTIVE EQUIPMENT

All on-site workers will be familiar with proper protection procedures and this Health and Safety Plan. Level D personal protective clothing will be worn at the outset.

As stated above Level B or C protection will worn as required. General descriptions of Level C and B protection are presented in Tables 2 and 3 respectively. If it is necessary to wear Level B or C protection, the work area shall be separated into three Zones: an Exclusion Zone, a Contamination Reduction Zone, and a Support Zone. No one but protected personnel shall be in the Exclusion and Contamination Reduction Zones. An entrance and exit point shall be designated and monitored to ensure that no unauthorized personnel enter the area. Everyone that enters the area shall log in the field note book with the length of time spent in the area and the task performed noted.

All workers shall wear gloves when handling soil/sludge and apparatus. Gloves shall also be worn while cleaning the sampling equipment.

If any personnel must be lowered into a cesspool or leaching pool, the space must be monitored prior to entry. These spaces are classified as confined spaces and procedures must be followed. ***LEA*** will provide the confined space procedures. ***LEA*** will monitor the confined space prior to entry and complete the confined space permit. If needed, dilution or exhaust ventilation will be provided to lower contaminant levels.

All persons working in the confined space must have confined space awareness training and a confined space supervisor must be present. ***LEA*** will perform continuous air monitoring for oxygen, flammability and toxins. At a minimum, carbon monoxide and hydrogen sulfide will be monitored in addition to other site-specific chemicals determined to be a hazard. They and their point person will be properly OSHA confined space entry trained. An approved safety harness and tripod will be employed. Personnel at grade will be constantly monitoring the worker in the pool for signs of fatigue, heat stress or behavior change.

Table 2
LEVEL C PROTECTION

1. Full-face or half-mask, air purifying, canister equipped respirators (NIOSH approved) for those contaminants present.
2. Hooded chemical resistant clothing: (overalls; two-piece chemical-splash-suit; disposable chemical-resistant overalls).
3. Coveralls*
4. Gloves, outer, chemical-resistant
5. Gloves, inner, chemical-resistant
6. Boots (outer), chemical-resistant, steel toe and shank
7. Boot-covers, outer, chemical-resistant, (disposable)*
8. Hard hat
9. Escape mask*
10. Two-way radios (worn under outside protective clothing)
11. Face shield*

*Optional, as applicable.

Table 3
LEVEL B PROTECTION

1. Pressure-demand, full-faceplate self-contained breathing apparatus (SCBA), or pressure demand supplied air respirator with escape SCBA (NIOSH approved)
2. Hooded chemical-resistant clothing (overalls and long-sleeved shirts) jacket; coveralls; one or two-piece chemical-splash suit; disposable chemical-resistant overalls).
3. Coveralls*
4. Gloves, outer chemical-resistant
5. Gloves, inner, chemical-resistant.
6. Boots, outer, chemical resistant steel toe and shank
7. Boot-covers, outer, chemical-resistant (disposable)
8. Hard hat
9. Two-way radios (worn inside encapsulating suit)
10. Face shield*

* Optional, as applicable

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PERSONNEL SAFETY/HYGIENE

The safety practices to be followed by all on-site personnel include:

1. If Level B or C protection must be worn, eating, drinking chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited in the Exclusion and Contamination Reduction Zones.

2. Hands and face must be thoroughly washed before eating, drinking or any other personal hygiene activities.

3. No excessive facial hair, which interferes with a satisfactory fit of the mask to face seal, is allowed for personnel to wear respiratory protective equipment.

PERSONNEL TRAINING

At the start of the job before engaging in any work, all personnel will be briefed on the following:

1. The person in charge as safety officer
2. Boundaries, entry and exit point locations of the work zones, if established
3. Use of personnel protection equipment
4. Principles of personnel hygiene
5. Location of first-aid equipment
6. Evacuation procedures to be followed in case of emergencies
7. Heat stress symptoms. All personnel will be advised to watch for signs of heat stress.

New personnel will be briefed on the same points prior to starting work at the site.

DECONTAMINATION PROCEDURES

If Level B or C protection is worn, decontamination procedures shall be performed in the Contamination Reduction Zone. All disposable garments and spent cartridges/canisters from respiratory equipment will be stored, transported, and properly disposed of in DOT approved 55-gallon drums.

Potentially contaminated equipment will be cleaned before leaving the site.

EMERGENCY CONTINGENCY PLAN

In the event of physical injury, the safety officer or any other qualified person will initiate first aid and, if necessary, call the ambulance. If a chemical exposure is encountered, a physician will be informed, as specifically as possible, of the chemical(s) to which the person had been exposed and the toxicological properties of the chemical(s).

In case of any emergency, the following resources might need to be contacted:

A. Local Resource
   Fire Department: **911**
   Police Department: Suffolk County Police, **911**

B. Hazardous Waste Spills
   New York State Department of Environmental Conservation **1-800-457-7362**
   Suffolk County Department of Health Services, Office of Pollution Control **631-854-2501**
   Laurel Environmental Associates, Ltd.: Nights and Weekend Emergencies **516-971-6332**

C. Hospital
   Good Samaritan Hospital, **631-376-3000**
   1000 Montauk Highway
   West Islip, New York 11795

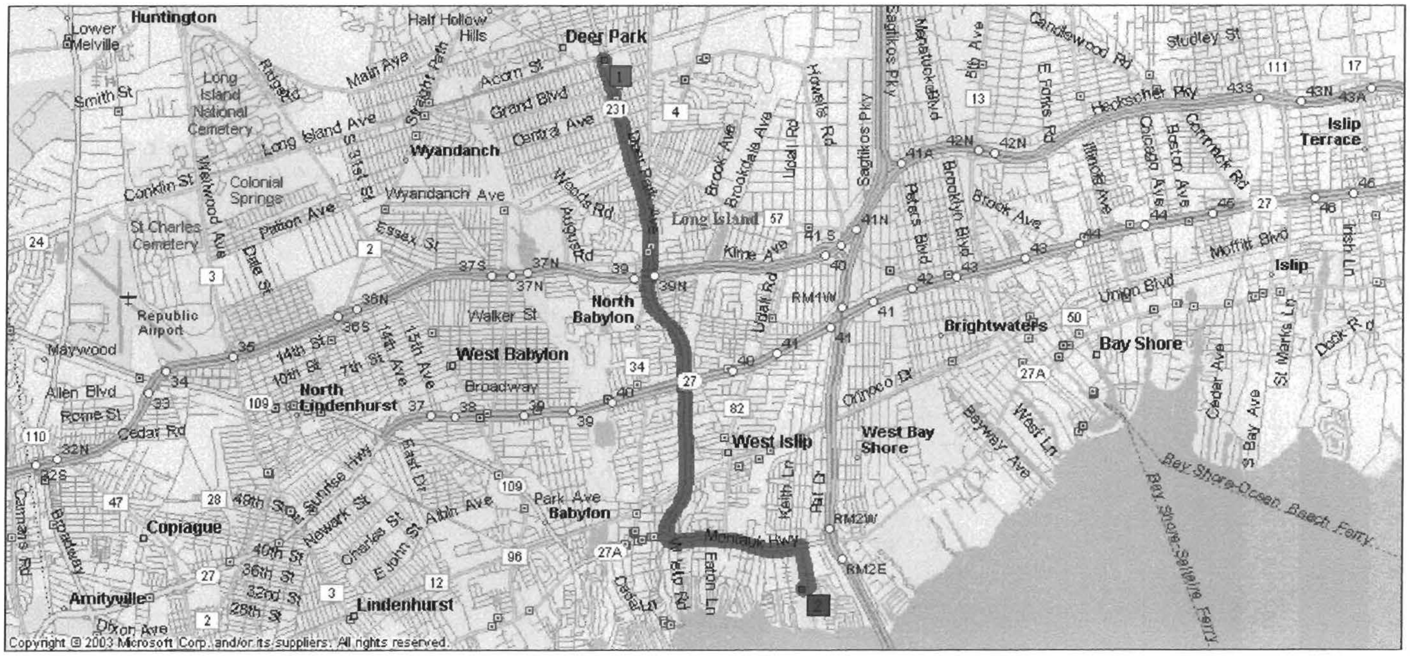
Emergency Route to Hospital:

Direct route to Good Samaritan Hospital from site without using parkways:

Mile	Instruction	For
0.0	**Depart 1899 Deer Park Ave, Deer Park, NY 11729 on Long Island Ave (West)**	**10 yds**
0.1	Turn LEFT (South) onto SR-231 [Deer Park Ave]	4.5 mi
4.5	Keep LEFT onto Local road(s)	0.1 mi
4.6	Bear LEFT (East) onto SR-27A [Montauk Hwy]	1.3 mi
5.9	Turn RIGHT (South) onto Beach Dr	0.4 mi
6.3	Turn RIGHT (West) onto Local road(s)	98 yds
6.3	**Arrive Good Samaritan Hospital-Islip [1000 Montauk Hwy, West Islip, NY 11795, (631) 376-3000]**	

Driving distance: 6.3 miles
Driving time: 11 minutes

#1 Start at the Villa Cleaners site. End at #2, Good Samaritan Hospital



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HEAT STRESS CASUALTY PREVENTION PLAN

A. Identification and Treatment

1) **HEAT EXHAUSTION**

Symptoms: Usually begins with muscular weakness, dizziness and a staggering gait. Vomiting is frequent. The bowels may move involuntarily. The victim is very pale, his/her skin is clammy and he/she may perspire profusely. The pulse is weak and fast, breathing is shallow. He/she may faint unless he/she lies down. This may pass, but sometimes it remains and death could occur.

First Aid: Immediately remove the victim to a shady or cool area with good air circulation. Remove all protective outerwear. Call a physician. Treat the victim for shock. (Make him lie down, raise his feet 6-12 inches, and keep him warm but loosen all clothing). If the victim is conscious, it may be helpful to give him sips of a salt water solution (1 teaspoon of salt to 1 glass of water). Transport victim to a medical facility.

2) **HEAT STROKE**

Symptoms: This is the most serious of heat casualties due to the fact that the body excessively overheats. Body temperatures are often are between 107°-110°F. There is often pain in the head, dizziness, nausea, oppression, and a dryness of the skin and mouth. Unconsciousness follows quickly and death is imminent if exposure continues. The attack will usually occur suddenly.

First-Aid: Immediately evacuate the victim to a cool and shady area. Remove all protective outer wear and all personal clothing. Lay him on his back with the head and shoulders slightly elevated. It is imperative that the body temperature be lowered immediately. This can be accomplished by applying cold wet towels, ice bags, etc., to the head. Sponge off the bare skin with cool water or rubbing alcohol, if available, or even place him in a tub of cool water. The main objective is to cool him without chilling him. Give no stimulants. Transport the victim to a medical facility as soon as possible.

B. **Prevention of Heat Stress**

1) One of the major causes of heat casualties is the depletion of body fluids. On-site there will be plenty of fluids available. Personnel should replace water and salts lost from perspiration. Salts can be replaced by either a 0.1% salt solution, more heavily salted foods, or commercial mixes such as Gatorade®.

2) A work schedule will be established so that the majority of the work day will be during the morning hours of the day before ambient air temperature levels reach their highs if high air temperatures are anticipated.

3) A work/rest guideline will be implemented for personnel required to wear Level B protection, if this situation arises. This guideline is as follows:

Ambient Temperatures	***Maximum Working Time***
Above 90°F	< 1 hour
80° - 90° F	1 hour
70 °- 80° F	2 hours
60 °- 70° F	3 hours
50 °- 60° F	4 hours
40° - 50°F	5 hours
30° - 40° F	6 hours
Below 30° F	8 hours

A sufficient period will be allowed for personnel to "cool down". This may require separate shifts of workers during operations.

Table I
Atmospheric Hazard Guidelines

Hazard	Monitoring Equipment	Measured Level	Action
Explosive Atmosphere	Combustible Gas Indicator	<10% LEL	Continue investigation.
		10%-25% LEL	Continue on-site monitoring with extreme caution as higher levels are encountered.
		>25% LEL	Explosion hazard. Withdraw from area immediately.
Oxygen	Multi RAE	Oxygen conc.	
		<19.5%	Can continue investigation if wearing self-contained breathing apparatus. NOTE: Combustible gas readings are not valid in atmosphere with oxygen <19.5%.
		19.5% - 25%	Continue investigation with caution.
		>25%	Fire hazard potential. Discontinue investigation. Consult a fire safety specialist.
Organic gases and vapors	PID	Background	Continue investigation.
		5 ppm total organics	Can continue investigation if wearing Level C(2) protection.
		5-500 ppm	Can continue investigation if wearing Level B(3) protection.

Notes:
1. LEL = Lower Explosive Limit
2. Level C protection outlined in Table 2
3. Level B protection outlined in Table 3

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APPENDIX D

Community Air Monitoring Plan

Community Air Monitoring Plan

Villa Cleaners Remedial Investigation

Due to the nature of known contaminates of concern and/or potential contaminants at the site, real-time air monitoring for volatile organic compounds (VOCs) and/or particulate levels at the perimeter of the exclusion zone or work area may be necessary. The scope of work regarding the subject property will involve VOC and particulate monitoring. No other additional monitoring requirements should be necessary per consultation with appropriate NYSDEC/NYSDOH staff. Continuous monitoring will be completed for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be completed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Due to the close proximity of a public school as well as an active shopping area, continuous air monitoring will be conducted during all phases of investigation at the site.

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VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis or as otherwise specified. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.

- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will cease, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After which, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

All 15-minute readings will be recorded and be available for State (DEC and DOH) personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

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Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be fitted with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration will be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.

- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

All readings must be recorded and be available for State (DEC and DOH) personnel to review.

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APPENDIX E

Personnel Qualifications

SCOTT A. YANUCK, C.E.I., C.E.S.

EDUCATION: **STATE UNIVERSITY OF NEW YORK AT STONY BROOK**

B.A., Earth and Space Sciences, December, 1987, Minor in Technology and Society.
M.Sc., Hydrogeology, May, 1993.Course work included classes in Geophysics, Chemical Hydrogeology, Organic Contaminant Hydrology, and Computer Modeling.

EXPERIENCE:

PRINCIPAL, MANAGING HYDROGEOLOGIST
LAUREL Environmental Associates, Ltd.

- Supervise all technical and financial operations of environmental consulting firm.
- Completed OSHA 40 Hour HAZWOPER Supervisors course, 8 Hour Refresher Courses to current.
- Completed ASTM Environmental Site Assessment training course for professionals.
- Completed NJDEPE UST Certification Program.
- Completed Mold Remediation Manage Course based on NYC DOH Guidelines
- NYSDOL Asbestos Inspector, #AH97-08528

September, 1992-present

PROJECT MANAGER, GROUP SUPERVISOR: ENVIRONMENTAL SERVICES
Richard D. Galli, P.E., P.C.

In charge of Environmental Services Group. Scope of work within group includes the following:

- Phase I Environmental Assessments.
- Phase II Environmental Assessments.
- Groundwater Contamination Studies.
- Underground Storage Tanks (UST'S): testing, removal, closure.
- Underground Injection Well Closure (UIC)
- Hazardous Site Remediation.
- State Superfund RI/FS.
- Indoor Air Quality (IAQ) studies.

In addition to performing any of the above-mentioned work, personally responsible for project management, including project setup, project review and quality control/quality assurance of proposals and reports generated by the environmental group.

February, 1992-September, 1992

PROJECT MANAGER, HYDROGEOLOGY
Richard D. Galli, P.E., P.C.

Performed all aspects of numerous Phase I Environmental Assessments.

Performed and supervised Phase II and Phase III investigations and remediation. Duties included proposal writing, historical investigations, soil and water sampling, supervision of well drilling teams, supervision of remediation work, supervision of underground storage tanks removals, groundwater studies, and report writing.

Knowledgeable in Ground Water Computer Modeling with *canned* programs as well as developing new programs. Worked to set up a GIS based system capable of mapping CERCLA and NPL site, NYSDEC Spills and Inactive Hazardous Waste Sites, etc., to aid in performing Audits.

Certified: OSHA Forty Hour HAZWOPER Course, NIOSH 582.

July, 1990-February, 1992

TECHNICIAN, FIELD AND LABORATORY

Kemron Environmental Services, Inc.

Worked as an industrial hygienist, taking air and bulk samples, and performing Indoor Air Quality (IAQ) studies. As a Polarized Light Microscopist, analyzed bulk samples for asbestos. Analyzed samples from the *Gramercy Park steam pipe explosion* and was detailed to St. Croix for on site sampling and analysis at the Hess oil refinery during the cleanup of *Hurricane Hugo.* Also worked as GC/MS and HPLC technician.
June, 1989-July, 1990 full time, continuing part time to 1993.

CONSTRUCTION SUPERVISOR, DEVELOPER

SHY Building Corporation, Huntington, NY.

Managed land development and housing construction. Scheduling and supervision of all trades necessary. Duties included the following:

- Design of drainage structures
- Design of buildings/renovations
- Surveying in conjunction with road/drainage construction.
- Property acquisition.
- Submitted applications for subdivision, building permits, and sanitary/water permits to Town and County agencies.
- Supervision of UST installations.
- Geotechnical and environmental inspections of properties/building sites.
- Energy efficient building design and implementation.

May, 1981-May, 1989

AFFILIATIONS

Air & Waste Management Association
American Institute of Professional Geologists
American Society for Testing and Materials
Active Committee Member E-40, Subsurface Investigations
Active Committee Member E-50, Environmental Assessment
Active Committee Member E-50.1, Underground Storage Tanks
Environmental Assessment Association, Certified Environmental Inspector and Specialist, #12200.
Hazardous Materials Control Resources Institute
Huntington Chamber of Commerce
Huntington Historical Society
Long Island Association
Long Island Builders Institute
Long Island Geologists
National Fire Protection Association
National Ground Water Society
New York State Council of Professional Geologists

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JOHN J. TACETTA, P.E., LEP, LAUREL ENVIRONMENTAL ASSOCIATES, LTD. – ASSOCIATE ENGINEER

EDUCATION:

- B.E. in Engineering Science, 1988, State University of New York at Stony Brook.
- B.S. in Engineering Chemistry, 1988, State University of New York at Stony Brook.
- M.S. in Environmental and Waste Management, 1996, State University of New York at Stony Brook.

EDUCATION:

- B.E. in Engineering Science, 1988, State University of New York at Stony Brook.
- B.S. in Engineering Chemistry, 1988, State University of New York at Stony Brook.
- M.S. in Environmental and Waste Management, 1996, State University of New York at Stony Brook.

LICENSES, REGISTRATIONS, CERTIFICATIONS & SPECIALIZED TRAINING:
- Professional Engineer: NY, CT, PA, CO, ME, MA
- Licensed Environmental Professional: CT;
- Asbestos: Project Designer, Management Planner, & Project Monitor. NYS certified trainer: all disciplines.
- HAZWOPER, 29 CFR 1910.120(e)(3), 48 hours (Supervisor's Certificate), with annual updates.
- NYCT Track Safety Training.
- Metro North Track Safety Training.
- NYSDEC Advanced Landfill Design, 40 hours;
- EPA QA/QC Requirements at Hazardous Waste Sites, 8 hours;
- Wild-Herbrug Measuring Theodolite, 40 hours.

TECHNICAL SOCIETY MEMBERSHIPS:
- National Society of Professional Engineers;
- Environmental Professionals of Connecticut.

SUMMARY OF PROFESSIONAL EXPERIENCE:

2001 to present:	Principal, Pegasus Engineering, Stony Brook, NY.
1999 to 2001:	Department Manager, FPM Group, Ltd., Ronkonkoma, NY.
1993 to 1999:	Senior Engineer, Leggette, Brashears & Graham, Inc., Trumbull, CT.
1988-1992:	Project Manager, Richard D. Galli, P.E., P.C., Greenlawn, NY

Mr. Tacetta has 24 years of work experience: 4 years in construction, 3 years in research and development, and 17 years in the fields of environmental and civil engineering. This history encompasses a wide range of work and experience. In that time Mr. Tacetta has overseen numerous environmental remediation, construction, and demolition projects from start to finish.
Mr. Tacetta's design experience encompasses site development, facility planning, air emissions control, waste treatment, impoundments, concrete structures, under- and aboveground storage tank systems and remedial systems. As such, Mr. Tacetta's experience encompasses the application of the implementing regulations of the CAA, CWA, SDWA, NEPA, RCRA and CERCLA as well as building and construction codes on Federal, State and local levels. Mr. Tacetta has worked on numerous projects requiring the evaluation of local and regional geology to assess potential impacts to surface- and ground-water resources in addition to geotechnical evaluation.

Mr. Tacetta's experience also includes cooperative efforts between clients and regulatory agencies to obtain various permits to allow the construction of discharges to local air- and watersheds, waste management units, dewatering systems, sewers, and industrial, commercial, and residential structures. He has directed the preparation of environmental impact studies, compliance reports, critical acceptance inspections, and contingency plans.

Mr. Tacetta has extensive experience with environmental remediation, mitigation, and protection projects. This experience encompasses site characterization, remediation, waste profiling, and the preparation of ancillary plans such as Health and Safety Plans, Erosion Control Plans, Remedial Action Plans, Spill Prevention Control and Countermeasures Plans, Sampling and Monitoring Plans, and QA/QC Plans.

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SHEILA BUBKA, CIH

EDUCATION

MS Hunter College, Environmental and Occupational Safety and Health (1996)
BS SUNY Stony Brook, Biology (1990)

PROFESSIONAL CERTIFICATION

CIH ABIH Certified Industrial Hygienist in Comprehensive Practice (1993)

EXPERIENCE:

Laurel Environmental Associates, Ltd. – Associate Consultant

Design and implement microbial and indoor air investigations in residential and commercial buildings. Conduct walk through investigations to determine the scope of the mold remediation project or to determine possible causal agents for indoor air quality issues. Perform air monitoring to determine microbial levels and types of microbial amplification in a building. Review analytical results and develop reports. Develop remediation plans and provide project management for mold remediation projects.

Environmental Safety And Health Manager

Directly responsible to manage the environmental, safety and health program for a multifaceted manufacturing firm. Develop and implement safety policies and procedures including electrical, lockout tagout, machine guarding, lead hygiene, bloodborne pathogen and respiratory protection. Responsible for conducting accident investigations and managing the worker's compensation program. Conduct industrial hygiene monitoring and safety evaluations of the facility. Accountable for maintaining air, water and hazardous storage permits. Oversee the hazardous waste, emergency response and first aid programs. Oversee the ES&H training programs. Coordinate the activities of company safety committees. Act as a consultant for ES&H issues at other plant locations.

Brookhaven National Laboratory

Emergency Management Project Manager

Develop and maintain emergency preparedness and response capabilities for this 5200-acre multi-use DOE facility (operating two nuclear reactors, three particle accelerators, light source, and undergoing construction of a major international research facility). Directly responsible for the performing hazard assessments to identify potential accident scenarios that could result in radiological or hazardous material releases. Responsible for emergency preparedness and response planning: conducting quarterly drills, an annual full-scale exercise involving off-site agencies, and training of lab directors. Oversee maintenance and update of Emergency Plans/Procedures; oversee development of computer based training programs. Conduct comprehensive Hazard Assessments, evaluating hazards within facilities and transportation of hazardous waste. Preplan for safety, health and environmental impacts of possible hazardous material releases. Conduct integrated assessments to evaluate the effectiveness of the emergency management program. Requires the coordination of over 3000 employees; utilization of site resources.

Occupational Safety and Health Specialist/Hazard Assessment Project Manager

Report to Emergency Management Group Leader. Participated in accident investigations. Coordinated EPA SARA reporting and reviewed legislation regarding emergency planning and environmental risk management. Responsible for classifying events, which are subject to DOE reporting under the Occurrence Reporting Program. Assist in completion and tracking of Occurrence Reports for the Laboratory. Member of safety inspection team for internal Tier I audits. As Project Manager for the Hazard Assessment Project, developed a resource loaded project plan, evaluated proposals, selected and evaluated contractor performance, and enforced project controls.

Industrial Hygiene Training Program Manager

Developed and implemented training for Respiratory Protection, Noise and Hearing Conservation, Laser Safety, Bloodborne Pathogens, Hazard Communication, Ergonomics and Back Safety.

Kemron Environmental Services

Senior Industrial Hygienist/Project Manager

Project Management responsibilities spanning several large-scale industrial hygiene, mold and environmental management projects. This function included the preparation of proposals and budgets. Conducted comprehensive health and safety inspections of industrial/commercial facilities; inspections included applicable personal interviews, ventilation system evaluations, building safety inspections, and sampling for specific noise, chemical, mold and indoor air quality hazards (e.g., noise, chemicals, dusts, particulate and etiologic agents).

Professional Development Courses

Indoor Air Quality Solutions, Indoor Air Quality –8 hour
Bioaerosols, Assessment and Control-16 hrs
Assessing Bioaerosols in Indoor Environments-40hrs
Biological Decommissioning in Buildings-16 hrs
Biological Instrumentation and Sampling Protocols-16 hrs
Assessing and Remediation of Microbial Contamination in the Ennvironment-16 hrs.

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CARLA M. SULLIVAN, C.E.S

EDUCATION

BS GEOLOGY, January 1998. **Cum Laude**

- Long Island University, C.W. Post Campus, Brookville, NY GPA 3.65
- Nominated for C.W. POST Academic Achievement Award
- Recipient of C. W. POST Earth and Environmental Science Award for Excellence in Geology

EXPERIENCE:

SENIOR GEOLOGIST, Laurel Environmental Associates, Ltd., Huntington, NY November 1997 – present.

- Project Manager
- Certified Environmental Specialist
- Phase I Environmental Site Assessments
- Phase II Soil and Groundwater Sampling and Analysis Reports.
- Supervises and writes Remediation/Phase III and Analysis
- Geotechnical reports, class V injection well closure plans and RI/FS workplan for regulatory agency approval
- Groundwater Contamination Studies.
- Underground Storage Tanks (UST'S): testing, removal, closure
- Underground Injection Well Closure (UIC)
- Hazardous Site Remediation.

In addition to performing any of the above-mentioned work personally, responsible for project management, including project setup, project review and quality control/quality assurance of proposals and reports

FIELD SKILLS:

- Completed OSHA 40 HOUR HAZWOPER with confined space, 8 Hour Refresher Courses to current.
- Supervises drilling and installation of groundwater monitoring wells, drilling of borings, UST removals, geotechnical drilling, leaching pool "super sucker" remediation, ground penetrating radar survey.
- Performs split spoon soil sampling, groundwater monitoring well installation, purging & sampling, soil-vapor sampling, UST sampling & registration, dye trace & floor drain closure, magnetometer survey
- Experience with PID, hand auger, soil-vapor probe, soil dredge sampler, magnetometer, pH meter.

RELATED COURSEWORK:

- Hydrogeology, Stratigraphy, Geomorphology, Structural Geology, Sedimentology, Mineralogy, Oceanography, Plate Tectonics, Paleontology, Paleoecology.

RESEARCH:

- The Biotic Events in the Manlius Formation. In process of identifying unknown species. Conducted field work in mapping the stratigraphy and the paleoecology of this diverse layer.

ACTIVITIES:

- Member of the National Honorary Society in the Earth Sciences Sigma Gamma Epsilon
- Member of the National Society of Research for Professionals 5 Sigma Xi
- Member of the National Honor Society C. W. Post Chapter Phi Beta Kappa
- Associate Member of the Geological Society of America
- Member of New York State Paleontological Society
- Member of the American Natural History Museum

AFFILIATIONS

- American Institute of Professional Geologists
- Environmental Assessment Association, Certified Environmental Inspector and Specialist
- Huntington Historical Society
- Oyster Bay Historical Society
- Long Island Association
- Long Island Geologists
- New York State Council of Professional Geologists

MELISA BORG

EXPERIENCE

Environmental Consultant, Laurel Environmental Associates, Ltd., Huntington, NY
January 2003 - Present.

- Performs & writes Phase I Environmental Site Assessments and Phase II Sampling & Analysis Reports.

FIELD SKILLS:

- Performs soil, drywell and cesspool sampling, groundwater monitoring well purging & sampl ing
- Experienced with hand auger

WRITING SKILLS:

- Numerous Phase I & II reports

RELATED QUALIFICATIONS

- Completed OSHA 40 Hour HAZWOPER, 8 Hour Refresher Courses to current.

Independent Study Researcher, Binghamton University, January 2002 – May 2002

- Used coring equipment to obtain age forest age, observed canopy and soil layers
- Compiled a research paper on my findings

Summer Research Project, Stony Brook University, May 2001 – August 2001

- Developed and carried out research project entitled " Investigating the Effects of Nitrogen Deposition on Aphids"
- Presented data and results in oral and written forms to faculty and lab members

Intern, Allee King Rosen & Fleming, Smithtown, New York, May 2000 – August 2000

- Researched information for proposals
- Utilized GPS equipment to conducted a tree survey for the Ross School
- Assisted in the preparation and production of LIRR East End Transportation Study
- Researched and prepared the Excel database of all of SCWA's SEQR review projects

EDUCATION

MS ENVIRONMENTAL SCIENCE, January 2003 - Present.

- Long Island University C.W. Post Campus, Brookville, New York.

RELATED COURSES:

- Groundwater hydrology

BS ENVIRONMENTAL SCIENCE, May 2002.

- Binghamton University, Binghamton, New York, Overall GPA: 3.35

RELATED COURSES:
Forest Ecology, Biology of Birds, Wetland Ecology, Botany, Ecology, Environmental Planning, Unnatural and Natural Pollution, Environmental Ethics and Policy, Calculus, Chemistry and Organic Chemistry

STEPHEN BYRNE

EXPERIENCE

Environmental Consultant, Laurel Environmental Associates, Ltd., Huntington, NY
January 2005 - Present.

- Performs & writes Phase I Environmental Site Assessments and Phase II Sampling & Analysis Reports.
- Experienced with GeoProbe® macro core soil sampler

FIELD SKILLS:

- Performs soil, drywell and cesspool sampling, groundwater monitoring well purging & sampling
- Experienced with hand auger
- Experienced with Photoionizatoin Detector (PID)

WRITING SKILLS:

- Numerous Phase I & II reports
- Graduate Thesis: "The Leeds Pond Site; Prehistoric Cultural Investigation and Pottery Analysis"

RELATED QUALIFICATIONS

- Completed OSHA 40 Hour HAZWOPER (current year).

Teachers Assistant, Adelphi University, September 2003 – December 2003; January 2004 – May 2004

- Reviewed/Graded tests and quizzes
- Laboratory Assistant

Consultant, Suffolk County Archaeological Association, August 2002 – November 2003

- Lectured Students on Archaeological Field Methods
- Lectured Students on Long Island Geology/History/Native Americans
- Oversaw Archeological Activities at Historic Site in Smithtown
- Assisted in the preparation and cataloguing of historic and prehistoric artifacts

EDUCATION

MS ENVIRONMENTAL SCIENCE, September 2002 - Present.

- Adelphi University, 1 South Avenue, Garden City, New York.

RELATED COURSES:

- Groundwater hydrology
- Toxicology
- Conservation Preservation Regulation
- Energy and The Environment
- Virology
- Pollution Controls

BS Anthropology, May 2001.

- Adelphi University, Garden City, New York. Overall GPA: 3.7

Prior Experience
Principle Member for Clothing Company, Mengwear®, LLC
Manager for Italian Restaurant

Member
Suffolk County Archaeological Association

BRENDAN C. MORAN

EXPERIENCE

Environmental Consultant, Laurel Environmental Associates, Ltd., Huntington, NY
February 2005 - Present

- Performs visual inspections & writes Phase I Environmental Site Assessments
- Performs & writes Phase II Subsurface Soil Investigations
- Supervise & writes Remediation/Phase III projects and reports
- Performs & writes Groundwater Investigations
- Supervise UST removals, spill closures

FIELD SKILLS:

- Performs soil, drywell and cesspool sampling, groundwater monitoring, well purging & sampling and soil vapor sampling
- Experienced with van-mounted GeoProbe
- Experienced with track-mounted GeoProbe
- Experienced with prepacked monitoring well installation
- Experienced with Photo Ionization Detector for field screening
- Experienced with Magnetometer and Pipe Locator

WRITING SKILLS:

- Numerous Phase I, II & III reports

RELATED QUALIFICATIONS

- Completed OSHA 40 Hour HAZWOPER (current year)
- Computer assisted statistical analysis using Minitab

EDUCATION

BA Earth Sciences, May 2003.

- Millersville University, Millersville, PA

RELATED COURSES

- Sedimentation, Geology I, Historical Geology, Marine Geology, Oceanography, Calculus I, II and III, Physics I and II, Topics In Environmental Awareness, Chemistry I and II, Statistics I and II

RENEE G. COHEN, LAUREL ENVIRONMENTAL ASSOCIATES, LTD. ASSOCIATE CONSULTANT

Experience **PREMIER ENVIRONMENTAL SERVICES, Merrick, New York, 1993- present**

Perform organic and inorganic data validation according to the various protocols from the USEPA EPA CLP, NYS ASP and USEPA Test Methods for the Evaluation of Solid Waste, Methods for the Chemical Analysis of Water and Waste and the Federal Register. Use the USEPA National Functional Guidelines for Organic and Inorganic Data Validation (where applicable) as well as State (NYS DEC ASP/DUSR) and EPA Region requirements to report on laboratory data quality and data usability. Review and write Quality Assurance Project Plans using Regional and State guidelines for Remedial Investigations, Ground Water Monitoring programs and Superfund Programs. Review data and work plans as they relate to project data quality objectives. Conducts seminars on client specific topics. Perform on-site laboratory QA/QC audits as required by the client and site-specific work plans. Perform ASTM Phase 1 Assessments for engineering firms.

ENVIRONMENTAL TESTING LABORATORIES, Farmingdale, New York

QA Specialist

Performed the data review and report compilation of organic and inorganic data for report preparation. Performed departmental audits in compliance with NELAC and internal Helped to revise laboratory logbooks for bench chemists. Revised/updated laboratory SOP's for method compliance. Participated in on-site audit by both state representatives and commercial clients.

KEYSPAN LABORATORY SERVICES, Brooklyn, New York

Consultant Developed laboratory QAPP (in accordance with NELAC) and Chemical Hygiene Plan. Modified and updated laboratory SOP's. Perform audits in the different work areas. Maintained the NYS DOH proficiency program for analytes of interest. Review data for completeness and QC criteria. Implemented client inquiry system. Performed QC training and method training for bench and field chemists. Developed protocols and documentation for field PCB wipe sampling. Responsible for update/maintenance of laboratory state certifications.

NYTEST ENVIRONMENTAL INC., Port Washington, New York

Quality Assurance Officer, Responsible for the overall quality program at the laboratory.

ENSECO EAST, Somerset, New Jersey

QA/QC Scientist Acted as the Technical Representative for Ensecos EPA 3/90 Organic CLP Contract.

INTECH BIOLABS, East Brunswick, New Jersey

QA/QC Manager -. Recorded and charted all QA/QC data. Reviewed and assembled all CLP organic data reports.

INTERNATIONAL TECHNOLOGIES CORPORATION, Edison, New Jersey

Central Laboratory Chemist - REAC and EERU Contract for the Emergency Response Branch (ERB) of the USEPA. Responsible for the organi and inorganic extraction of environmental samples according to EPA Methods. This included both metals digestion as well as organic extraction's for semivolatiles, pesticides and PCB's. Performed Volatile Organic analyses using Gas Chromatography, Total Petroleum Hydrocarbon Analysi by IR, Metal Analyses by both Graphite Furnace AA and ICP. Field experience included s on site analyses for both metals and GC volatiles.

U.S. TESTING COMPANY, Hoboken, New Jersey

Chemist - Responsible for the digestion and analysis of both soil and aqueous samples for metals according to USEPA CLP and SW 846 protocols.

Education

B.S. Environmental Science, December 1984
B.S. Biology, May 1984
Old Dominion University, Norfolk, Virginia
Graduate Coursework - Rutgers University, New Brunswick, New Jersey
Long Island University at C.W. Post, Glen Cove, New York
Good Laboratory Practice (GLP) - June 1992, Center for Professional Development, East Brunswick, New Jersey
40 Hour Course, Region II-Edison, NJ (1987)
24 Hour Refresher Course (1988, 1989, 1991)

APPENDIX F

Quality Assurance and Quality Control

QUALITY ASSURANCE/QUALITY CONTROL

Laurel considers the quality and accuracy of all of our reports to be of the utmost importance. To achieve this goal, all reports are peer reviewed and corrected. Final reviews are completed by the project manager and finally by an officer of the company, who co-signs all reports.

Laboratory analysis will be completed by a NYSDOH Certified Laboratory; specifically Accutest Laboratories, CLP and ELAP certified, #10983. All samples will be hand delivered under strict chain of custody procedures. The laboratory's QA/QC manual has been reviewed and kept on file.

Additional quality assurance protocol will be implemented should the need arise, this includes but is not limited to the following:

- The Project Manager will ensure that suitable and verifiable data results from sampling and analysis. To achieve this objective the quality assurance procedures detailed in this section will be followed for all sampling and laboratory analysis activities. The person responsible for conducting the investigation and/or remediation will consult with DEC during the development of the workplan to determine whether a site Quality Assurance Officer (QAO) will be required.
- The QAO will review sampling procedures and certify that the data was collected and analyzed using the appropriate procedures. The QAO may not have any responsibilities specific to the collection and analysis of samples from the site for which they are the QAO. The qualifications of a QAO are included in Appendix E of the workplan.

(a) Certification and data acceptance:

(b) Laboratories performing analyses will conform to the following:

i. For the analysis of any aqueous samples for a parameter or category of parameters for which laboratory certification exists pursuant to NYSDOH ELAP Certification, the laboratory will be certified for that specific parameter or category of parameters pursuant to NYSDOH ELAP Certification;

ii. For the analysis of non-aqueous samples using specific analytical methods contained in the EPA Publication SW-846, "Test Methods for Evaluating Solid Waste", third edition, update IIF, January 1995, as amended and supplemented, for a parameter or category of parameters for which certification exists pursuant to NYSDOH ELAP Certification, the laboratory will be certified for that specific parameter or category of parameters pursuant to NYSDOH ELAP Certification or, at a minimum, have obtained temporary approval to analyze regulatory samples pursuant to NYSDOH ELAP Certification.

iii. NYSDOH ELAP does not certify analysis of biological tissue. Laboratories will provide documentation of ability to perform analysis of tissue samples for approval by the DER prior to conducting any tissue analysis.

iv. For analysis of samples where Category B deliverables are required by (f) i. below, NYSDOH ELAP CLP certification is required for the category of parameters to be analyzed for.

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(c) Analytical methods:

1. All analytical methods used will be the most current NYSDEC Analytical Services Protocol June 2000. Where possible, the method selected will achieve a detection limit that is below the lowest standard or guidance value that applies to the media being sampled/analyzed for the contaminants that can reasonably be expected to be found.
2. If an analytical method as described in (c)1 above does not exist for a specific contaminant or parameter within a specific matrix, or if an analytical method as described in (c)1 above for a given contaminant or parameter is demonstrated to be inappropriate for the matrix analyzed, or the method cannot achieve a detection limit below the applicable standard or guidance value, then the person responsible for conducting the investigation and/or remediation will:

    i. Select an appropriate method from another source;

    ii. Document the rationale for selecting the method; and

    iii. Develop a standard operating procedure for the method, including a quality control section.

    iv. Exception: it is recognized that the analytical methods for semi-volatile compounds in soil frequently can not achieve detection limits below SCG levels. In these cases, method 8270 is acceptable irrespective of the detection limit

3. Methods acceptable to the DEC will be utilized for the determination of the presence of free product in soil or water. Such methods include, without limitation, visual identification of sheens or other visible product, measurable thickness of product on the water table, the use of field instruments, ultraviolet fluorescence, soil-water agitation, centrifuging, and hydrophobic dye testing.

    i. For contaminants that in their pure phase and at standard state conditions (20 degrees Celsius to 25 degrees Celsius and one atmosphere pressure) have densities greater than water, free product will be considered to be present if the contaminant is detected in groundwater at concentrations equal to or greater than one percent of the water solubility of the contaminant if groundwater contains only that organic contaminant. If a mixture of such contaminants is present, then the effective water solubility of the contaminant should be estimated for this determination.

4. Except for tissue samples (see 2.1(k) below), gas chromatography methods with a mass spectrometer detector system should be used for analysis of semi-volatile contaminants (exclusive of herbicides, pesticides, and PCBs). Other chromatography methods (liquid chromatography, HPLC) with appropriate detector systems should be used for the analysis of organic analytes amenable only to non-gas chromatographic methods. A mass spectrometer detector system is not required if the site has already been characterized to the extent that all contaminants are known.

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(d) Specific requirements:

1. Laboratories will follow all quality assurance/quality control procedures specified in the analytical methods.
2. Sampling methods, sample preservation requirements, sample handling times, decontamination procedure for field equipment, and frequency for field blanks, field duplicates and trip blanks will conform to the NYSDEC Analytical Services Protocol, June 2000 (ASP), unless an alternate method/procedure has been approved in the workplan.
3. Results from analysis of soils and sediments will be reported on a dry weight basis, except for those results required by the method to be otherwise reported. Analysis of vegetation tissue shall be on a dry weight basis. All other tissue analysis shall be reported on a wet weight basis.

(e) Sample matrix cleanup:

1. Acceptable sample matrix cleanup methods include, without limitation, those methods contained in the EPA Publication SW846 or the EPA "Contract Laboratory Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration" in effect as of the date of sample analysis.
2. Sample matrix cleanup methods will be performed if:

   i. Petroleum contaminated soils, sediments, or other solids are analyzed for semi-volatile organics, and the method detection limits are elevated above the applicable remediation standard because of matrix interference;

   ii. Gas chromatographic peaks are not adequately separated due to matrix interference. A peak will be considered inadequately separated when a rise in baseline or extraneous peaks interfere with:

      (1) the instrumental ability to correctly identify compounds present (including internal standards and surrogates), and/or;

      (2) the integration of peak area and subsequent quantitation;

   iii. So specified by the analytical method; or

   iv. Matrix interferences prevent accurate quantification and/or identification of target compounds.

(f) Unless otherwise approved in advance by the DEC, laboratory data deliverables will be as follows .

1. Category B laboratory data deliverables as defined in the analytical services protocol (ASP June 2000) should be submitted for confirmatory (post remediation) samples and final delineation samples for all sites except those listed in section 5.5. In addition, a Data Usability Summary Report should be prepared by a party independent from the laboratory performing the analysis.
2. Category A (as defined in the ASP) or Category Spills laboratory data deliverables should be submitted for all other analyses; and
3. Analytical results without all quality control documentation and raw data may be provided for all intermediate sampling events and for all long-term groundwater monitoring samples where the site has DEC oversight, provided the following information is submitted:

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i. A cover page, including facility name and address, laboratory name and address, laboratory certification number, if applicable, date of analytical report preparation and signature of laboratory director;

ii. A listing of all field sample identification numbers and corresponding laboratory sample identification numbers;

iii. A listing of all analytical methods used, including matrix cleanup method;

iv. The method detection limit and practical quantitation level for each analyte for each sample analysis;

v. All sample results including date of analysis;

vi. All method blank results; and

vii. All chain of custody documentation.

4. Upon written request, the DEC may require that deliverables package be upgraded to a "Category B" data deliverables package for any sample analysis. If the backup documentation is not available to generate "Category B" deliverables or that the lab is not qualified to generate "Category B" deliverables (not ELAP-CLP lab), reanalysis or re-sampling and analysis is an option.

5. Identify any analytical cleanup methods, where applicable.

(g) Field screening methods, (such as immunoassay, x-ray fluorescence, and mobile laboratories) are limited as follows:

1. Field screening methods for all sampling matrices (soil, water, air, interior surfaces) will only be used under the following conditions:

i. For contaminant delineation if contaminant identity is known or if there is reasonable certainty that a specific contaminant may be present (for example, benzene, toluene, ethylbenzene, xylene in the case of sampling for a gasoline release); or

ii. To bias sample location to the location of greatest suspected contamination.

2. Field screening methods will not be used to verify contaminant identity or clean zones unless there has been a correlation study approved in advance by the DEC for the specific site where screening methods are proposed for verification.

3. Where field screening is used:

i. A standard operating procedure must exist or be developed which includes :

(1) A detailed step by step procedure for the analysis method.

(2) Duplicate analysis of 10% of the samples.

(3) Quality assurance procedures (calibration standards, blanks, etc.) As specified by the method.

(4) Laboratory confirmation on 10% of the samples by a standard ASP method is required. There should be no bias in the selection of duplicate or laboratory confirmation samples, such as selecting positive detections for duplication or confirmation. The duplicate or confirmation analysis should be done on every 10^{th} sample, selected in the order they are presented for analysis. Laboratory confirmation occurs if the correlation between field screening and laboratory results are within +/- 30%.

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ii. Analysis must be done by a Field Analyst with the following minimum qualifications:

(1) Completion of a certification course or training by an experienced analyst who has demonstrated proficiency in the method; or,

(2) Demonstration of the analyst's proficiency by correlation of the analyst's results with laboratory confirmation analysis.

3. Other field screening methods may be utilized, subject to the DEC review of documentation.

(h) The following requirements apply for selection of analytical parameters:

1. Samples from each area of concern will be analyzed for contaminants which may be present.

2. Analysis of Target Compound List plus 30/Target Analyte List (TCL+30/TAL), petroleum hydrocarbons, and pH will be conducted when contaminants in an area are unknown or not well documented, although a limited contaminant list may be used subject to the DEC approval.

i. For all petroleum storage and discharge areas, sample analysis will be conducted pursuant to the requirements of STARS #1" Petroleum Contaminated Soil Guidance Policy." Samples taken in non-petroleum storage and discharge areas should be analyzed for the stored material. Analysis should be conducted using any gas chromatography method by a laboratory that is certified pursuant to NYSDOH ELAP for the category of parameters being analyzed for. Laboratory deliverables should be as specified in the method listed above.

(j) If tentatively identified compounds or unknown compounds are detected at concentrations in excess of the applicable SCG, they will be addressed in either of two ways listed below.

If a contaminant specific SCG does not exist for tentatively identified compounds and for unknown compounds, the generic SCG (class of contaminant, e.g. semi volatile compounds) will be used.

1. If the area will be remediated and it is likely that concentration of the tentatively identified compounds/unknown compounds will be reduced by the remediation, the tentatively identified compounds/unknown compounds will be analyzed in post remediation samples to document that they no longer exceed the applicable SCG.

2. An attempt should be made to positively identify and accurately quantify the tentatively identified compounds/unknown compounds using an analytical method consistent with this section so that a remediation standard can be developed.

2.2 Quality assurance project plan

(a) All workplans will address quality assurance procedures. A generic QAPP may be submitted in advance for sampling using a dynamic workplan. These procedures may be incorporated into the workplan or be supplied as a separate stand alone document. If a separate QAPP, is required, the sampling requirements must also be shown in the workplan. The person responsible for conducting the investigation and/or remediation will submit necessary information in a format that corresponds directly to the outline of this section. For ease of reading, QAPP means the section or document that addresses how data will be quality assured. For large, complicated sites, the DEC may require a separate QAPP. The following should be included in the Quality

Assurance Project Plan:

1. The project's scope and project goals as well as how the project relates to the overall site investigation or remediation strategy;

2. Project organization, including the designation of a Project Manager, Quality Assurance Officer and Field Analyst, (if field analysis is planned). Resumes of these individuals may be requested by the DEC.

3. Sampling procedures and equipment decontamination procedures.

4. Site map showing sample locations

5. An "Analytical Methods/Quality Assurance Summary Table" which should include the following information for all environmental, performance evaluation, and quality control samples:

i. Matrix type;
ii. Number or frequency of samples to be collected per matrix;
iii. Number of field and trip blanks per matrix;
iv. Analytical parameters to be measured per matrix;
v. Analytical methods to be used per matrix
vi. The number and type of matrix spike and matrix spike duplicate samples to be collected;
vii. The number and type of duplicate samples to be collected;
vii. Summary Table

(h) The number and type of split samples to be collected;

ix. The number and type of performance evaluation samples to be analyzed;
x. Sample preservation to be used per analytical method and sample matrix;
xi. Sample container volume and type to be used per analytical method and sample matrix; and
xii. Sample holding time to be used per analytical method and sample matrix;

6. A detailed description of site specific sampling methods to be used, sample storage in the field and sampling handling time requirements;

7. If required by the DEC, a description of the laboratories ability to provide the analytical data in electronic format.

2.3 Quality assurance glossary

"Analytical Services Protocol" or "ASP" means the NYSDEC's compendium of approved EPA and NYSDEC laboratory methods for sample preparation and analysis and data handling procedures, June 2000.

- "Confirmatory Sample" means a sample taken after remedial action is expected to be complete to verify that the cleanup requirements have been met. This term has the same meaning as " post remediation sample".
- "Contract laboratory program" or "CLP" means a program of chemical analytical services developed by the EPA to support CERCLA.
- "Data Usability Summary Report, (DUSR) " is a document that provides a thorough evaluation of the analytical data to determine whether or not the data, as presented, meets the site/project specific

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criteria for data quality and use. Renee G. Cohen, of Premier Environmental Services, Merrick, New York, will perform organic and inorganic data validation according to the various protocols from the USEPA EPA CLP, NYS ASP and USEPA test methods for the evaluation of solid waste, methods for the chemical analysis of water and waste and the federal register.

- "Effective solubility" means the theoretical aqueous solubility of an organic constituent in groundwater that is in chemical equilibrium with a separate phase mixed product (product containing several organic chemicals). The effective solubility of a particular organic chemical can be estimated by multiplying its mole fraction in the product mixture by its pure phase solubility.
- “Environmental Laboratory Accreditation Program” or “ELAP” means a program conducted by the NYSDOH which certifies environmental laboratories through on-site inspections and evaluation of principles of credentials and proficiency testing.
- “Intermediate Sample” means a sample taken during the investigation process that will be followed by another sampling event to confirm that remediation was successful or to confirm that the extent of contamination has been defined to below a level of concern.
- "Method detection limit" or "MDL" means the minimum concentration of a substance that can be measured and reported with a 99 percent confidence that the analyte concentration is greater than zero and is determined from the analysis of a sample in a given matrix containing the analyte.
- “Non-targeted compound" means a compound detected in a sample using a specific analytical method that is not a targeted compound, a surrogate compound, a system monitoring compound or an internal standard compound.
- "Practical quantitation level" or "PQL" means the lowest quantitation level of a given analyte that can be reliably achieved among laboratories within the specified limits of precision and accuracy of a given analytical method during routine laboratory operating conditions.
- “PAH” means polycyclic aromatic hydrocarbon as defined by USEPA Method 8270.
- "Quality assurance" means the total integrated program for assuring the reliability of monitoring and measurement data which includes a system for integrating the quality planning, quality assessment and quality improvement efforts to meet data end-use requirements.
- "Quality assurance project plan" or “QAPP” means a document which presents in specific terms the policies, organization, objectives, functional activities and specific quality assurance/quality control activities designed to achieve the data quality goals or objectives of a specific project or operation.
- "Quality control" means the routine application of procedures for attaining prescribed standards of performance in the monitoring and measurement process.
- “ Semi-volatile organic compound” means compounds amenable to analysis by extraction of the sample with an organic solvent. For the purposes of this section, semi-volatiles are those target compound list compounds identified in the statement of work in the current version of the EPA Contract Laboratory Program.
- "Target analyte list" or "TAL" means the list of inorganic compounds/elements designated for analysis as contained in the version of the EPA Contract Laboratory Program Statement of Work for Inorganics Analysis, Multi-Media, Multi-Concentration in effect as of the date on which the laboratory is performing the analysis. For the purpose of this chapter, a Target Analyte List scan means the analysis of a sample for Target Analyte List compounds/elements.

- "Targeted compound" means a hazardous substance, hazardous waste, or pollutant for which a specific analytical method is designed to detect that potential contaminant both qualitatively and quantitatively.
- "Target compound list plus 30" or "TCL+30" means the list of organic compounds designated for analysis (TCL) as contained in the version of the EPA "Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration" in effect as of the date on which the laboratory is performing the analysis, and up to 30 non-targeted organic compounds (plus 30) as detected by gas chromatography/mass spectroscopy (GC/MS) analysis. For the purposes of this chapter, a Target Compound List+30 scan means the analysis of a sample for Target Compound List compounds and up to 10 non-targeted volatile organic compounds and up to 20 non-targeted semi volatile organic compounds using GC/MS analytical methods. Non-targeted compound criteria should be pursuant to the version of the EPA "Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration" in effect as of the date on which the laboratory is performing the analysis.
- "Tentatively identified compound" or "TIC" means a non-targeted compound detected in a sample using a GC/MS analytical method which has been tentatively identified using a mass spectral library search. An estimated concentration of the TIC is also determined.
- "Unknown compound" means a non-targeted compound which cannot be tentatively identified. Based on the analytical method used, the estimated concentration of the unknown compound may or may not be determined.
- "Volatile organics" means organic compounds amenable to analysis by the purge and trap technique. For the purposes of this chapter, analysis of volatile organics means the analysis of a sample for either those priority pollutants listed as amenable for analysis using EPA method 624 or those target compounds identified as volatiles in the version of the EPA "Contract Laboratory Program Statement of Work for Organics Analysis, Multi-Media, Multi-Concentration" in effect as of the date on which the laboratory is performing the analysis.
- “Waste oil” means used and/or reprocessed engine lubricating oil and/or any other used oil, including but not limited to: fuel oil, engine oil, gear oil, cutting oil, transmission fluid, oil storage tank residue.

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SPECIFIC QA/QC MEASURES FOR VILLA CLEANERS

Laurel considers the quality and accuracy of all of our reports to be of the utmost importance. To achieve this goal, all reports are peer reviewed and corrected. Final reviews are completed by the project manager and finally by an officer of the company, who co-signs all reports.

Laboratory analysis will be completed by a NYSDOH Certified Laboratory; specifically Accutest #10983. All samples will be hand delivered under strict chain of custody procedures. The laboratory's QA/QC manual has been reviewed and kept on file.

To ensure that cross contamination of samples or wells does not occur, the decontamination of field equipment including hollow stem auger, split spoons, ***Teflon*** bailers, hand augers, soil vapor probes, etc. follows protocols outlined in each job's specifications sheet. Field blanks and/or equipment blanks are collected and submitted when sampling groundwater. Upon receipt of the analytical results by ***Laurel***, a thorough review is completed to check for inconsistencies or lab contaminants.

Field Activities, QA/QC

To insure that field procedures are completed in a safe and orderly manner, ***LEA*** will use the USEPA publication, Document #OWRS-QA-1, Guidance for Preparation of Combined Work/Quality Assurance Project Plans for Environmental Monitoring, May, 1983, as a guideline to performing various field activities such as maintaining field logs, preparing chain-of-custody forms, etc.

All field instrumentation will be operated and calibrated in accordance with the manufacturer's recommended methods. Measurements collected using the field instrumentation will be recorded on appropriate data forms.

A quality assurance field audit check list will be completed by the QC Field Officer during the field investigation. A checklist is based on USEPA 330/9-81-003R, 1984, used in conjunction with maintaining a field log, will document all critical field activities and events. In addition, it will insure that procedures such as calibration of field instruments is completed. A copy of the completed quality assurance field audit check list along with completed data forms will be incorporated into the report.

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The following discussions are for the completion of various field tasks:

Field Log Book

The field log will be maintained by ***LEA*** personnel during all field activities to document all pertinent daily occurrences such as, but not limited to, the following:

- Site conditions and weather
- Personnel present
- Sample locations/methodologies
- Sampling times
- Drilling/sampling progress
- Well construction diagrams
- PID data
- Unforeseen events/delays

Labeling and Storing Samples

Samples selected for laboratory analysis will be placed in appropriate laboratory supplied containers. All sample containers will be properly labeled, labels will contain the following information:

- Time of collection
- Date of collection
- Sample location designation
- Preservative, if any
- Sampler's name
- Intended analysis
- Container serial number

Samples will be carefully placed in a laboratory-supplied cooler containing ice or "ice packs" as soon as possible.

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Chain-of-Custody

In order to track all persons handling samples, ***LEA*** and laboratory personnel will maintain chain-of-custody forms for each sample collected. After a sample has been collected, a chain-of-custody form will be completed and signed by the person collecting the sample. The original of the form will remain with the sample and will be signed each time the sample is relinquished to another party, until it reaches the laboratory or analysis is completed. The field sampler will keep one copy and a copy will be retained for the project file. Chain of Custody will contain, at a minimum, with the following information:

- Sampler's name/company
- Sample number and location
- Analysis to be performed
- Date/time

Analytical Method, Preservation and Holding Time Summary

Matrix	Analyses	Analytical Method	Container and Preservation	Analysis Holding Time
Soil	TCL Volatiles	8260B	4 oz. Glass, Cool 4°C	14 Days
Ground Water	TCL Volatiles	8260B	3X40 mL Glass, Cool 4°C, HCl to pH<2	14 Days
Soil Gas	Volatile Organics (TO-15 List)	TO-15	1-Liter Summa Canister	14 Days

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QUALITY CONTROL (QC) CHECK SUMMARY

(QC) Checks	*Minimum Frequency*
Field Blank (FB)[1]	1 per matrix per parameter per day of sample collection (minimum 5% frequency)
Rinsate Blank (RB)	1 per matrix per fraction per piece (or related pieces) of sampling equipment, per day of sample collection (minimum 5% frequency)
Trip Blank (TB)	1 per cooler (volatiles only)
Blind Field Duplicate (DUP)	1 per matrix per parameter per 20 samples
Matrix Spike (MS)	1 per matrix per 20 samples or SDG
Matrix Spike Duplicate (MSD)	1 per matrix per 20 samples or SDG (organics only)
Matrix Duplicate (MD)	1 per matrix per 20 samples or SDG (inorganics only)
Laboratory Control Sample (LCS) or Blank Spike Sample (BS)	1 per analytical batch not to exceed 20 samples
Surrogate Compound Spike	Every analytical run (organics only)
Method (Preparation) Blank (MB)	1 per 20 samples or prep/analysis batch per SDG

Notes:
•Field blanks are obtained in place of rinsate blanks in cases where disposable sampling equipment is used.

Laboratory QA/QC

The selected laboratory, Accutest Laboratories, will be completing the chemical analysis of samples in strict accordance with protocols set forth in NYSDEC Analytical Services Protocols, (ASP), June, 2000, or other state or federal agency protocols, where necessary. Specific analytical methods are provided in are provided in each report. Where necessary, reporting and deliverables (data package) will be completed in accordance with ASP Category B requirements, the reporting and deliverables document will be submitted as an appendix to the report. See following tables for analyte list with laboratory QA/QC Objectives:

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Compound List Report

Product: V8260TCL Volatile Organics, TCL
Matrix: AQ Aqueous

Jul 19, 2005 12:13 pm

Method List:	VAIX8260 AQ	Method Ref:	SW846 8260B	LJ18896
Report List:	VTCL ALL	VOA TCL List		LJ3587
RL/MDL Factor:	1			

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 3/05A MS/MSD	RPD	BS	DUP
Acetone	67-64-1	10	3.4	ug/l	32-166	20	39-162	8
Benzene	71-43-2	1.0	0.23	ug/l	52-136	10	77-121	17
Bromodichloromethane	75-27-4	1.0	0.11	ug/l	79-128	12	82-125	0
Bromoform	75-25-2	4.0	0.24	ug/l	62-134	11	68-130	0
Bromomethane	74-83-9	2.0	0.39	ug/l	56-141	15	57-141	0
2-Butanone (MEK)	78-93-3	10	2.9	ug/l	47-147	15	48-148	7
Carbon disulfide	75-15-0	2.0	0.15	ug/l	54-129	15	53-134	5
Carbon tetrachloride	56-23-5	1.0	0.48	ug/l	64-148	14	74-139	0
Chlorobenzene	108-90-7	1.0	0.086	ug/l	76-120	10	80-117	6
Chloroethane	75-00-3	1.0	0.99	ug/l	57-144	17	64-139	0
Chloroform	67-66-3	1.0	0.15	ug/l	74-127	12	79-122	7
Chloromethane	74-87-3	1.0	0.60	ug/l	53-142	20	56-152	0
Dibromochloromethane	124-48-1	1.0	0.20	ug/l	77-128	9	78-124	0
1,1-Dichloroethane	75-34-3	1.0	0.36	ug/l	71-128	13	76-122	10
1,2-Dichloroethane	107-06-2	1.0	0.17	ug/l	67-140	13	70-136	0
1,1-Dichloroethene	75-35-4	1.0	0.32	ug/l	61-135	12	69-127	6
cis-1,2-Dichloroethene	156-59-2	1.0	0.23	ug/l	70-128	10	75-119	11
trans-1,2-Dichloroethene	156-60-5	1.0	0.43	ug/l	69-126	11	73-122	0
1,2-Dichloropropane	78-87-5	1.0	0.21	ug/l	76-123	11	80-119	0
cis-1,3-Dichloropropene	10061-01-5	1.0	0.13	ug/l	74-123	11	79-120	0
trans-1,3-Dichloropropene	10061-02-6	1.0	0.16	ug/l	73-127	12	78-125	0
Ethylbenzene	100-41-4	1.0	0.18	ug/l	52-140	11	80-121	17
2-Hexanone	591-78-6	5.0	1.2	ug/l	51-144	16	52-147	0
4-Methyl-2-pentanone(MIBK)	108-10-1	5.0	1.8	ug/l	54-145	20	58-145	0
Methylene chloride	75-09-2	2.0	0.37	ug/l	73-124	10	76-119	0
Styrene	100-42-5	5.0	0.085	ug/l	74-131	9	81-124	0
1,1,2,2-Tetrachloroethane	79-34-5	1.0	0.20	ug/l	72-121	11	74-120	0
Tetrachloroethene	127-18-4	1.0	0.19	ug/l	66-129	11	65-135	8
Toluene	108-88-3	1.0	0.16	ug/l	51-142	11	79-122	21
1,1,1-Trichloroethane	71-55-6	1.0	0.16	ug/l	69-140	14	78-131	3
1,1,2-Trichloroethane	79-00-5	1.0	0.24	ug/l	81-121	10	83-118	0
Trichloroethene	79-01-6	1.0	0.22	ug/l	68-133	11	80-122	7
Vinyl chloride	75-01-4	1.0	0.24	ug/l	52-145	17	64-144	0
Xylene (total)	1330-20-7	1.0	0.13	ug/l	63-127	10	81-120	28

Dibromofluoromethane	1868-53-7	Surrogate Limits:	79-121
1,2-Dichloroethane-D4	17060-07-0	Surrogate Limits:	69-131
Toluene-D8	2037-26-5	Surrogate Limits:	84-115
4-Bromofluorobenzene	460-00-4	Surrogate Limits:	80-121

34 compounds and 4 surrogates reported in list VTCL.

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Compound List Report

Product: V8260TCL Volatile Organics, TCL
Matrix: SO Solid

Jul 19, 2005 12:14 pm

Method List: VAIX8260 SO	Method Ref: SW846 8260B	LJ18857
Report List: VTCL ALL	VOA TCL List	LJ3587
RL/MDL Factor: 1		

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 3/05 MS/MSD	RPD	BS	DUP
Acetone	67-64-1	10	1.8	ug/kg	6-184	34	18-170	37
Benzene	71-43-2	1.0	0.57	ug/kg	54-132	15	81-116	68
Bromodichloromethane	75-27-4	5.0	0.17	ug/kg	56-139	16	83-123	10
Bromoform	75-25-2	5.0	0.48	ug/kg	52-134	20	74-127	10
Bromomethane	74-83-9	5.0	0.74	ug/kg	7-141	31	60-134	10
2-Butanone (MEK)	78-93-3	10	2.4	ug/kg	24-168	30	37-159	36
Carbon disulfide	75-15-0	5.0	0.55	ug/kg	32-143	20	52-138	36
Carbon tetrachloride	56-23-5	5.0	0.58	ug/kg	40-149	16	72-134	10
Chlorobenzene	108-90-7	5.0	0.26	ug/kg	50-136	19	83-115	10
Chloroethane	75-00-3	5.0	1.2	ug/kg	12-139	29	61-138	10
Chloroform	67-66-3	5.0	0.32	ug/kg	57-135	15	79-121	48
Chloromethane	74-87-3	5.0	0.78	ug/kg	41-138	22	57-139	10
Dibromochloromethane	124-48-1	5.0	0.31	ug/kg	57-139	18	80-127	10
1,1-Dichloroethane	75-34-3	5.0	0.23	ug/kg	56-135	15	77-123	18
1,2-Dichloroethane	107-06-2	5.0	0.27	ug/kg	58-137	15	77-129	30
1,1-Dichloroethene	75-35-4	5.0	0.34	ug/kg	43-144	18	68-130	10
cis-1,2-Dichloroethene	156-59-2	5.0	0.25	ug/kg	54-139	15	77-122	47
trans-1,2-Dichloroethene	156-60-5	5.0	0.38	ug/kg	48-139	16	74-125	27
1,2-Dichloropropane	78-87-5	5.0	0.59	ug/kg	60-131	15	81-119	10
cis-1,3-Dichloropropene	10061-01-5	5.0	0.20	ug/kg	51-137	16	83-119	10
trans-1,3-Dichloropropene	10061-02-6	5.0	0.26	ug/kg	50-140	17	81-123	10
Ethylbenzene	100-41-4	1.0	0.51	ug/kg	44-142	20	81-118	69
2-Hexanone	591-78-6	5.0	0.90	ug/kg	27-161	27	44-155	10
4-Methyl-2-pentanone(MIBK)	108-10-1	5.0	1.2	ug/kg	51-141	22	66-141	10
Methylene chloride	75-09-2	5.0	0.21	ug/kg	56-137	17	77-123	12
Styrene	100-42-5	5.0	0.65	ug/kg	43-148	22	85-121	10
1,1,2,2-Tetrachloroethane	79-34-5	5.0	0.48	ug/kg	51-137	24	75-125	10
Tetrachloroethene	127-18-4	5.0	0.79	ug/kg	33-167	29	67-132	33
Toluene	108-88-3	1.0	0.40	ug/kg	47-140	17	82-118	69
1,1,1-Trichloroethane	71-55-6	5.0	0.57	ug/kg	48-142	16	74-129	34
1,1,2-Trichloroethane	79-00-5	5.0	0.68	ug/kg	60-134	17	82-120	25
Trichloroethene	79-01-6	5.0	0.44	ug/kg	45-145	17	80-119	54
Vinyl chloride	75-01-4	5.0	0.26	ug/kg	42-142	18	62-139	16
Xylene (total)	1330-20-7	2.0	0.55	ug/kg	43-144	21	82-119	83
Dibromofluoromethane	1868-53-7				Surrogate Limits:		70-122	
1,2-Dichloroethane-D4	17060-07-0				Surrogate Limits:		62-131	
Toluene-D8	2037-26-5				Surrogate Limits:		76-119	
4-Bromofluorobenzene	460-00-4				Surrogate Limits:		67-137	

34 compounds and 4 surrogates reported in list VTCL

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Compound List Report

Product: VTO15STD Volatile Organics
Matrix: AIR Air

Jul 19. 2005 12:14 pm

Method List: VTO14/15 AIR	Method Ref: TO-15		LJ17894
Report List: VTO15 AIR			LJ17455
RL/MDL Factor: 1			

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 9/04 MS/MSD	RPD	BS	DUP
Acetone	67-64-1	0.20	0.10	ppbv	60-140	30	70-130	24
1,3-Butadiene	106-99-0	0.20	0.11	ppbv	60-140	30	70-130	10
Benzene	71-43-2	0.20	0.079	ppbv	60-140	30	70-130	14
Bromodichloromethane	75-27-4	0.20	0.076	ppbv	60-140	30	70-130	10
Bromoform	75-25-2	0.20	0.066	ppbv	60-140	30	70-130	10
Bromomethane	74-83-9	0.20	0.098	ppbv	60-140	30	70-130	10
Bromoethene	593-60-2	0.20	0.098	ppbv	70-114	30	70-130	10
Benzyl Chloride	100-44-7	0.20	0.086	ppbv	60-140	30	70-130	10
Carbon disulfide	75-15-0	0.20	0.093	ppbv	60-140	30	70-130	11
Chlorobenzene	108-90-7	0.20	0.088	ppbv	60-140	30	70-130	10
Chloroethane	75-00-3	0.20	0.11	ppbv	60-140	30	70-130	10
Chloroform	67-66-3	0.20	0.086	ppbv	60-140	30	70-130	12
Chloromethane	74-87-3	0.20	0.11	ppbv	60-140	30	70-130	20
3-Chloropropene	107-05-1	0.20	0.089	ppbv	70-130	30	70-130	10
2-Chlorotoluene	95-49-8	0.20	0.091	ppbv	74-119	30	70-130	10
Carbon tetrachloride	56-23-5	0.20	0.074	ppbv	60-140	30	70-130	10
Cyclohexane	110-82-7	0.20	0.088	ppbv	60-140	30	70-130	30
1,1-Dichloroethane	75-34-3	0.20	0.093	ppbv	60-140	30	70-130	10
1,1-Dichloroethylene	75-35-4	0.20	0.092	ppbv	60-140	30	70-130	10
1,2-Dibromoethane	106-93-4	0.20	0.081	ppbv	60-140	30	70-130	10
1,2-Dichloroethane	107-06-2	0.20	0.099	ppbv	60-140	30	70-130	10
1,2-Dichloropropane	78-87-5	0.20	0.098	ppbv	60-140	30	70-130	10
1,4-Dioxane	123-91-1	0.20	0.11	ppbv	60-140	30	70-130	10
Dichlorodifluoromethane	75-71-8	0.20	0.10	ppbv	60-140	30	70-130	28
Dibromochloromethane	124-48-1	0.20	0.095	ppbv	60-140	30	70-130	10
trans-1,2-Dichloroethylene	156-60-5	0.20	0.098	ppbv	60-140	30	70-130	10
cis-1,2-Dichloroethylene	156-59-2	0.20	0.084	ppbv	60-140	30	70-130	10
cis-1,3-Dichloropropene	10061-01-5	0.20	0.083	ppbv	60-140	30	70-130	10
m-Dichlorobenzene	541-73-1	0.20	0.11	ppbv	60-140	30	70-130	10
o-Dichlorobenzene	95-50-1	0.20	0.096	ppbv	60-140	30	70-130	10
p-Dichlorobenzene	106-46-7	0.20	0.10	ppbv	60-140	30	70-130	10
trans-1,3-Dichloropropene	10061-02-6	0.20	0.090	ppbv	60-140	30	70-130	10
Ethanol	64-17-5	0.50	0.13	ppbv	60-140	30	70-130	22
Ethylbenzene	100-41-4	0.20	0.089	ppbv	60-140	30	70-130	17
Ethyl Acetate	141-78-6	0.20	0.094	ppbv	60-140	30	70-130	10
4-Ethyltoluene	622-96-8	0.20	0.098	ppbv	60-140	30	70-130	14
Freon 113	76-13-1	0.20	0.092	ppbv	60-140	30	70-130	15
Freon 114	76-14-2	0.20	0.11	ppbv	60-140	30	70-130	10
Heptane	142-82-5	0.20	0.098	ppbv	60-140	30	70-130	20
Hexachlorobutadiene	87-68-3	0.20	0.084	ppbv	60-140	30	70-130	10
Hexane	110-54-3	0.20	0.094	ppbv	60-140	30	70-130	16
2-Hexanone	591-78-6	0.20	0.081	ppbv	60-140	30	70-130	10
Isopropyl Alcohol	67-63-0	0.20	0.11	ppbv	60-140	30	70-130	14
Methylene chloride	75-09-2	0.20	0.097	ppbv	60-140	30	70-130	30

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Compound List Report

Product: VTO15STD Volatile Organics
Matrix: AIR Air

Jul 19, 2005 12:14 pm

Method List: VTO14/15 AIR	Method Ref: TO-15		LJ17894
Report List: VTO15 AIR			LJ17455
RL/MDL Factor: 1			

Compound	CAS No.	RL	MDL	Units	Control Limits (%) Rev: 9/04 MS/MSD	RPD	BS	DUP
Methyl ethyl ketone	78-93-3	0.20	0.092	ppbv	60-140	30	70-130	21
Methyl Isobutyl Ketone	108-10-1	0.20	0.085	ppbv	60-140	30	70-130	10
Methyl Tert Butyl Ether	1634-04-4	0.20	0.073	ppbv	60-140	30	70-130	16
Propylene	115-07-1	0.50	0.15	ppbv	60-140	30	70-130	10
Styrene	100-42-5	0.20	0.079	ppbv	60-140	30	70-130	10
1,1,1-Trichloroethane	71-55-6	0.20	0.083	ppbv	60-140	30	70-130	10
1,1,2,2-Tetrachloroethane	79-34-5	0.20	0.094	ppbv	60-140	30	70-130	10
1,1,2-Trichloroethane	79-00-5	0.20	0.092	ppbv	60-140	30	70-130	10
1,2,4-Trichlorobenzene	120-82-1	0.20	0.063	ppbv	60-140	30	70-130	10
1,2,4-Trimethylbenzene	95-63-6	0.20	0.095	ppbv	60-140	30	70-130	15
1,3,5-Trimethylbenzene	108-67-8	0.20	0.097	ppbv	60-140	30	70-130	12
2,2,4-Trimethylpentane	540-84-1	0.20	0.10	ppbv	69-119	30	70-130	10
Tertiary Butyl Alcohol	75-65-0	0.20	0.10	ppbv	60-140	30	70-130	28
Tetrachloroethylene	127-18-4	0.20	0.083	ppbv	60-140	30	70-130	12
Tetrahydrofuran	109-99-9	0.20	0.12	ppbv	60-140	30	70-130	14
Toluene	108-88-3	0.20	0.083	ppbv	60-140	30	70-130	13
Trichloroethylene	79-01-6	0.20	0.095	ppbv	60-140	30	70-130	10
Trichlorofluoromethane	75-69-4	0.20	0.091	ppbv	60-140	30	70-130	21
Vinyl chloride	75-01-4	0.20	0.11	ppbv	60-140	30	70-130	10
Vinyl Acetate	108-05-4	0.20	0.10	ppbv	60-140	30	70-130	10
m,p-Xylene		0.20	0.18	ppbv	60-140	30	70-130	18
o-Xylene	95-47-6	0.20	0.086	ppbv	60-140	30	70-130	16
Xylenes (total)	1330-20-7	0.20		ppbv	60-140	30	70-130	16
4-Bromofluorobenzene	460-00-4				Surrogate Limits:		78-124	

67 compounds and 1 surrogates reported in list VTO15

Data Validation

Data validation will be performed by Renee G. Cohen, of Premier Environmental. The data validation process will be completed by Ms. Cohen, a qualified independent consultant, and will consist of data editing, screening, auditing, certification, review, and interpretation. The selected laboratory, Accutest Laboratories, will submit results and ASP Category B reportings and deliverables to the data validator to enable the validator to conclusively determine the quality of the data.

Data Quality Control Objectives

To insure that generated data is of good quality and meet the stated job specific quality objectives, data quality controls must be provided. Quality control elements include sensitivity, precision, accuracy, representativeness and completeness. The data quality control objectives for the remaining contaminants to be tested for will be in accordance with ASP or other protocols. The following are descriptions of the above listed quality control objectives:

Sensitivity:
The required sensitivity of data will be the stated job specific quantitation limits. The TCL quantitation limits will sufficiently meet stated data quality objectives.

Precision:
Primarily determined from the relative percent difference (RPD) of Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries.

Accuracy:
The accuracy objectives for this project require that all matrix spike and surrogate spike recoveries fall within the ASP required recovery limits.

Completeness:
The completeness objectives of this project will require that at a minimum 90% of the QA/QC data meet given quality assurance objectives previously stated. Where data does not meet the requirements, an explanation or justification for the failure will be given and, if necessary, corrective action such as repeat sampling and analysis may be conducted as necessary.

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APPENDIX G

NYSDOH Off-site Indoor Air Quality Results

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Flanigan Square, 547 River Street, Troy, New York 12180-2216

Antonia C. Novello, M.D., M.P.H., Dr.P.H.
Commissioner

Dennis P. Whalen
Executive Deputy Commissioner

July 7, 2004

Mr. Chris Harrington
Italian Import Deli
1897 Deer Park Avenue
Deer Park, NY 11729

Re: **Indoor Air Sampling Results**
Villa Cleaners
Site ID #: 152188
Deer Park/ Suffolk County

Dear Mr. Harrington:

Enclosed are laboratory results for the indoor air samples collected in your deli on May 12 and 13, 2004. The New York State Department of Health (NYSDOH) collected the samples to evaluate whether past improper disposal of waste materials from the Villa dry cleaning facility has impacted the quality of your indoor air.

Two indoor air samples were collected from the first floor of your deli: one from the front room and one from the back kitchen/storage area. The samples were collected using passive organic vapor monitoring badges and analyzed for tetrachloroethene (PCE or Perc), a common dry cleaning chemical.

In air, the concentration of tetrachloroethene is measured in units of micrograms of tetrachloroethene per cubic meter of air. These units are abbreviated as "mcg/cu.m." The laboratory reports show that tetrachloroethene was detected at a concentration of 6 mcg/cu.m. in the front room and 6 mcg/cu.m. in the back room. These concentrations are within the range of background levels typically found in indoor environments that are not affected by a spill or other significant source of contamination. The concentrations of tetrachloroethene detected in both samples **do not** indicate that your indoor air quality is impacted by the Villa Cleaners site.

If you have any questions, please contact me at 1-800-458-1158, ext. 27870. Thank you for your participation in our indoor air sampling investigation.

Sincerely,

Deanna M. Ripstein

Deanna Ripstein
Public Health Specialist II
Bureau of Environmental Exposure Investigation

Enclosure

cc: Mr. G. Litwin/Mr. R. Fedigan/file
Mr. G. Rosser - SCDHS
Mr. G. Boberski/Ms. T. King – DEC w/ enclosure
Mr. W. Parish – DEC Region 1

0508 NEW YORK STATE DEPARTMENT OF HEALTH 223
WADSWORTH CENTER
EMPIRE STATE PLAZA, ALBANY NY 12201

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 200401099 SAMPLE RECEIVED: 05/17/2004 CHARGE: 4.00
PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: 152188 DRAINAGE BASIN: GAZETTEER CODE: 5150
POLITICAL SUBDIVISION: BABYLON COUNTY: SUFFOLK
LATITUDE: 40.76127 LONGITUDE: 73.32870 SOURCE: 1 FORMAT: 3
LOCATION: VILLA CLEANERS
DESCRIPTION: ITALIAN IMPORT DELI - FRONT ROOM/BADGE #QE 0966
SAMPLING PNT ADDR: 1897 DEER PARK AVE, DEER PARK, 11729
REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: BADGE-1: ORGANIC VAPOR MONITORING BADGE
SAMPLE TYPE: 902: AMBIENT AIR - INDOOR
TIME OF SAMPLING: 05/12/2004 14:40 TO 05/13/2004 12:55 DATE PRINTED: 06/04/2004

ANALYSIS: BADGE-1 ORGANIC VAPOR MONITORING BADGE
DATE PRINTED: 06/04/2004 FINAL REPORT

PARAMETER	RESULT
ELAPSED TIME	1335 MINUTES
TETRACHLOROETHENE	6. MCG/CU.M.

**** END OF REPORT ****

NYS ELAP ID 10763, LAB DIR DR K. ALDOUS, CONTACT MR R. PAUSE 518-473-0323
COPIES SENT TO: CO(2), RO(1), LPHE(1), FED( ), INFO-P( ), INFO-L( )

GARY A. LITWIN
BUR. ENVIRONMENTAL EXPOSURE INVESTIGAT. COLLECTED BY:RAFFERTY
NYS DEP'T OF HEALTH SUBMITTED BY:DRIPSTEIN
FLANIGAN SQ.,547 RIVER ST.
TROY ****INTERAGENCY MAIL****

STATE OF NEW YORK
DEPARTMENT OF HEALTH

Flanigan Square, 547 River Street, Troy, New York 12180-2216

Antonia C. Novello, M.D., M.P.H., Dr.P.H.
Commissioner

Dennis P. Whalen
Executive Deputy Commissioner

July 7, 2004

Mr. Tom Pagano
Crazy Billy's Liquor Store
1887 Deer Park Avenue
Deer Park, NY 11729

Re: **Indoor Air Sampling Results**
Villa Cleaners
Site ID #: 152188
Deer Park/ Suffolk County

Dear Mr. Pagano:

Enclosed are laboratory results for the indoor air samples collected in Crazy Billy's Liquor Store on May 12 and 13, 2004. The New York State Department of Health (NYSDOH) collected the samples to evaluate whether past improper disposal of waste materials from the Villa dry cleaning facility has impacted the quality of your indoor air.

Two indoor air samples were collected: one sample from the first floor and one from the basement. The samples were collected using passive organic vapor monitoring badges and analyzed for tetrachloroethene (PCE or Perc), a common dry cleaning chemical.

In air, the concentration of tetrachloroethene is measured in units of micrograms of tetrachloroethene per cubic meter of air. These units are abbreviated as "mcg/cu.m." The laboratory reports show that tetrachloroethene was detected at a concentration of less than 5 mcg/cu.m. in the first floor and basement samples. The notation [PL], which appears on the laboratory report, indicates that concentrations of tetrachloroethene were detected below the analytical detection limit of 5 mcg/cu.m. Since the laboratory analysis method can not reliably quantify a concentration below the detection limit, the results were reported as equal to the detection limit (5 mcg/cu.m. [PL]). These concentrations are within the range of background levels typically found in indoor environments that are not affected by a spill or other significant source of contamination. The concentration of tetrachloroethene detected in both samples is comparable to

If you have any questions, please contact me at 1-800-458-1158, ext. 27870. Thank you for your participation in our indoor air sampling investigation.

Sincerely,

Deanna M. Ripstein

Deanna Ripstein
Public Health Specialist II
Bureau of Environmental Exposure Investigation

Enclosure

cc: Mr. G. Litwin/Mr. R. Fedigan/file
Mr. G. Rosser - SCDHS
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NEW YORK STATE DEPARTMENT OF HEALTH
WADSWORTH CENTER
EMPIRE STATE PLAZA, ALBANY NY 12201

PAGE 1 RESULTS OF EXAMINATION FINAL REPORT

SAMPLE ID: 200401100 SAMPLE RECEIVED: 05/17/2004 CHARGE: 4.00
PROGRAM: 110: STATE SUPERFUND ANALYTICAL SERVICES
SOURCE ID: 152188 DRAINAGE BASIN: GAZETTEER CODE: 5150
POLITICAL SUBDIVISION: BABYLON COUNTY: SUFFOLK
LATITUDE: 40.76127 LONGITUDE: 73.32870 SOURCE: 1 FORMAT: 3
LOCATION: VILLA CLEANERS
DESCRIPTION: ITALIAN IMPORT DELI - KITCHEN, BADGE #OF 1067
SAMPLING PNT ADDR: 1897 DEER PARK AVE, DEER PARK, 11729
REPORTING LAB: TOX: LAB FOR ORGANIC ANALYTICAL CHEMISTRY
TEST PATTERN: BADGE-1: ORGANIC VAPOR MONITORING BADGE
SAMPLE TYPE: 902: AMBIENT AIR - INDOOR
TIME OF SAMPLING: 05/12/2004 14:45 TO 05/13/2004 12:57 DATE PRINTED: 06/04/2004

ANALYSIS: BADGE-1 ORGANIC VAPOR MONITORING BADGE
DATE PRINTED: 06/04/2004 FINAL REPORT

PARAMETER	RESULT
ELAPSED TIME	1332 MINUTES
TETRACHLOROETHENE	6. MCG/CU.M.

**** END OF REPORT ****

NYS ELAP ID 10763, LAB DIR DR K. ALDOUS, CONTACT MR R. PAUSE 518-473-0323
COPIES SENT TO: CO(2), RO(1), LPHE(1), FED( ), INFO-P( ), INFO-L( )

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NYS DEP'T OF HEALTH
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