Fenley & Nicol Environmental Inc.

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

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Voluntary Cleanup Investigation Work Plan

V-00-3764
33 North First Street
Brooklyn, 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 : Department of Environmental Conservation

Prepared By: Fenley and Nicol Environmental, Inc.
445 Brook Avenue
Deer Park, NY 11729

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

Brian McCabe, Senior Geologist

Prepared On: January 30, 2001

F&N Job No. 0006927

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1.0 Introduction

Fenley and Nicol Environmental, Inc. (F&N) has been retained to prepare an Investigation Work Plan for the property located at 33 North First Street in Brooklyn, New York *(hereinafter referred to as "the property" or "subject property")*. The purpose of the Investigation Work Plan 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 Investigation Work Plan is based upon a June 14, 2000 meeting between representatives of F&N and the NYSDEC.

The subject property consists of a legal one (1) story industrial/warehouse building currently occupied by Fyn Paint and Lacquer Company, Inc. (Fyn Paint). The property is currently being utilized as a paint and lacquer manufacturing facility. The property is located along the north side of North First Street, between River Street and Kent Avenue. The building occupies the entire piece of property with the exception of a concrete sidewalk that surrounds the building on the south, east and west sides. The vicinity of the property consists of heavy industrial and commercial properties.

Figure 1 provides a Site Location Map.

2.0 Site Background

Fyn Paint moved into the current building during January 1959 and operated out of the building for approximately four (4) years as a tenant prior to purchasing the building. The building was utilized by Fyn Paint for the manufacturing of paints and lacquers since January 1959. According to Mr. William Feinstein the pervious owner of the building also operated a paint manufacturing business.

In January 1999, F&N was retained by Mr. Dan Rof of RGJ Contracting Co. Inc. (RGJ) to open and clean three (3) 550 gallon, four (4) 1,080 gallon and one (1) 1,500 underground storage tanks (UST's) and prepare a closure report. The UST's were utilized by Fyn Paint for the storage of materials utilized in the on-site manufacturing of paint and lacquer.

The UST's were located in two (2) separate areas of the building. The three (3) 550-gallon UST's are located in the western portion of the building. The four (4) 1,080-gallon UST's and the single 1,500-gallon UST are located at the northeast portion of the building.

Figures 2 & 3 provides a site plan with the abandoned UST's locations

All of the UST's are tanks were incased in concrete, therefor all the tanks were abandoned in place. The work was performed following the guidelines set forth by the NYSDEC Spill Prevention Operations Technology Series # 14 (SPOTS) and Spill Technology and Remediation Series Memo # 1 (STARS).

All of the associated piping for the UST's are located at the top of the tanks. While exposing the tops of the UST's in the eastern portion of the building, both visual and olfactory evidence of contamination was observed around the associated UST's piping. This soil was stock piled on site and a representative soil sample was collected for laboratory analysis.

No visual of olfactory evidence of contamination was encountered while exposing the piping and tops of the UST's located in the western portion of the building.

All of the UST's were then cut open and cleaned, in preparation for abandonment in place. The UST's were abandoned utilizing concrete. As per NYSDEC requirements, soil boring were installed and sampled in the vicinity of the tank areas. The results of the soil sampling indicated that contamination was present in the vicinity of the tanks located at the northeastern side of the building. The analytical results indicate that the highest levels of contamination were detected in the soil collected at the top of the tank around the associated piping.

The Tank Closure Report prepared by F&N concluded that the contamination encountered in the vicinity of the UST's in the eastern portion of the building most likely originated from the piping at the top of the tanks. The report recommended that additional investigative work be performed at the site to further delineate the extent of contamination.

The previous F&N report is provided in the Appendix section. Additional information pertaining to the history of the site will be obtained during the investigation described in this Work Plan.

3.0 Site Geology & Hydrogeology

The site is located in the western portion of Brooklyn, Kings County, New York. The subject property is approximately 15 feet above mean sea level (U.S.G.S. 7.5-Minute Brooklyn, New York Quadrangle, 1969, Photorevised 1979).

The western edge of Long Island consists of a thin mass of unconsolidated deposits that overlie ancient basement rock. The thickness of these deposits ranges from approximately from 60 to 100 feet in the area. These deposits contain groundwater which in the area is not used for domestic purposes.

On-site lithology consists of Recent, Pleistocene, and Upper Cretaceous glacial deposits. The uppermost hydrogeologic unit is termed the Upper Glacial Aquifer. 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, however vertical hydraulic conductivity tends to be considerably less. Due to the water table being located in the Upper Glacial deposits, this aquifer has been subjected to the degradation of water quality in many areas due to industrial activity.

In this area the Upper Glacial aquifer lies directly on top of Precambrian basement rock.

Depth to groundwater at the subject site is approximately 16 feet below grade. The regional groundwater flow direction, as determined from the New York City Department of Environmental Protection (NYCDEP) Groundwater Gradient Map (March, 1997), is towards the East River to the west south-west.

Figure 4. provided a groundwater gradient map

4.0 Scope of Work

4.1 Introduction

As a result of the June 14, 2000 meeting between F&N and the NYSDEC, the scope of work for the investigation includes the installation and sampling of soil and groundwater ~~sampling probes~~. These sampling probes will be installed at specific locations at the subject property. Probe points will be initialed both

upgradient and downgradient of the area in which contamination was encountered. This work will be done utilizing direct-push technology.

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 Soil Probes

F&N will install an estimated six (6) soil probes at the property. The soil probes will be installed utilizing direct-push technology. The soil sampler will consist of either a non-discrete 4 foot long, 2 inch diameter soil sampler or a discrete-depth 2 foot long, 1 inch diameter soil sampler. A dedicated acetate liner will be inserted into each soil sampler prior to each use. The soil sampler will be decontaminated following the completion of each soil probe.

F&N previously installed eight (8) soil probe points as part of its original tank closure report. In order to maintain project continuity, the sampling locations under this investigation will be labeled consecutively starting with location nine (9).

One (1) soil probe (SP-9) will be installed up gradient of the area highest concentration.

Two (2) soil probe points (SP-10 and SP-11) will be installed at the location of the former tank piping (*heretofore referred to as the "Area of Concern" or "AOC"*). The soil boring will be continuously sampled from the

ground surface to the water table, which is located at a depth of approximately sixteen (16) feet below ground surface.

Three (3) soil probes (SP-12 through SP-14) will be installed to the north and west of the AOC. A total of five (5) of the probe points will be in the interior of the building. Continuous soil samples will be collected in each of the soil probe location from the ground surface to the water table.

Figure 4 provides the Proposed Probe Points and Well Locations Map.

4.3 Monitoring Wells

4.3.1 On-Site Wells

F&N will be installing approximately six (6) groundwater monitoring wells. The monitoring wells will be identified as FN, followed by a number. The numbers will correspond to the same location as the soil probe points. Each monitoring well will be installed utilizing similar technology to the soil probes.

One (1) monitoring well (FN-9) will be installed along the eastern (upgradient) property boundary, along Kent Avenue. The purpose for this monitoring well is to characterize the groundwater quality coming onto the property. The groundwater sample from this well will be collected at the water table

Two (2) monitoring wells (FN-10 and FN-11) will be installed in the AOC. Three (3) monitoring wells (FN-12 through FN-14) will be installed down gradient of the AOC. All of the monitoring wells will be located in the building

interior. A groundwater sample will be collected from each Monitoring well at the water table only.

The well construction material will consist of a combination of one (1) diameter PVC screen with a slot size of 0.020 inch and one (1) inch diameter PVC solid riser. All of the wells will be finished to grade with an eight (8) inch diameter bolt down manhole. After all of the monitoring wells have been installed, they will be developed to remove any impurities introduced during installation. Well development water will be placed in a 55-gallon DOT drum. An elevation survey will then be performed on all the monitoring wells.

4.3.2 Downgradient Wells

Three (3) additional downgradiernt monitoring well locations were identified, one (1) is located approximately 100 feet downgradient (to the west) of the property boundary. If the monitoring wells are present, and access can be arranged, these monitoring wells will be sampled in accordance with the protocols set forth in Section 4.3.2. Groundwater samples will be obtained in these three wells at the water table.

4.4 Sample Collection

4.4.1 Soil Samples

Each soil sample will be characterized on-site by an F&N geologist. Following the characterization, the soil sample will be placed into a zip-lock bag and screened for total organic vapors utilizing a RAE Systems® MiniRAE Plus Photoionization Detector (PID). The PID has a minimum detection limit of 0.1 parts per million. Following the completion of the soil sampling at each soil probe point, the location of the soil probe point will be surveyed and placed onto

the Site Plan and a soil probe log will be prepared by the F&N geologist. Aliquots different from the one utilized for the head space analysis will be transferred to an 8 ounce pre-cleaned jar. One field blank and one trip blank will be prepared for each day's fieldwork.

The sampling containers will be stored in a cooler filled with ice and its temperature maintained at 4 degrees Celsius. A supporting chain of custody will then be prepared and accompany the samples to the outside laboratory. Matrix spike/matrix spike duplicates will be prepared for 10 percent of the samples.

4.4.2 Groundwater Samples

Prior to sampling, a depth to water reading will be taken from each monitoring well utilizing a 3/8 inch sonic water level. Monitoring wells 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.

Each groundwater samples obtained from the Monitoring wells FN-9 through FN-18 and the three (3) downgradient monitoring wells will be placed directly into pre-cleaned 40-ml vials. One field blank and one trip blank will be prepared for each day's fieldwork.

The sampling containers will be placed into a cooler filled with ice and its temperature maintained at 4 degrees Celsius. A supporting chain of custody will then be prepared and accompany the samples to the outside laboratory. Matrix spike/matrix spike duplicates will be prepared for 10 percent of the samples.

4.5 Laboratory Analyses

Each of the soil and groundwater samples will be analyzed at Long Island Analytical Laboratories Inc, a NYS-certified laboratory. The soil and sediment samples will be analyzed for volatile organic compounds in accordance with NYSDEC Analytical Services Protocol Method 95-1. Each groundwater sample will be analyzed for volatile organic compounds in accordance with NYSDEC Analytical Services Protocol Method 95-1.

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 Data Usability Summary Report.

A Voluntary Cleanup Remediation Work Plan will be submitted within 30 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** A contains the Health & Safety Plan.

7.0 Project Schedule

A proposed project schedule has been prepared for the investigation has been included with this Work Plan. **Appendix** B contains the proposed project schedule.

8.0 Project Personnel and Previous F&N Reports

The Resumes of the project personnel have been provided as well a copy of the Tank Closure Report prepared by F&N. **Appendix** C contains the resumes of all project personnel, **Appendix** D provides previous F&N Reports.

Date: January 30, 2001

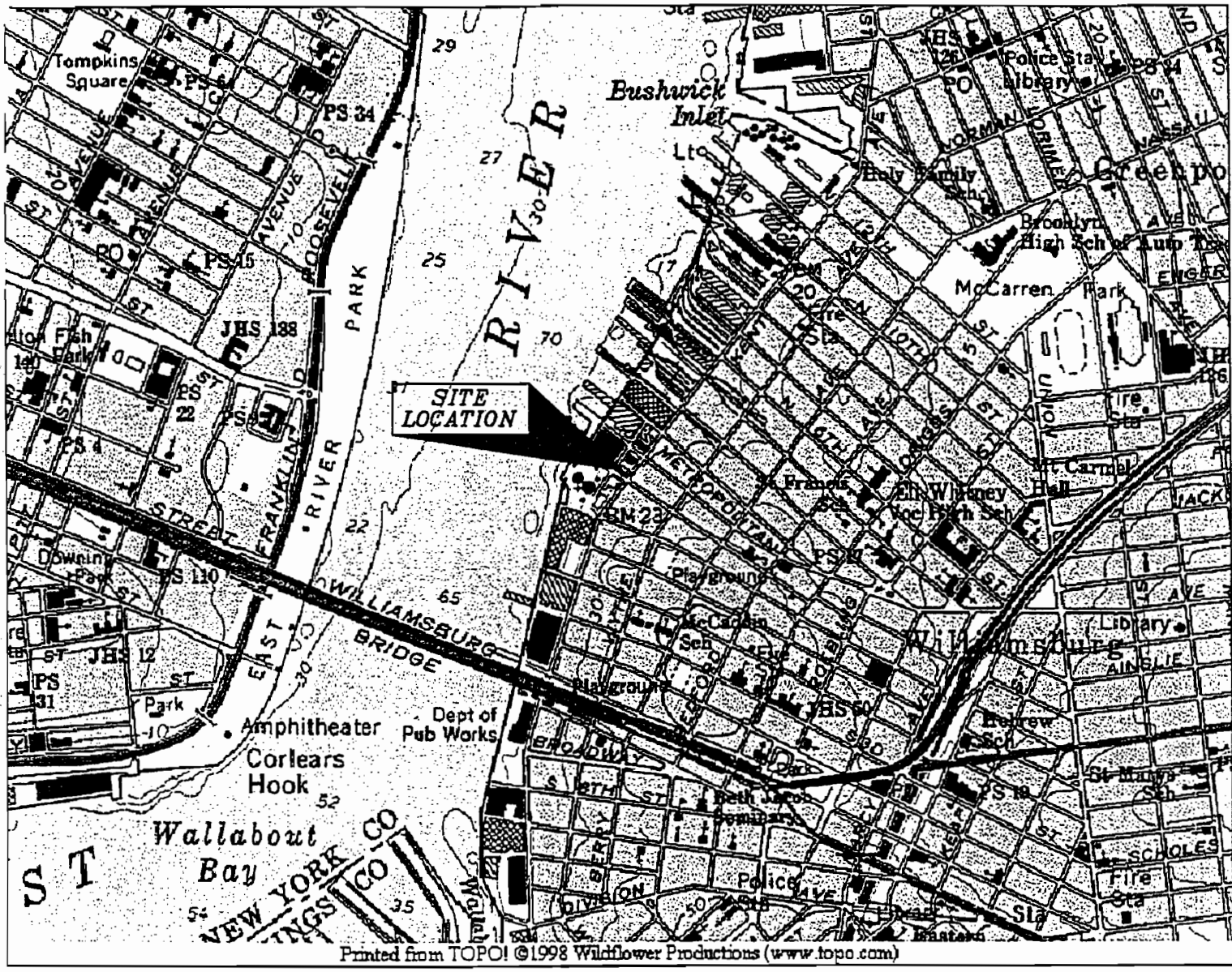
Prepared By:

X_____

Brian McCabe
Senior Geologist

X_____

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



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Site Location Map

SCALE 1:12000

500 0 500 1000 1500 2000 2500 3000 3500 FEET

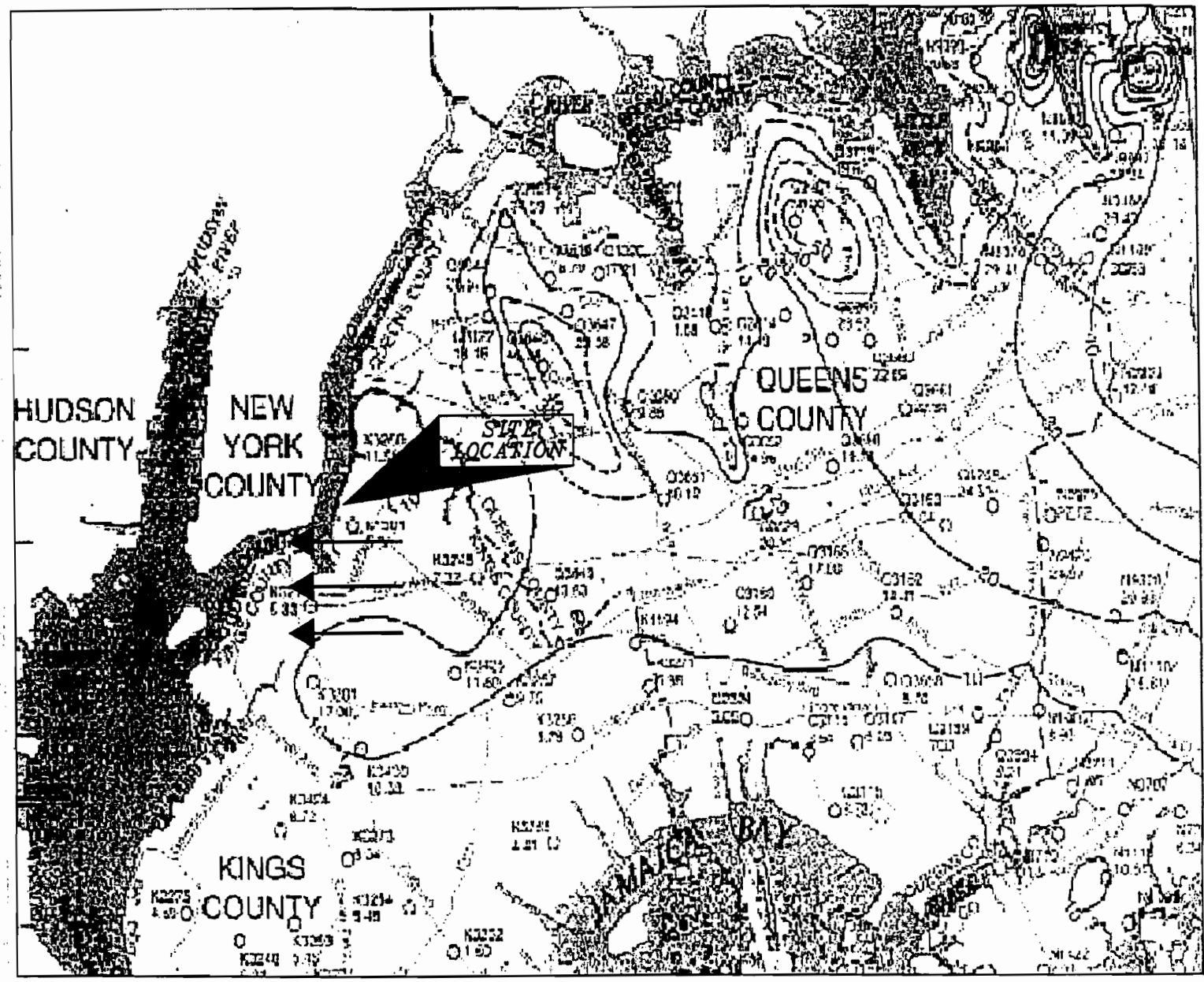
Reproduced from USGS Brooklyn, New York Quadrangle, 1967

Fenley & Nicol

Environmental Services Group

445 Broadhollow Road

Melville, New York 11747



Regional Groundwater Gradient Map

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Water Table of the Upper Glacial Aquifer
on Western Long Island, New York, in March–April 1997

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

SITE-SPECIFIC HEALTH & SAFETY PLAN

Voluntary Cleanup Investigation
33 North First Street
Brooklyn, New York
CV-00-3764

Fenley & Nicol Job Number: 0006927

Prepared By:

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

Date: January 30, 2001

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 33 North First Street, Brooklyn, New York.

_____ January 30, 2001

Brian McCabe
Senior Geologist

_____ January 30, 2001

Mostafa El Sehamy
Site Safety Officer

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PROJECT: **229 Kent Avenue Brooklyn, New York**

Fenley & Nicol Job Number: 0006927

SITE: 229 Kent Avenue, Brooklyn, New York

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

DATE: **October 16, 2000**

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 plan will be implemented by the Project Manager (PM), Site Safety Officer (SSO), and F&N field staff during site work. Compliance with this Site-Specific Health and Safety Plan (HSP) is required of all persons and third parties that perform field work 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
- Soil Boring Installations
- Soil Samples Analysis
- Ground Water Sampling
- Emergency Response

2.3 Emergency Numbers

2.3.1 Emergency Agencies

	Phone Number
Gouvernerur Hospital	212-238-7000
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	Brian McCabe	516-586-4900 ext. 144
Site Safety Officer	Mostafa El Sehamy	516-586-4900 ext. 141

2.3.3 Directions to Hospitals

Gouvernerur Hospital	(see attached map)

3.0 HEALTH AND SAFETY STAFF

This section briefly describes the personnel and their health and safety responsibilities.

3.1 Project Manager

Brian McCabe

- 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

Mostafa El Sehamy

- 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 subject property consists of a two (2)-story industrial/warehouse building currently occupied by Fyn Paint and Lacquer. The property is currently being utilized as a paint and lacquer manufacturing facility. The property is located along north side of North First Street. Between River street and Kent Avenue. The building takes up the entire piece of property with the exception of a sidewalk, which borders the building on the south, east, and west sides. The vicinity of the property consists of heavy industrial and commercial properties.

Fyn paint and Lacquer Co., Inc. moved into the building a 33 North 1st Street in January 1959 and operated out of the building for approximately four (4) years as a tenant prior to purchasing the building. The building was utilized for paint and Lacquer manufacturing by Fyn paint and Lacquer since the time they moved in. The pervious owner of the building also operated a paint manufacturing business.

5.0 CHEMICAL & WASTE DESCRIPTION/CHARACTERIZATION

5.1 General

The following list of chemicals is based on the materials once stored or thought to potentially present on-site: Toluene and Xylene.

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 soil borings
- Installation of temporary 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 which dispense noise levels exceeding 95 dBA are to wear hearing protection which shall consist of ear plugs and ear phones. 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. Body heat should be reduced artificially, but not too rapidly, by soaking the person's clothes with water and fanning them.

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 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.

Normal operations are covered by this program 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 which 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 have 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 do not 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.

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.
    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, <u>every</u> 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.

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.

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
Geoprobe/ Entire Site (For the collection of soil & 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	D/C
Drilling	D/C
Sampling	D/C

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/O2 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 work station 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. All of this activity will be monitored by the Site Safety Officer (SSO). 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

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 15 minute average	Stop work & initiate evacuation 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 provided 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.

Personnel must use personal hygiene safe guards (washing up) at the end of the shift or as soon as possible after leaving the site.

Each sample must be treated and handled as though it were contaminated.

Persons with long hair and/or loose fitting clothing that could become entangled in power equipment must take adequate precautions.

Horseplay is prohibited in the work area.

Work while under the influence of intoxicants, narcotics, or controlled substances, is Prohibited.

11.2 Posted Signs

Posted danger signs will be used where an immediate hazard exists. Caution signs will be posted to warn against potential hazards and to caution against unsafe practices. Traffic control methods and barricades will be used as needed. Wooden stakes and flagging tape or equally effective material will be used to demarcate all restricted areas.

Other postings will include an OSHA poster emergency hospital route and a telephone numbers of contact personnel posting.

11.3 Invasive Operations

The SSO will be present on-site during all invasive work (e.g. demolition, excavations). The SSO will ensure that appropriate monitoring, levels of protection and safety procedures are followed. No personnel will enter any excavations for any reasons. All personnel will stay at least 10 feet back from the edge of the excavation and out of the swing radius of the backhoe.

No drums or other potential sources will be sampled or removed during this phase without further additions to the HSP.

The proximity of water, sewer, and electrical lines will be identified prior to invasive operations.

The possibility of the presence of underground conduits or vessels containing materials under pressure will also be investigated prior to invasive operations. Properly sized containment systems will be utilized and consideration of the potential volume of liquid or waste released during operations will be discussed with members of the field team to minimize the potential for spills and provide a method for collection of waste materials. Emergency evacuation procedures and the location of safety equipment will be established prior to start up operations.

The use of protective clothing, especially hard hats, boots, and gloves will be required during drilling and other heavy equipment work.

11.4 Soil, Groundwater and Liquid Waste Sampling

Personnel must wear prescribed protective clothing and equipment including eye protection, chemical resistant gloves and splash aprons (where appropriate) when sampling solids and liquids. Sample bottles are to be bagged prior to sampling to ease decontamination. Personnel must be aware of the location of emergency equipment, including spill containment materials prior to sampling. Personnel are to practice contamination avoidance at all times, as well as to utilize the buddy system and maintain communications with the Command Post. In some situations, such as sampling groundwater wells, additional monitoring may be needed to confirm or establish the proper level of protection before the sampling team can proceed.

11.5 Sample Handling

Personnel responsible for the handling of samples will wear the prescribed level of protection. Samples are to be identified as to their hazard and packaged as to prevent spillage or breakage.

Any unusual sample conditions shall be noted. Laboratory personnel and all field personnel shall be advised of sample hazard levels and the potential contaminants present. This can be accomplished by a phone call to the lab coordinator and/or including a written statement with the samples reviewing lab safety procedures in handling in order to assure that the practices are appropriate for the suspected contaminants in the sample.

11.6 Heavy Equipment Decontamination

Personnel steam cleaning heavy equipment shall use the prescribed level of protection and adhere to the buddy system. Initially this task usually employs level C. The heavy equipment decon shall be restricted to authorized personnel only. Special consideration will be given to wind speed and direction. Downwind areas are to be kept free of personnel to avoid unnecessary exposure to potential airborne contamination.

11.7 Additional Safety Considerations

There are no additional safety considerations.

12.0 Decontamination and Disposal Procedures

All decontamination will be performed, at a minimum, in accordance with applicable industry standards.

12.1 Contamination Prevention

One of the most important aspects of decontamination is the prevention of contamination. Good contamination prevention should minimize worker exposure and help ensure valid sample results by precluding cross-contamination. Procedures for contamination avoidance include:

<u>Personnel</u>

Do not walk through areas of obvious or known contamination
Do not directly handle or touch contaminated materials
Make sure that there are no cuts or tears on PPE.
Fasten all closures in suits; cover with tape if necessary
Particular care should be taken to prevent any skin injuries
Stay upwind of airborne contaminants
Do not carry cigarettes, cosmetics, gum, etc. into contaminated areas.

Sampling and Monitoring
When required by the SSO, cover instruments with clear plastic, leaving openings for sampling ports. Bag sample containers prior to emplacement of sample material.

Heavy Equipment
Care should be taken to limit the amount of contamination that comes in contact with heavy equipment (tires, contaminated augers). Dust control measures may be needed on roads inside the site boundaries.

12.2 Personnel Decontamination

All personnel shall pass through an outlined decontamination procedure when exiting the hot zone at each location. A field wash for equipment and PPE shall be set up at each drilling location. The system will include a gross wash and rinse for all disposable clothing and boots worn in the EZ. Upon exiting the EZ, all personnel will wash their hands, arms, neck, and face before entering the Support Zone.

12.3 Equipment Decontamination

Equipment used at the remediation system site that is potentially contaminated shall be decontaminated to prevent hazardous materials from leaving the site. All heavy equipment will be decontaminated at the decontamination pad and inspected by the SSO and Project Manager before it leaves the site. The decontamination area will provide for the containment of all wastewater from the decontamination process. Respirators, airline and any other personnel equipment that comes in contact with contaminated soils shall pass through a field wash.

12.4 Decontamination During Medical Emergencies

If emergency life-saving first aid and/or medical treatment is required, normal decontamination procedures may need to be abbreviated or omitted. The site SSO or designee will accompany contaminated victims to the medical facility to advise on matters involving decontamination, when necessary. The outer garments can be

removed if they do not cause delays, interfere with treatment, or aggravate the problem. Respiratory equipment must always be removed. Protective clothing can be cut away. If the outer contaminated garments cannot be safely removed a plastic barrier between the individual and clean surfaces should be used to help prevent contaminating the inside of ambulances and /or medical personnel. Outer garments are then removed at the medical facility. No attempt will be made to wash or rinse the victim, unless it is known that the individual has been contaminated with an extremely toxic or corrosive material that could also cause severe injury or loss of life to emergency response personnel. For minor medical problems or injuries, the normal decontamination procedures will be followed.

Note that heat stroke requires prompt treatment to prevent irreversible damage or death. Protective clothing must be promptly removed. Less serious forms of heat stress also require prompt attention and removal of protective clothing immediately. Unless the victim is obviously contaminated, decontamination should be omitted or minimized and treatment begun immediately.

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 which 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:
Travel south on Kent, to Grand St., make a left and travel east on Grand St. Take Grand St. to the Williamsburg Bridge. Take the Williamsburg Bridge to Manhattan and follow Delancey St. to Clinton St. make left on to Clinton St. and follow Clinton to Madison St., Make a Right on to Madison St. Hospital is on your Right.

See Appendix A for a copy of the directions to the hospital.

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. Mostafa El Sehamy, Safety Officer (516) 586-4900 ext. 141
2. Brian. McCabe, Project Manager (516) 586-4900 ext. 167
3. The employer of any injured worker if not a 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 B 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, 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

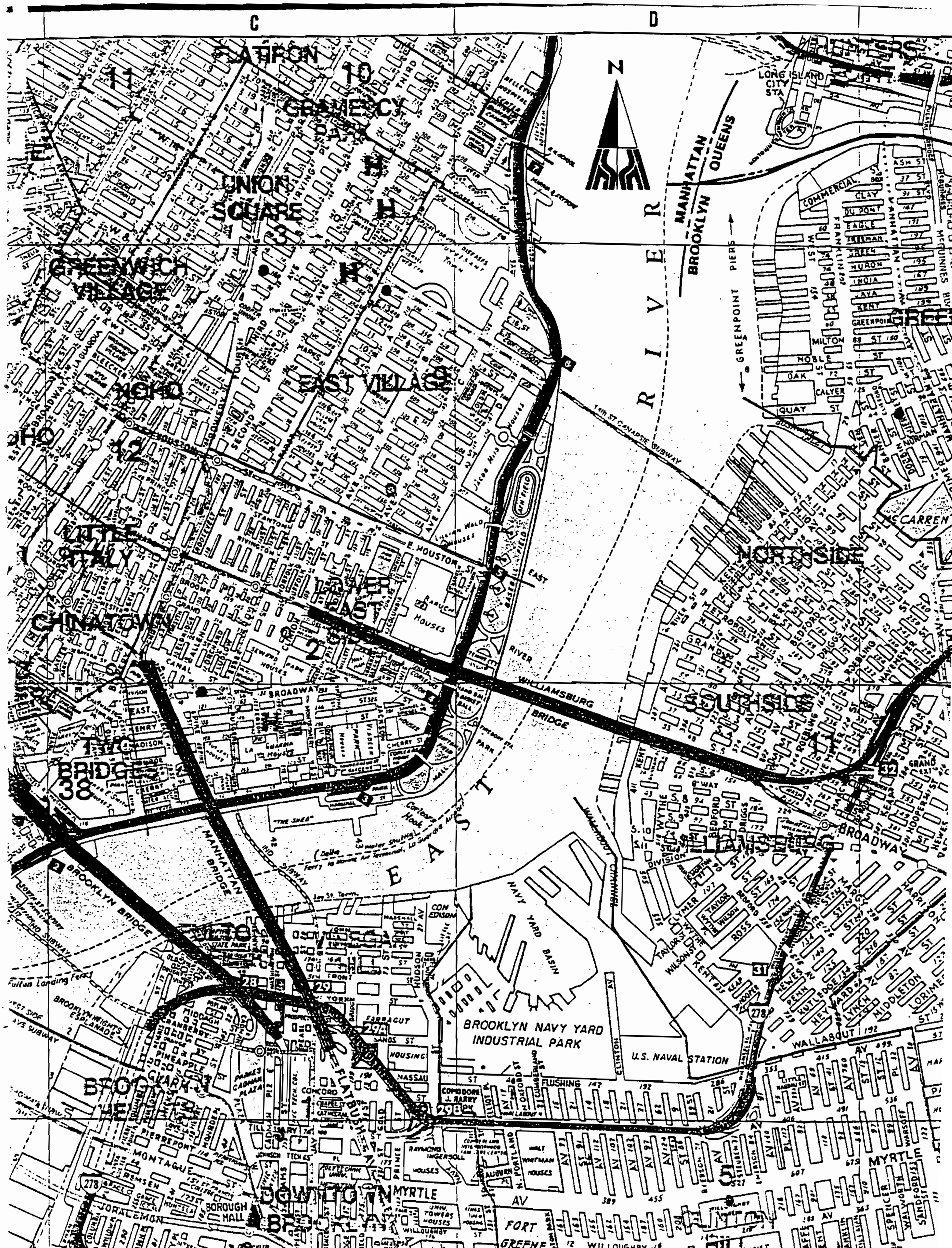
The SSO or designee will maintain the logbook in accordance with standard F&N procedures. Daily site conditions, activities, personnel, calibration records, monitoring results and significant events will be recorded. The original logbooks will become part of the exposure records file.

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.



C
D
N
FLATIRON
10
11
GRAMERCY PARK
UNION SQUARE
3
GREENWICH VILLAGE
NOHO
SOHO
42
EAST VILLAGE
9
LITTLE ITALY
CHINATOWN
LOWER EAST
2
TWO BRIDGES
38
MANHATTAN
QUEENS
BROOKLYN
EAST RIVER
GREENPOINT PIERS
LONG ISLAND CITY STA
NORTHSIDE
SOUTHSIDE
WILLIAMSBURG BRIDGE
MANHATTAN BRIDGE
BROOKLYN BRIDGE
BROOKLYN NAVY YARD INDUSTRIAL PARK
U.S. NAVAL STATION
NAVY YARD BASIN
WALLABOUT
BROOKLYN HEIGHTS ESPLANADE
FULTON FERRY
DOWNTOWN BROOKLYN
BOROUGH HALL
FORT GREENE
MYRTLE AV
FLATBUSH AV
BROADWAY
E. HOUSTON ST
14th ST CANARSIE SUBWAY
CON EDISON

ACCIDENT REPORT

Date of Accident: _____ Time of Accident: _____ am / pm

Date of Report: _____

Injured Person: _____

Address Where Accident Occurred: _____

County Where Accident Occurred: _____

Nature of Injury & Parts of Body Affected: _____

_____

Was Medical Care Provided?: YES / NO

If YES, When? _____ Doctor's Release Obtained?: YES / NO

Name & Address of Doctor: _____
OR
Name & Address of Hospital: _____

Date Employee Stopped Work Due to Accident: _____

Date Employee Returned to Work: _____

What Was Employee Doing When Injured: _____

_____

_____

Object or Substance That DIRECTLY Injured Employee: _____

Witness to Accident: _____

Was Injured Paid in Full For the Day?: YES / NO

Compensation Case?: YES / NO

ACCIDENT REPORT

Date of Accident: _____ Time of Accident: _____ am / pm

Date of Report: _____

Injured Person: _____

Address Where Accident Occurred: _____

County Where Accident Occurred: _____

Nature of Injury & Parts of Body Affected: _____

_____

Was Medical Care Provided?: YES / NO

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OR
Name & Address of Hospital: _____

Date Employee Stopped Work Due to Accident: _____

Date Employee Returned to Work: _____

What Was Employee Doing When Injured: _____

_____

_____

Object or Substance That DIRECTLY Injured Employee: _____

Witness to Accident: _____

Was Injured Paid in Full For the Day?: YES / NO

Compensation Case?: YES / NO

Project Schedule													
Activity	**weeks**												
	1	2	3	4	5	6	7	8	9	10	11	12	13
Collection of Soil and Groundwater Samples													
Survey of Temporary wells													
Analysis of Samples													
Preparation of Report													

Mostafa El Sehamy, P.G., C.G.W.P.
Director of Professional Services
Environmental Health & Safety Professional

- **Responsible for overseeing F&N's Safety management program**
  Instructor for : Right to Know, Hazwhopper – Fire Protection, Confined Space Entry, C.P.R., Lockout/Tagout, P.P.E.
- **Experience in field includes class II A – site Wantagh Cleaners**
  Levittown School District – Town of Babylon
- **All Phases of Office Administration & Project Management**
  - Staff Hiring
  - Budget Management
  - Marketing
  - Personnel Supervision

Qualifications:

Mr. El Sehamy has over ten years experience in hydrogeology and environmental engineering, involving such activities as ground and surface water quality analyses, water quality modeling, environmental impact assessments, remediation design options and upgrades, and aquifer sensitivity studies. He has designed over fifty remediation systems for the NYSDEC and private sectors.

1990 Fenley & Nicol Environmental. Inc.
Senior Hydrogeologist

1989 Nassau County Department of Health
Hydrogeologist

1986 Fanning, Phillips & Molnar
Hydrogeologist

1983 Environmental Management Group
Hydrogeologisst

Adelphi University, Garden City, New York
Masters of Science, Hydrology
Cairo University, Egypt
Bachelor of Science, Engineering Geology

Affiliations / Certifications:

Geological Society of America
Association of Ground Water Scientists and Engineers
Long Island Geologist Organization
NY Asbestos Investigator
National Water Well Association
American Association of Petroleum Geologists
EPA Asbestos (AHERA) Inspector
American Institute of Professional Geologists
Certified Professional Geologist - CPG9206 - NYS
Ground Water Scientist and Engineers C.G.W.P. No. 364
Certified Ground Water Professional (National) No-001135 Pa.
American Heart Association: BLS Instructor: Health Care Provider

Fluent in Arabic, Greek & Spanish

Mark E. Robbins, C.P.G.

Senior Geologist

Responsibilities:

- *Project Manager - NYSDEC & Private Sector*
- *Design & Implementation of Remediation Systems*
- *Recommendation of Remediation System Options & Upgrades*
- *Phase I & Phase II Environmental Site Assessments*
- *Monitoring Well Installation & Development*
- *Ground Penetrating Radar (GPR) Surveys*
- *Soil Sample Collection / Field Screening of Soils*
- *Soil Gas Surveys*
- *Well Logging*
- *Groundwater Sampling*
- *Evaluate Effectiveness of Remediation Systems*
- *Analyzation & Interpretation of Data*
- *Tank Abandonment's*
- *Tank Closure Reports*
- *Status / Quarterly Reporting*
- *Supervise and coordinate all field activities*
- *Prepare cost estimates for investigatory and remedial projects*
- *Executive review of Phase 1 and Phase 11 Environmental site assessment reports*

Qualifications:

1999 *Fenley & Nicol Environmental, Inc.*
Project Geologist

1994 *Advanced Cleanup Technologies, Inc., Farmingdale, N.Y.*
Operations Manager

State University of New York at Oneonta
Bachelor of Science, Geology

Affiliations / Certifications:

Long Island Geologist Organization
40 Hour OSHA and 8 hour, Supervisory
Geophysical Survey Systems, Inc GPR Training Course
ASTM E50 Committee Member
Geological Society of America
Certified Environmental Inspector-No. 73383
Certified Professional Geologist – CPG10527-NYS

Brian McCabe

Senior Geologist

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

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

Fenley & Nicol Environmental Inc.

"SOLUTIONS AT WORK"®

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

Tank Closure Report
Fyn Paint & Lacquer Co., Inc.
33 North 1st Street
Brooklyn, NY 11211

Prepared For: Mr. Dan Rof
RGJ Contracting co., Inc.
35-56 9th Street
Long Island City, New York 11106

Prepared By: Fenley and Nicol Environmental
445 Brook Avenue
Deer Park, NY 11729

Date: March 23,1999

TABLE OF CONTENTS

1.0 INTRODUCTION

Fenley and Nicol Environmental, Inc. (F&N) has been retained by Mr. Dan Rof of RGJ Contracting Co. (RGJ), Inc. to perform the documentation and closure of three 550-gallon, ten 1,080 gallon and one 1,500-gallon steel underground storage tanks at the Fyn Paint & Lacquer Co., Inc (Fyn Paint) facility, located at 33 North 1st Street, Brooklyn, New York *(hereafter referred to as "the site")*. Figure 1 provides a Site Location Map.

The site is registered with the New York State Department of Environmental Conservation (NYSDEC) as a Chemical Bulk Storage Facility (Facility ID# 2-000151). These tanks were utilized for the storage and mixing of chemicals utilized in the production of paints and thinners. It should be noted at this time that the site is a warehouse facility, and has a different street address then the main office of Fyn Paint. The official address of Fyn Paint is 229 Kent Avenue, Brooklyn, New York.

This closure report documents the removal and disposal of the above referenced tanks. This report has been prepared following guidelines set forth by the NYSDEC and the United States Environmental Protection Agency (USEPA).

1.1 Regulatory Requirements

Under the United States EPA Underground Storage Tank (UST) regulations (40 CFR, Part 280), an owner or operator, who is closing an underground tank storing a regulated substance, must inspect the site for leaks and spills and identify any soil or groundwater contamination. A regulated substance, as defined by 40 CFR, Part 280, includes all hazardous materials and petroleum products, except heating oil if used for on-site consumption.

If gasoline contamination is suspected, then the soil/water samples should be analyzed for Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), and Methyl Tertiary Butyl Ether (MTBE), using EPA Methods 8020/602 respectively. If the

tank contained petroleum products other than gasoline, then soil samples should be analyzed for semi-volatile compounds, using EPA Methods 8270 and 8021.

Prior to the abandonment of the tanks, F&N was informed by Mr. Rof that he had notified the Petroleum Bulk Storage (PBS) unit of the NYSDEC regarding the abandonment.

F&N also contacted the NYSDEC regarding the tank abandonment. F&N was informed by Mr. Joe O'Connell that the NYSDEC does not have any guidelines or standards regarding the abandonment of chemical bulk storage tanks. Mr. O'Connell contacted Mr. Nick Kolak, the head of the Chemical Bulk Storage unit at the NYSDEC main office in Albany, regarding this situation. Mr. Kolak informed Mr. O'Connell that the supervision and handling of these tank abandonments would be determined by the local NYSDEC office on a case by case basis. Mr. O'Connell informed F&N that, at this time it had not been decided which unit or department in the NYSDEC Region 2 office (covering New York City) would be responsible for this type of tank abandonment. This information was obtained in a telephone conversation with Mr. O'Connell on January 28, 1999. Mr. O'Connell stated that he would inform F&N when a decision regarding this matter had been reached. As of this report, F&N had not received this information.

F&N also discussed testing parameters with Mr. O'Connell. Since authority within the NYSDEC regarding these tank abandonments had not been decided, Mr. O'Connell could not instruct F&N on which testing methods to use. However, Mr. O'Connell agreed with F&N's decision to utilized EPA Method 8260.

1.2 Regional Geology and Hydrogeologic Characteristics

The site is located in western Brooklyn, in the extreme western portion of Long Island. The site topography is essentially level and on-site surface elevation is

approximately 25 feet above mean sea level (U.S.G.S. Topographic Map, **Brooklyn** Quadrangle, 1979).

Long Island consists of a wedge-shaped mass of unconsolidated deposits which 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 ground water which is the sole source of drinking water for some of the Island's 3.1 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, which represent the farthest extent of the glacial advances, consist of till, a poorly sorted mixture of sand, silt, clay, gravel, and boulders. The till deposits are poorly to moderately permeable in most areas. The outwash plains lie to the south of the moraines. The plains were formed by the action of meltwater streams which eroded the headland material of the moraines, and laid down deposits of well-sorted sands, silts, and gravels. These deposits are moderately to highly permeable.

On-site lithology consists of Recent, Pleistocene, and Upper Cretaceous glacial deposits. The uppermost hydrogeologic unit is termed the Upper Glacial Aquifer. 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, however vertical hydraulic conductivity tends to be considerably less. Because the water table is located in the Upper Glacial deposits, this aquifer has been subjected to the degradation of water quality in many areas due to industrial activity.

Below the Upper Glacial aquifer lies the Raritan Formation. This formation consists of an upper unit and a lower unit. The upper unit, the Raritan Confining Unit, consists of layers of solid to silty clays with few lenses and layers of sands. The deposits are typically poorly to very poorly permeable.

Depth to groundwater at the subject site is approximately 20 to 25 feet below grade. The regional groundwater flow direction, as determined from the map of Water Table Altitude in Kings & Queens Counties, printed by the United States Geological Survey (USGS) (March, 1997), is to the west.

1.3 Site Description

The subject property is the square block bounded by Kent Avenue, Metropolitan Avenue, North 1st Street and River Street, in the Northside section of the Borough of Brooklyn, New York. The East River is located approximately 500 feet to the west of the site. The Willamsburg Bridge is located approximately 1,500 feet to the south. A Partial Site Plan is presented as **Figure 2**.

The site is occupied by a single story masonry building, with a partial loft, utilized for light industrial purposes. The building contains a small partial basement housing an aboveground oil tank and an oil burner. A concrete sidewalk surrounds the building. Fyn Paint produces paints and thinners for various applications. Some of the chemicals utilized are stored in underground storage tanks while other chemicals are stored in aboveground storage tanks or in 55-gallon drums.

Mr. Bill Feinstein, President, and Mr. Howard Simka, the chemist, of Fyn Paint, informed F&N that a total of eight underground storage tanks (USTs) were present at the site. Three 550-gallon USTs, identified as tanks 1 through 3, were located beneath the concrete floor of the western portion of the building. USTs #1 & 2 were utilized for the storage of methanol. UST #3 was utilized for the storage of varnish makers and painters naptha (VM&P). One 1,500-gallon UST and four 1,080-gallon USTs and were located beneath the concrete floor in the eastern portion of the building. According to Mr. Simka, the 1,500-gallon UST, which was identified as UST #4, was utilized for the mixing and dispensing of finished products. The 1,080 USTs, identified as USTs #5, #6, #7 and #8, were utilized, respectively, for the bulk storage of lacquer thinner, toluene or xylene, lacquer thinner and toluene.

2.0 WORK PERFORMED

Prior to the commencement of the tank abandonment, the proper permits were obtained by RGJ Contracting. RGJ also notified the NYSDEC Petroleum Bulk Storage Unit prior to the commencement of the work.

2.1 Tank Excavations

On January 13, 1999, a F&N crew, with the proper equipment, was on-site to begin the tank removal. Work was performed at the site over the course of the next two weeks (January 13, 14, 19, 20, 22, 25, 26, 27 and 28) to locate, excavate and access the tanks. A F&N geologist inspected the progress at the site on the January 14 and 25 to oversee and document the tank removal operation. There were no representatives of any regulatory agency present.

The first area excavated was the eastern floor of the building. Four overhead suction lines, associated with the tanks, entered the floor in the northern portion of the building. Five vent lines were identified exiting the concrete floor in the northeast corner of the building. These lines were followed until the USTs were encountered. Due to the inaccessibility of the area, a small bobcat-mounted hydraulic hammer and jackhammers were used to break-up the concrete floor. The soils covering the tanks were then removed by hand.

As the excavation was performed, the soils removed were stockpiled for later inspection by an F&N geologist for evidence of contamination. The soils exhibited olfactory evidence of contamination. A sample of these soils was taken for confirmatory laboratory analysis.

The tops of the storage tanks in the eastern area were encountered approximately 24 inches below grade. The tanks were discovered to be encased in concrete. After the tanks were uncovered any product remaining in them was removed by RGJ. The remaining chemical vapors were then removed by F&N utilizing dry ice. The tanks were then accessed utilizing the proper

equipment. Any remaining sludge and residue was then removed and the tanks were then wiped clean. After the tanks were cleaned they were filled with concrete. RGJ then temporarily filled the remainder of the excavation with the stockpiled contaminated soil and covered it with a thin coat of concrete. This was necessary to provide access to the rest of the building.

The western portion of the building was then excavated in the same manner as the western area. Three suction lines were identified in the southeastern portion of the building. These lines were followed until the tanks were encountered. The soils removed from the tank pit did not contain any olfactory evidence of contamination, and field screening with the PID did not indicate the presence of VOCs. The soil was stockpiled for later re-use as backfill. A total of three 550-gallon tanks, positioned end to end, were unearthed in the western portion of the building. The tops of the tanks were encountered approximately four feet below grade. These tanks were not encased in concrete, but were separated from each other by a masonry wall.

After the tanks were uncovered any product remaining in them was removed by RGJ. The remaining chemical vapors were then removed by F&N utilizing dry ice. The tanks were then accessed utilizing the proper equipment. Any remaining sludge and residue was then removed and the tanks were then wiped clean. After the tanks were cleaned they were backfilled with the stockpiled soil. RGJ then filled the remainder of the excavation with concrete.

After the tanks were abandoned, the suction lines and their associated dispensers were either removed or disabled with concrete. For the most part, the suction lines ran aboveground. However, in the immediate areas of the tanks they were located below grade. All fill lines were also disabled with concrete.

A total of five 55-gallon drums of sludge was generated during the tank clean-out. These drums are currently stockpiled at the site awaiting for disposal. At the time of this report, Mr. Feinstein had not decided whether to utilize F&N

services to dispose of the drums, or to dispose of them himself. It should be noted that Fyn Paint is a registered small quantity generator (USEPA ID# NYUD001270867).

3.0 SOIL BORINGS

The soil borings were performed at the site on February 9 & 10, 1999, utilizing Geoprobe sampling methods. The soil samples were obtained with a Geoprobe large bore sampler. This sampler is a discreet depth sampler which can be utilized to obtain samples from exact depths with no fall back. A clean acetate liner was installed in the sampler before the collection of each sample. The sampler was installed utilizing either a truck mounted percussion hammer or a portable had-held percussion hammer.

Borings B-1 and B-2 were installed to the east and west, respectively, of the eastern tank area. Both of these borings were installed utilizing the truck mounted percussion hammer. Five other attempts were made to install borings to the north and south of the eastern tank area. All of these attempts met with rejection at shallow depths either due to debris in the fill material or concrete associated with the tank installation. It should be noted that due to the limited access conditions in this portion of the site, the rejected borings could only be attempted utilizing the smaller, hand-held geoprobe equipment.

Borings B-3, B-4, B-5, B-6, B-7 and B-8 were installed around the perimeter of the western tank area. These borings were installed utilizing the hand-held geoprobe equipment. A Boring Location Plan is provided as Figure 3.

Both Borings B-1 and B-2 were sampled continuously between depths of 4 and 12 feet below grade. The sample intervals were two feet. The 4 - 6 foot sample from B-1 consisted of fill material, composed of sand and masonry rubble. This sample exhibited a strong odor of solvents. The samples collected from the 6-8, 8-10 and 10-12 foot intervals consisted of a brown silty sand. All three of these samples also exhibited an odor of solvents.

It is estimated that the bottom of the tanks in the western area are approximately ten feet below grade. Therefore, borings B-3 through B-8 were sampled between 11 and 14 feet below grade. The samples obtained from all six borings consisted of the brown silty sand encountered in B-1 and B-2. None of these samples exhibited any olfactory evidence of contamination.

3.1 Soil Screening

In addition to visual observations, all soil samples were screened in the field for volatile organic compounds (VOCs) with a Photoionization Detector (PID). The soil sample was transferred from the sampler to a plastic bag and sealed closed. The bag was the shaken gently to encourage volitization and allowed to stand for three minutes. The tip of the PID was then inserted into the bag and a reading obtained. The results of the field screening are presented in Table 1.

A review of Table 1 indicates that moderate levels of VOCs are present in all of the soil samples. The levels of VOCs in the samples from B-1 and B-2 were greater than the PID's maximum capability (1,999 ppm). The moderate levels of VOCs found in the samples from B-3 through B-8 could, in part, be due to background VOC levels. Background VOC levels at the site were found to range from 100 ppm (near the dispensers) to 15.7 ppm (near the doors of the building). Just the transfer of the soils from the sampler to the plastic bag exposed the

samples and the bags to the background VOCs. The transfer and field screening could not be conducted outside the building due to adverse weather conditions.

Table 1
VOC concentrations in soil samples
Fyn Paint & Lacquer, Brooklyn

Boring #	Sample Depth (feet)	VOC levels (ppm)	Boring #	Sample Depth	VOC levels (ppm)
B-1	6 - 8	>1,999	B-2	12 - 14	>1,999
B-1	8 - 10	>1,999	B-3	11 - 14	114.0
B-1	10 - 12	>1,999	B-4	11 - 14	8.9
B-1	12 - 14	>1,999	B-5	11 - 14	157.0
B-2	6 - 8	>1,999	B-6	11 - 14	114.0
B-2	8 - 10	>1,999	B-7	11 - 14	40.7
B-2	10 - 12	>1,999	B-8	11 - 14	65.7

* All readings in parts per million (ppm)

4.0 ANALYTICAL RESULTS

Selected samples from each boring were then transported to an outside laboratory and analyzed for VOCs according to EPA Method 8260. The 10 - 12 sample from B-1 was identified as "Composite #1". The 10 - 12 sample from B-2 was identified as "Composite #2". These samples are not true composite samples, but really are grab samples. However, the original sampling plan had called for the compositing of samples and the containers had been pre-labeled.

Given that only low concentrations of VOCs were detected by the PID in borings B-3 through B-8, it was decided that the compositing of these soil samples would be performed for the purpose of laboratory analysis. The samples from B-3 and B-5 were composited and identified as "Composite #3". Samples B-4 and B-7 were composited and identified as "Composite #4". The samples from B-6 and B-8 were composited and identified as "Composite #5".

In addition, the soil sample obtained from the eastern excavation was also analyzed for USEPA Method 8260. This sample was obtained from directly above the concrete covering the tanks, and was also located in the area of the feed lines for the tanks. This sample was identified as "pipe area".

The results of the EPA Method 8260 analysis are presented in Table 2. Table 2 presents only those compounds which were detected in the samples, and only those samples which exhibited any VOC contamination.

A review of Table 2 indicates that the soil samples obtained from the western tank area did not exhibit any VOC contamination. However, all three samples from the eastern area did exhibit detectable concentrations of VOCs. The soil sample from the pipe area exhibited extremely elevated concentrations of ethylbenzene, toluene and o & m/p xylenes. The concentrations of all four of these compounds greatly exceed their respective NYSDEC Cleanup Criteria. It is not known where the ethylbenzene originated from. Mr. Simka informed F&N that, to his knowledge, ethylbenzene has never been stored in the storage tanks, nor was it a constituent of any chemicals that were stored in the tanks. It is possible that ethylbenzene was a constituent of chemicals that were stored in drums at the site, and were mixed with other compounds in the mixing tank.

The soil sample from B-1 also exhibited elevated concentrations ethylbenzene, toluene, o & m/p xylenes, 2-butanone and acetone. The concentrations of the

first four compounds exceeded their respective NYSDEC Cleanup Criteria. There is no NYSDEC standard for 2-butanone or acetone, as found in STARS. However, the concentration of acetone in B-1 exceeded the NYSDEC nuisance concentration of 10,000 ppb. Detectable concentrations of isopropylbenzene, 1,3,5 trimethylbenzene and 1,2,4 trimethylbenzene were also present in this sample, but did not exceed their respective NYSDEC standards.

The sample from B-2 exhibited detectable concentrations of toluene, m/p xylene, 2-butanone, acetone and 4-methyl-2-pentanone. Only acetone exhibited a VOC concentration that exceeded its respective NYSDEC standard. Copies of the laboratory results are provided in Appendix B.

Table 2
Results of Soil Analysis, EPA Method 8260
Fyn Paint, Brooklyn, NY

Parameters	Comp. #1 (B-1)	Comp. #2 (B-2)	Pipe Area	DEC Cleanup Criteria
Ethylbenzene	150	ND	4,400,000	100
Toluene	160	7.3	2,800,000	100
o-xylene	480	ND	5,000,000	100
m/p xylene	1,000	11	17,000,000	100
Isopropylbenzene	11	ND	ND	100
1,3,5 Trimethylbenzene	11	ND	ND	100
1,2,4 Trimethylbenzene	8.3	ND	ND	100
2-Butanone	1,000	4,500	ND	NS
Acetone	780,000	190,000	ND	NS
4-methyl-2-pentanone	ND	29	ND	NS

All concentrations are in microgram per kilogram or ppb
ND: Non - detectable All Cleanup Criteria are from NYSDEC STARS Memorandum.

5.0 CONCLUSIONS

A total of three 550-gallon USTs, utilized for the storage of methanol and varnish maker's and painter's naptha (VM&P) were abandoned in place at the site. Also, one 1,500-gallon UST, utilized for mixing, and four 1,080-gallon USTs, utilized for the bulk storage of lacquer thinner, toluene and xylene, were also abandoned at the site. The tanks were accessed, cut open and cleaned by F&N. The tanks and the excavations were then filled with soil and concrete by RGJ.

The three 550-gallon tanks were located beneath the western portion of the building. Soil samples taken from the area of these tanks were analyzed according to EPA Method 8260. The results of these analysis indicated that no VOCs were present in any of the soil samples.

The four 1,080 gallon USTs and the 1,500 gallon UST were located beneath the floor of the eastern portion of the building. These tanks were encased in concrete. Steel piping servicing the tanks was located above the tanks. Soils in the area of these pipes exhibited a solvent odor. A soil sample taken from the pipe area was analyzed according to EPA Method 8260 and was found to contain extremely high concentrations of ethylbenzene (4,400,000 ppb), toluene (2,800,000 ppb), o-xylene (5,000,000 ppb) and m/p xylene (17,000,000 ppb).

Soil samples obtained from borings installed in the eastern tank area also exhibited detectable concentrations of ethylbenzene, toluene and xylenes. However, these concentrations were all 1,000 ppb or less. In addition, the soil samples from the two borings exhibited elevated concentrations of acetone (780,000 and 190,000 ppb).

Based on the above facts, it is F&N's conclusion that since high concentrations of toluene, xylene and ethylbenzene were present in the pipe area, which is located above the USTs, and that much lower concentrations of these chemicals were detected in the samples from the soil boring, the piping leading from the

dispensers or the fill pipes have leaked, and have contaminated the soils in the area of the eastern tank area.

It is also F&N's conclusion that the presence of acetone in the samples is probably due to the lacquer thinners utilized and stored at the site. Therefore, the elevated concentrations of acetone in the soil samples from B-1 and B-2 are indicators that one of the 1,080 gallon USTs storing lacquer thinner had leaked.

6.0 RECOMMENDATIONS

Based on the above stated facts, it is F&N's opinion the contaminated soil at the site does may constitute an environmental threat to the subject property or the groundwater at the site. Therefore, it is F&N's recommendations that the following steps be taken:

1) The site should be reported to the NYSDEC, if it has not already been done so, as a chemical spill.

2) A more comprehensive site assessment, including the installation of groundwater monitoring wells, should be performed at the site.

3) After the site assessment has been performed, the NYSDEC should be contacted regarding what, if any, remedial measures should be taken.

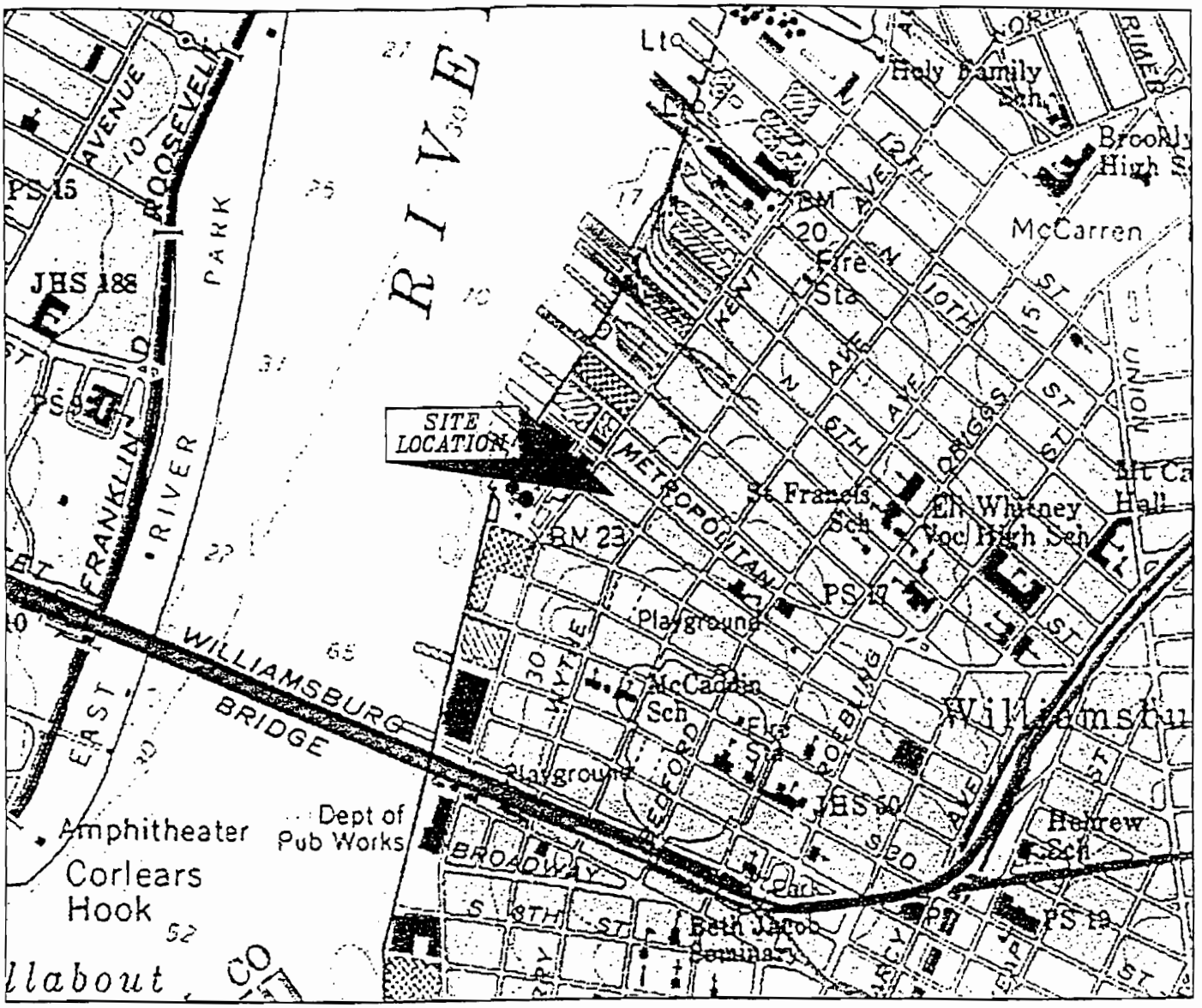
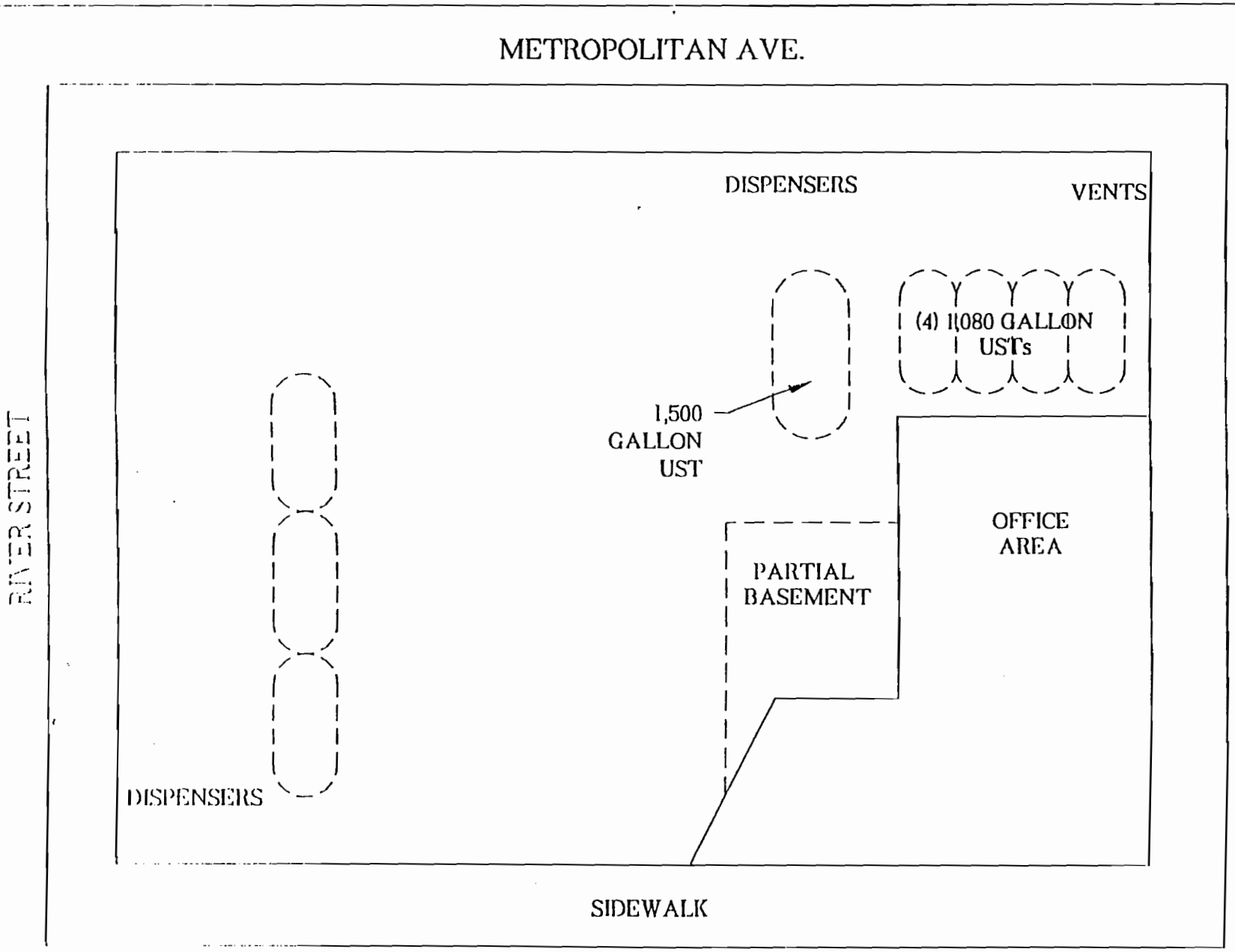


Figure 1 Site Location Map

SCALE 1:12000

500 0 500 1000 1500 2000 2500 3000 3500 FEET

Reproduced from USGS Brooklyn, New York Quadrangle

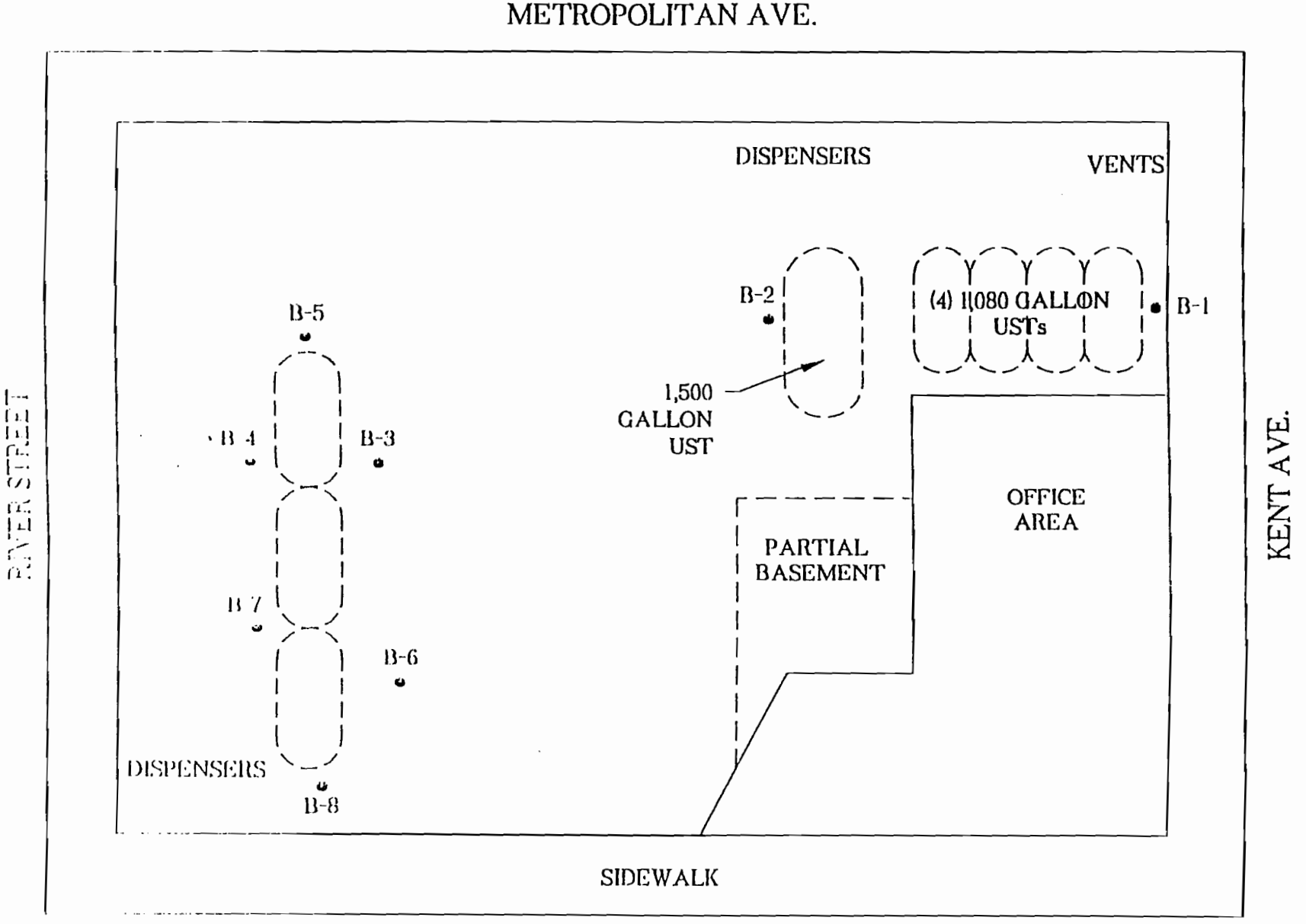


Fenley & Nicol
Professional Services Division
445 BROOK AVENUE, DEER PARK,
NEW YORK 11729 (516)586-4900

SCALE: NONE | DRAWN BY: D.L. | JOB # 9803657

SITE PLAN

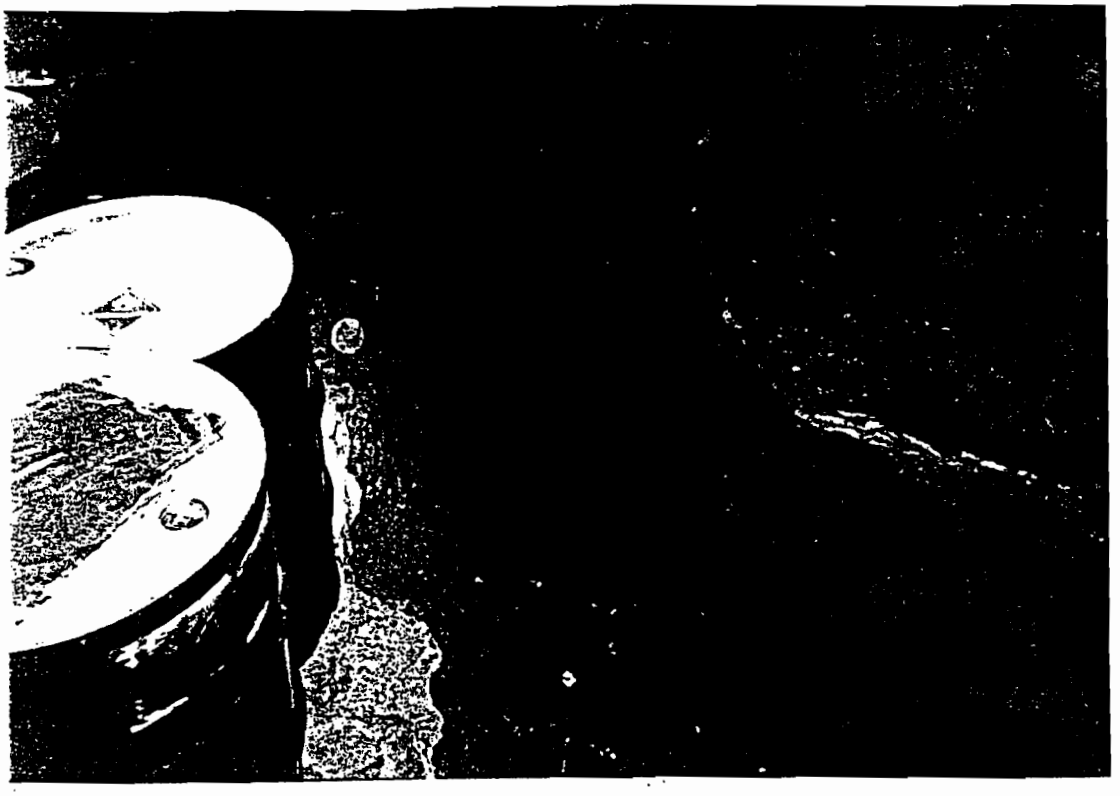
FYN PAINT & LACQUER
BROOKLYN, NY



Professional Services Division

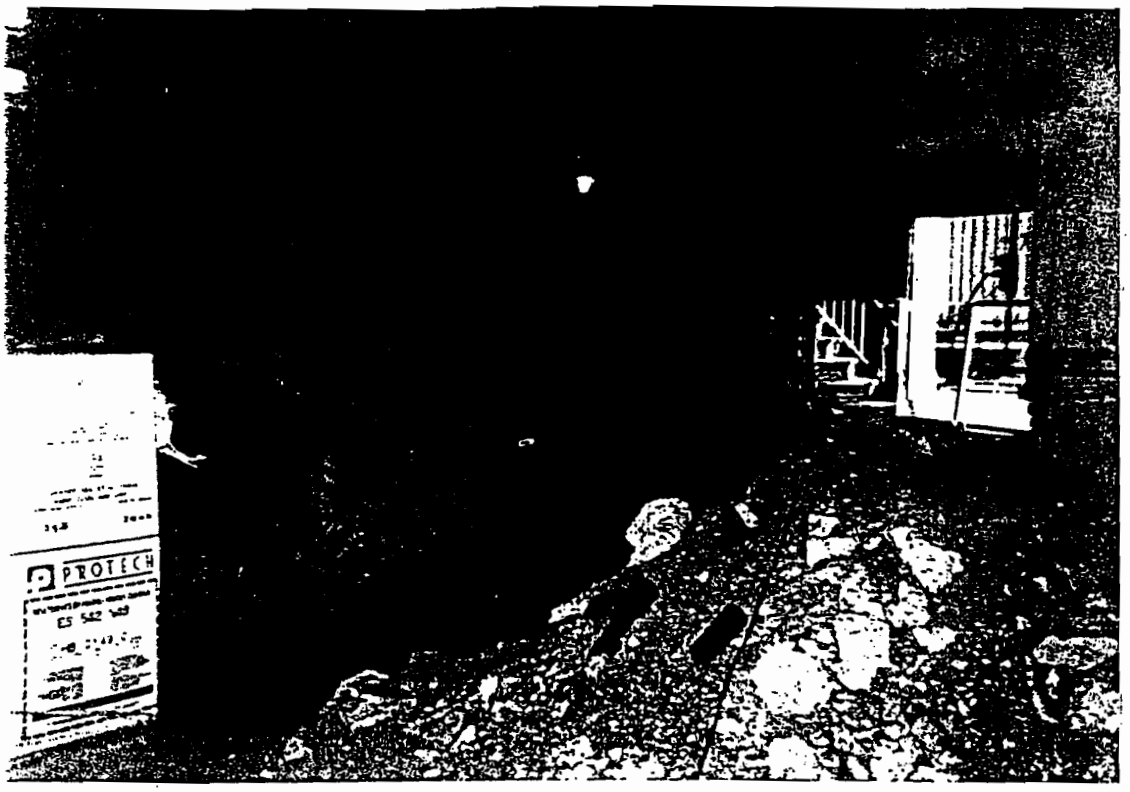
BORING LOCATION PLAN

FYN PAINT & LACQUER
BROOKLYN, NY



Photograph #1: Excavation of Western Tank Area.

Photograph #2: Excavation of Western Tank Area.



Photograph #3: Excavation of Eastern Tank Area.

Photograph #4: Excavation of Eastern Tank Area.

Method 8260 Volatile Organics By GC/MS

CLIENT :	F&N	LAB SAMPLE ID :	L1574-1
SAMPLE ID:	PIPE AREA	DATE SAMPLED:	01/26/99
PROJECT:	F&N PAINT	DATE RECEIVED:	01/28/99
SAMPLE VOL. :	0.00008GM	DATE ANALYZED:	02/05/99
DATA FILE :	>B3897	DIL. FACT :	50000
EXTRACT/DATE :	N/A	ANALYST:	SP/RS
NJDEP LAB ID :	12531		

CAS #	COMPOUND	UG/KG	Q	MDL
71-43-2	BENZENE	U		110000
108-86-1	BROMOBENZENE	U		110000
74-97-5	BROMOCHLOROMETHANE	U		110000
75-27-4	BROMODICHLOROMETHANE	U		110000
75-25-2	BROMOFORM	U		110000
74-83-9	BROMOMETHANE	U		110000
104-51-8	N-BUTYLBENZENE	U		110000
135-98-8	SEC-BUTYLBENZENE	U		110000
98-06-6	TERT-BUTYLBENZENE	U		110000
56-23-5	CARBON TETRACHLORIDE	U		110000
108-90-7	CHLOROBENZENE	U		110000
124-48-1	DIBROMOCHLOROMETHANE	U		110000
74-00-3	CHLOROETHANE	U		110000
67-66-3	CHLOROFORM	U		110000
74-87-3	CHLOROMETHANE	U		220000
95-49-8	2-CHLOROTOLUENE	U		110000
106-43-4	4-CHLOROTOLUENE	U		110000
96-12-8	1,2-DIBROMO-3-CHLOROPROPANE	U		110000
106-93-4	1,2-DIBROMOETHANE	U		110000
74-95-3	DIBROMOMETHANE	U		110000
95-50-1	1,2-DICHLOROBENZENE	U		110000
541-73-1	1,3-DICHLOROBENZENE	U		110000
106-46-7	1,4-DICHLOROBENZENE	U		110000
75-71-8	DICHLORODIFLUOROMETHANE	U		110000
75-34-3	1,1-DICHLOROETHANE	U		110000
107-06-2	1,2-DICHLOROETHANE	U		110000
75-35-4	1,1-DICHLOROETHENE	U		110000
156-59-2	CIS-1,2-DICHLOROETHENE	U		110000
156-60-5	TRANS-1,2-DICHLOROETHENE	U		110000
78-87-5	1,2-DICHLOROPROPANE	U		110000
142-28-9	1,3-DICHLOROPROPANE	U		110000
594-20-7	2,2-DICHLOROPROPANE	U		110000
563-58-6	1,1-DICHLOROPROPENE	U		110000

Method 8260 Volatile Organics By GC/MS

CLIENT :	F&N	LAB SAMPLE ID :	L1574-1
SAMPLE ID:	PIPE AREA	DATE SAMPLED:	01/26/99
PROJECT:	F&N PAINT	DATE RECEIVED:	01/28/99
SAMPLE VOL. :	0.00008GM	DATE ANALYZED:	02/05/99
DATA FILE :	>E3897	DIL. FACT :	50000
EXTRACT/DATE :	N/A	ANALYST:	SP/RS
NJDEP LAB ID :	12531		

CAS #	COMPOUND	UG/KG	Q	MDL
100-41-4	ETHYLBENZENE	4400000		110000
87-68-3	HEXACHLOROBUTADIENE	U		110000
98-82-8	ISOPROPYLBENZENE	U		110000
99-87-6	P-ISOPROPYLTOLUENE	U		110000
75-09-2	METHYLENE CHLORIDE	U		110000
91-20-3	NAPHTHALENE	U		110000
103-65-1	N-PROPYLBENZENE	U		110000
100-42-5	STYRENE	U		110000
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		110000
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		110000
127-18-4	TETRACHLOROETHENE	U		110000
108-88-3	TOLUENE	2800000		110000
87-61-6	1,2,3-TRICHLOROBENZENE	U		110000
120-82-1	1,2,4-TRICHLOROBENZENE	U		110000
71-55-6	1,1,1-TRICHLOROETHANE	U		110000
79-00-5	1,1,2-TRICHLOROETHANE	U		110000
79-01-6	TRICHLOROETHENE	U		110000
75-69-4	TRICHLOROFLUOROMETHANE	U		110000
96-18-4	1,2,3-TRICHLOROPROPANE	U		220000
95-63-6	1,2,4-TRIMETHYLBENZENE	U		110000
108-67-8	1,3,5-TRIMETHYLBENZENE	U		110000
75-01-4	VINYL CHLORIDE	U		110000
95-47-6	O-XYLENE	5000000		110000
108-38-3	M/P-XYLENE	17000000		110000
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		110000
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		110000
1634-04-4	METHYL TERT-BUTYL ETHER	U		270000
75-65-0	TERT-BUTYL ALCOHOL	U		540000
78-93-3	2-BUTANONE	U		540000
67-64-1	ACETONE	U		540000
108-10-1	4-METHYL-2-PENTANONE	U		540000
591-78-6	2-HEXANONE	U		540000
75-15-0	CARBON DISULFIDE	U		110000
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		110000
108-05-4	VINYL ACETATE	U		110000

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 : F&N
SAMPLE ID: COMPOSITE # 1
PROJECT: F&N PAINT
SAMPLE VOL. : 5.0GM/0.5/0.0008GM
DATA FILE : >D5609/>D5613/E4168
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : L1882-1
DATE SAMPLED: 02/08/99
DATE RECEIVED: 02/12/99
DATE ANALYZED: 2/16,17,18/99
DIL. FACT : 1.0/10/5000
ANALYST: KW/RS

CAS #	COMPOUND	UG/KG	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 : F&N
SAMPLE ID: COMPOSITE # 1
PROJECT: F&N PAINT
SAMPLE VOL. : 5.0GM/0.5/0.0008GM
DATA FILE : >D5609/>D5613/E4168
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : L1882-1
DATE SAMPLED: 02/08/99
DATE RECEIVED: 02/12/99
DATE ANALYZED: 02/16,17,18/99
DIL. FACT : 1.0/10/5000
ANALYST: KW/RS

CAS #	COMPOUND	UG/KG	Q	MDL
100-41-4	ETHYLBENZENE	150		5
87-68-3	HEXACHLOROBUTADIENE	U		5
98-82-8	ISOPROPYLBENZENE	11		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	160		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	8.3		5
108-67-8	1,3,5-TRIMETHYLBENZENE	11		5
75-01-4	VINYL CHLORIDE	U		5
95-47-6	O-XYLENE	480	D	50
108-38-3	M/P-XYLENE	1000	D	50
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	1000	D	110
67-64-1	ACETONE	780000	D	53000
108-10-1	4-METHYL-2-PENTANONE	U		11
591-78-6	2-HEXANONE	U		11
75-15-0	CARBON DISULFIDE	U		11
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 :	F&N	LAB SAMPLE ID :	L1882-2
SAMPLE ID:	COMPOSITE # 2	DATE SAMPLED:	02/08/99
PROJECT:	F&N PAINT	DATE RECEIVED:	02/12/99
SAMPLE VOL. :	5.0GM/0.002GM	DATE ANALYZED:	02/16,18/99
DATA FILE :	>D5608/>E4167	DIL. FACT :	1.00/2500
EXTRACT/DATE :	N/A	ANALYST:	KW/RS
NJDEP LAB ID :	12531		

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

Method 8260 Volatile Organics By GC/MS

CLIENT :	F&N	LAB SAMPLE ID :	L1882-2
SAMPLE ID:	COMPOSITE # 2	DATE SAMPLED:	02/08/99
PROJECT:	F&N PAINT	DATE RECEIVED:	02/12/99
SAMPLE VOL. :	5.0GM/0.002GM	DATE ANALYZED:	02/16/99
DATA FILE :	>D5608/>P4167	DIL. FACT :	1.00/2500
EXTRACT/DATE :	N/A	ANALYST:	KW/RS
NJDEP LAB ID :	12531		

CAS #	COMPOUND	UG/KG	Q	MDL
100-41-4	ETHYLBENZENE	U		6
87-68-3	HEXACHLOROBUTADIENE	U		6
98-82-8	ISOPROPYLBENZENE	U		6
99-87-6	P-ISOPROPYLTOLUENE	U		6
75-09-2	METHYLENE CHLORIDE	U		6
91-20-3	NAPHTHALENE	U		6
103-65-1	N-PROPYLBENZENE	U		6
100-42-5	STYRENE	U		6
630-20-6	1,1,1,2-TETRACHLOROETHANE	U		6
79-34-5	1,1,2,2-TETRACHLOROETHANE	U		6
127-18-4	TETRACHLOROETHENE	U		6
108-88-3	TOLUENE	7.3		6
87-61-6	1,2,3-TRICHLOROBENZENE	U		6
120-82-1	1,2,4-TRICHLOROBENZENE	U		6
71-55-6	1,1,1-TRICHLOROETHANE	U		6
79-00-5	1,1,2-TRICHLOROETHANE	U		6
79-01-6	TRICHLOROETHENE	U		6
75-69-4	TRICHLOROFLUOROMETHANE	U		6
96-18-4	1,2,3-TRICHLOROPROPANE	U		6
95-63-6	1,2,4-TRIMETHYLBENZENE	U		6
108-67-8	1,3,5-TRIMETHYLBENZENE	U		6
75-01-4	VINYL CHLORIDE	U		6
95-47-6	O-XYLENE	U		6
108-38-3	M/P-XYLENE	11		6
10061-01-5	CIS-1,3-DICHLOROPROPENE	U		6
10061-02-6	TRANS-1,3-DICHLOROPROPENE	U		6
1634-04-4	METHYL TERT-BUTYL ETHER	U		6
78-93-3	2-BUTANONE	4500	E	12
67-64-1	ACETONE	190000	D	29000
108-10-1	4-METHYL-2-PENTANONE	29		12
591-78-6	2-HEXANONE	U		12
75-15-0	CARBON DISULFIDE	U		12
110-75-8	2-CHLORO ETHYL VINYL ETHER	U		6
108-05-4	VINYL ACETATE	U		6

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 : F&N
SAMPLE ID: COMPOSITE # 3
PROJECT: F&N PAINT
SAMPLE VOL. : 5.0GM
DATA FILE : >D5607
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : L1832-3
DATE SAMPLED: 02/09/99
DATE RECEIVED: 02/12/99
DATE ANALYZED: 02/16/99
DIL. FACT : 1.00
ANALYST: KW/RS

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

Method 8260 Volatile Organics By GC/MS

CLIENT : F&N
SAMPLE ID: COMPOSITE # 3
PROJECT: F&N PAINT
SAMPLE VOL. : 5.0GM
DATA FILE : >D5607
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : L1882-3
DATE SAMPLED: 02/09/99
DATE RECEIVED: 02/12/99
DATE ANALYZED: 02/16/99
DIL. FACT : 1.00
ANALYST: KW/RS

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

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 : F&N
SAMPLE ID: COMPOSITE # 4
PROJECT: F&N PAINT
SAMPLE VOL. : 5.0GM
DATA FILE : >D5606
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : L1882-4
DATE SAMPLED: 02/09/99
DATE RECEIVED: 02/12/99
DATE ANALYZED: 02/16/99
DIL. FACT : 1.00
ANALYST: KW/RS

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

Method 8260 Volatile Organics By GC/MS

CLIENT :	F&N	LAB SAMPLE ID :	L1382-4
SAMPLE ID:	COMPOSITE # 4	DATE SAMPLED:	02/09/99
PROJECT:	F&N PAINT	DATE RECEIVED:	02/12/99
SAMPLE VOL. :	5.0GM	DATE ANALYZED:	02/16/99
DATA FILE :	>D5606	DIL. FACT :	1.00
EXTRACT/DATE :	N/A	ANALYST:	KW/RS
NJDEP LAB ID :	12531		

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

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 : F&N
SAMPLE ID: COMPOSITE # 5
PROJECT: F&N PAINT
SAMPLE VOL. : 5.0GM
DATA FILE : >D5605
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : L1882-5
DATE SAMPLED: 02/09/99
DATE RECEIVED: 02/12/99
DATE ANALYZED: 02/16/99
DIL. FACT : 1.00
ANALYST: KW/RS

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

Method 8260 Volatile Organics By GC/MS

CLIENT : F&N
SAMPLE ID: COMPOSITE # 5
PROJECT: F&N PAINT
SAMPLE VOL. : 5.0GM
DATA FILE : >D5605
EXTRACT/DATE : N/A
NJDEP LAB ID : 12531

LAB SAMPLE ID : L1882-5
DATE SAMPLED: 02/09/99
DATE RECEIVED: 02/12/99
DATE ANALYZED: 02/16/99
DIL. FACT : 1.00
ANALYST: KW/RS

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

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

ANAlab Inc,205 Campus Plaza I,Edison,NJ,08837:Phone(732)225-4111Fax(732)225-4110

TABULATED ANALYTICAL REPORT

CLIENT	: FENNICOL	LASSAMPLE ID	: L1882-1
CLIENT ID	: COMPOSITE #1	DATE SAMPLED	: 08-FEB-99
PROJECT	: FYN PAINT	DATE RECEIVED	: 12-FEB-99
SAMPLE VOLUME	: NA	DATE ANALYZED	: 16-FEB-99
DATA FILE	: NA	DILUTION FACTOR	: NA
EXTRACTION DATE	: NA	ANALYST	: MM
NJDEP ID	: 12531		

CASNO	Analyte	Result %	MDL %	PQL %
NA	TOTAL SOLIDS	94		

MDL = Method Detection Limit (Statistical, 40CFR136 APXB)
PQL = Practical Quantitation Limit
J = Estimated Value, < MDL, > Zero
U = Not Detected
B = Compund Also Present In Blank
E = Concentration Exceeds Calibration Range
D = Result Quantified From Secondary Dilution
NA = Not Applicable / Not Available

ANAlab Inc,205 Campus Plaza I,Edison,NJ,08837:Phone(732)225-4111Fax(732)225-4110

TABULATED ANALYTICAL REPORT

CLIENT	: FENNICOL	LABSAMPLE ID	: L1882-2
CLIENT ID	: COMPOSITE #2	DATE SAMPLED	: 08-FEB-99
PROJECT	: FYN PAINT	DATE RECEIVED	: 12-FEB-99
SAMPLE VOLUME	: NA	DATE ANALYZED	: 16-FEB-99
DATA FILE	: NA	DILUTION FACTOR	: NA
EXTRACTION DATE	: NA	ANALYST	: MM
NJDEP ID	: 12531		

CASNO	Analyte	Result %	MDL %	PQL %
NA	TOTAL SOLIDS	85		

MDL = Method Detection Limit (Statistical, 40CFR136 APXB)
PQL = Practical Quantitation Limit
J = Estimated Value, < MDL, > Zero
U = Not Detected
B = Compund Also Present In Blank
E = Concentration Exceeds Calibration Range
D = Result Quantified From Secondary Dilution
NA = Not Applicable / Not Available

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TABULATED ANALYTICAL REPORT

CLIENT	: FENNICOL	LASSAMPLE ID	: L1882-3
CLIENT ID	: COMPOSITE #3	DATE SAMPLED	: 09-FEB-99
PROJECT	: FYN PAINT	DATE RECEIVED	: 12-FEB-99
SAMPLE VOLUME	: NA	DATE ANALYZED	: 16-FEB-99
DATA FILE	: NA	DILUTION FACTOR	: NA
EXTRACTION DATE	: NA	ANALYST	: MM
NJDEP ID	: 12531		

CASNO	Analyte	Result %	MDL %	PQL %
NA	TOTAL SOLIDS	88		

MDL = Method Detection Limit (Statistical, 40CFR136 APXB)
PQL = Practical Quantitation Limit
J = Estimated Value, < MDL, > Zero
U = Not Detected
B = Compund Also Present In Blank
E = Concentration Exceeds Calibration Range
D = Result Quantified From Secondary Dilution
NA = Not Applicable / Not Available

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TABULATED ANALYTICAL REPORT

CLIENT	: FENNICOL	LABSAMPLE ID	: L1882-4
CLIENT ID	: COMPOSITE #4	DATE SAMPLED	: 09-FEB-99
PROJECT	: FYN PAINT	DATE RECEIVED	: 12-FEB-99
SAMPLE VOLUME	: NA	DATE ANALYZED	: 16-FEB-99
DATA FILE	: NA	DILUTION FACTOR	: NA
EXTRACTION DATE	: NA	ANALYST	: MM
NJDEP ID	: 12531		

CASNO	Analyte	Result %	MDL %	PQL %
NA	TOTAL SOLIDS	88		

MDL = Method Detection Limit (Statistical, 40CFR136 APXB)
PQL = Practical Quantitation Limit
J = Estimated Value, < MDL, > Zero
U = Not Detected
B = Compund Also Present In Blank
E = Concentration Exceeds Calibration Range
D = Result Quantified From Secondary Dilution
NA = Not Applicable / Not Available

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TABULATED ANALYTICAL REPORT

CLIENT : FENNICOL
CLIENT ID : COMPOSITE #5
PROJECT : FYN PAINT
SAMPLE VOLUME : NA
DATA FILE : NA
EXTRACTION DATE : NA
NJDEP ID : 12531

LABSAMPLE ID : L1882-5
DATE SAMPLED : 09-FEB-99
DATE RECEIVED : 12-FEB-99
DATE ANALYZED : 16-FEB-99
DILUTION FACTOR : NA
ANALYST : MM

CASNO	Analyte	Result %	MDL %	PQL %
NA	TOTAL SOLIDS	89		

MDL = Method Detection Limit (Statistical, 40CFR136 APXB)
PQL = Practical Quantitation Limit
J = Estimated Value, < MDL, > Zero
U = Not Detected
B = Compund Also Present In Blank
E = Concentration Exceeds Calibration Range
D = Result Quantified From Secondary Dilution
NA = Not Applicable / Not Available

ANALAB INC.

205 Campus Plaza II, 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) L1574

Company FYN
Address 445 BROOK AV
City DEER PARK
State NY ZIP 11729 Phone (516) 586-4900
Project Manager D. LORTHIOIR Fax " " 4920
Project name FYN PAINT Purchase Order No. 97UC42

ANALYSIS REQUESTED

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	4,4'-DDD	REMARKS
PIPE AREA	X		SOIL	11/26/97			1	X	LAB # 1574-02

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 the Chain of Custody and the analysis(es) requested are true and correct. Name (print): DAVID LORTHIOIR Signature: David Lorthioir

RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	RELINQUISHED TO LABORATORY BY:	ACCEPTED FOR LAB BY:	DATE	TIME
David Lorthioir		1-28-97	1240			1-28-97	1530

Turnaround Time (Faxables)

24 Hour____ 5 Day____
48 Hour____ 10 Day____
72 Hour____ 14 Day____

If other than 14 day contact your project manager for authorization number.

Auth No: _____

Laboratory Comments:

RUSH

All Samples Received
Temp Cool °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:

7 DAY TURNAROUND AS PER CONTRACT

 White: Lab Yellow: Accounting Pink: Customer/Client

ANALab INC.
365 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) L1882

Company F&N
Address 445 BROAD AV
City N. BABYLON
State NY ZIP 11729 Phone 516 586-4400
Project Manager D. NORTHIOR Fax " " 4420
Project name FYN PAINT Purchase Order No.

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
COMPOSITE #-1		X	SOIL	2/9/94			2	X	22410-8
COMPOSITE #-2		X	"	2/9/94			2	X	"
COMPOSITE #-3		X	"	2/9/94			2	X	"
COMPOSITE #-4		X	"	2/9/94			2	X	"
COMPOSITE #-5		X	"	2/9/94			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.

SAMPLE SUBMITTERS 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): DAVID NORTHIOR Signature: David Northior

RELINQUISHED BY:	RECEIVED BY:	DATE:	TIME:	RELINQUISHED TO LABORATORY BY:	ACCEPTED FOR LAB BY	DATE	TIME
D. Northior		2-12-94	14:00			2-12-94	17:15

Turnaround Time (Faxables)

24 Hour ____ 5 Day ____
48 Hour ____ 10 Day ____
72 Hour ____ 14 Day ____

If other than 14 day contact your project manager for authorization number.

Auth No: ____

Laboratory Comments:

RUSH

All Samples Received
Temp COOL °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 ____
RTD-2 ____

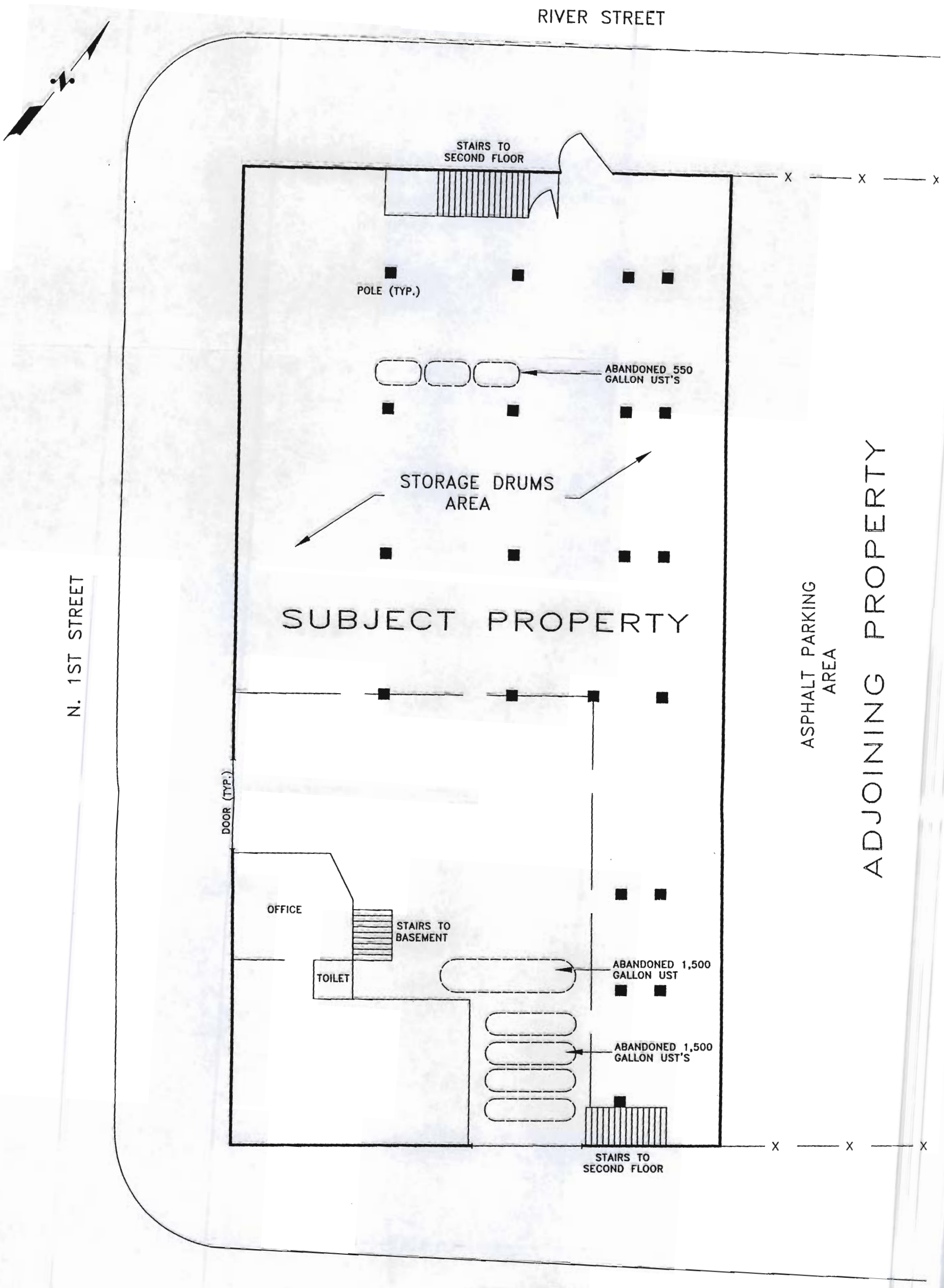
If other than standard turnaround time for hard copy, please indicate in client remarks.

Client Remarks:

7 DAY TURNAROUND AS PER CONTRACT

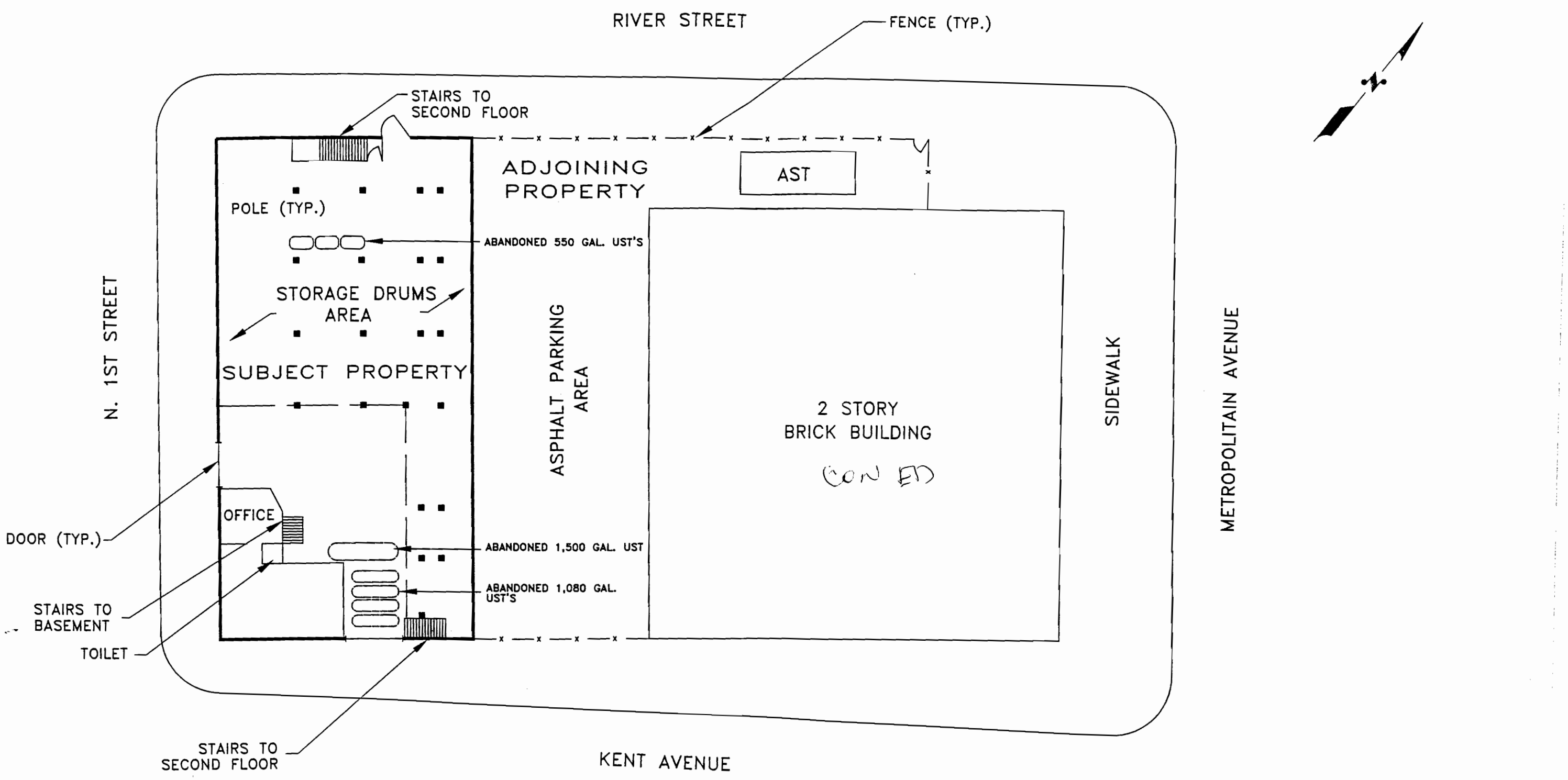
White: Lab Yellow: Accounting Pink: Customer/Client

Form 0401 Rev. 9/94



Fenley & Nicol *Professional Services Division* 445 BROOK AVENUE, DEER PARK, NEW YORK 11729 (516)586-4900		SITE PLAN "B"
SCALE: 1"=10'-0	GEOLOGIST B.M.	JOB # 0006927
DATE: 10/00	DRAWN BY: A. E.	FILE NAME: SPB.DWG

FYN PAINT & LACQUER
33 NORTH FIRST STREET
BROOKLYN, N.Y.



20 0 20 40 60

SCALE: 1"=20'-0"

Fenley & Nicol
Professional Services Division
445 BROOK AVENUE, DEER PARK
NEW YORK 11729 (516)586-4900

SCALE: 1"=20'-0"	GEOLOGIST: B.M.	JOB # 0006927
DATE: 10/00	DRAWN BY: A.E.	FILE NAME: SPA.DWG

SITE PLAN "A"

FYN PAINT & LACQUER
33 NORTH FIRST STREET
BROOKLYN, N.Y.

RIVER STREET

N. 1ST STREET

KENT AVENUE

STAIRS TO SECOND FLOOR

POLE (TYP.)

FORMER 550 GALLON UST'S

STORAGE DRUMS AREA

SP/FN 14

SP/FN 13

SUBJECT PROPERTY

DOOR (TYP.)

SP/FN 12

OFFICE

STAIRS TO BASEMENT

SP/FN 11

TOILET

FORMER 1,500 GALLON UST

SP/FN 10

FORMER 1,500 GALLON UST'S

STAIRS TO SECOND FLOOR

SP/FN 9

ASPHALT PARKING AREA

ADJOINING PROPERTY

Con Ed

LEGEND

SP/FN 9 – SOIL PROBE/WELL LOCATION

10 0 10 20 30

SCALE: 1"=10'-0"

Fenley & Nicol
Professional Services Division
445 BROOK AVENUE. DEER PARK.
NEW YORK 11729 (516)586-4900

SCALE: 1"=10'-0	GEOLOGIST B.M.	JOB # 0006927
DATE: 10/00	DRAWN BY: A. E.	FILE NAME: SPB.DWG

PROPOSED PROBE POINTS AND WELL LOCATION MAP

FYN PAINT & LACQUER
33 NORTH FIRST STREET
BROOKLYN, N.Y.