Department of Environmental Conservation

Focused Remedial Investigation

Eugene's Dry Cleaners Site
Village of Babylon, Suffolk County
Site Number 1-52-157

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Introduction

1.0 INTRODUCTION

1.1 Project Objective

The purpose of this Remedial Investigation (RI) is to identify any source of groundwater contamination in the vicinity of the Eugenes Dry Cleaners Site, further characterize the nature and extent of the groundwater contamination, and evaluate the Interim Remedial Measure (IRM) performed to remediate/control the source of contamination.

This document, entitled "Remedial Investigation Report for the Eugenes Dry Cleaners Site," presents the activities performed as part of the RI, which was conducted in accordance with the federal Comprehensive Emergency Response, Compensation and Liability Act (CERCLA), Superfund Amendments and Reauthorization Act (SARA) and the NYSDEC Superfund Program.

The RI field program for the Eugenes Dry Cleaners Site involved surface and subsurface soil sampling, the advancement and sampling of groundwater probes, the installation of piezometers from which groundwater samples were retrieved and tested.

1.2 Site Location, Ownership and Access

The Eugenes Dry Cleaners Site was a active dry cleaning facility until 1999. The site is located at 54 East Main Street in the Village of Babylon, Suffolk County, New York (see Map No.1). The site is currently owned by Ms. Maria O'Shea Manning who resides in Louisville, Tennessee. The busines was formerly founded, owned and operated by Eugene McCusker who reputedly resides in Vero Beach, Florida. Donald Gottwald owned and operated the Eugenes Dry Cleaners business from 1989 to 1999. The site is listed as a Class 2 in the Registry of Inactive Hazardous Waste Disposal Sites in New York State. The registry number for the Eugenes Dry Cleaners Site is 1-52-157.

Access to the site is from East Main Street. The area immediately adjacent to the building at the site is almost entirely covered with pavement/parking lots. The site is not fenced.

1.3 Site Description

The Eugenes Dry Cleaners Site and surrounding area are shown on Map 2. The site is part of a property which contains three stores located on East Main St.. The site is bordered to the north by Main St., on the east by a paved alley which leads to parking lots in the rear, and on the west by antique shops. The surrounding area consists mainly of light commercial properties along East Main Street, with residential homes located one block to the south and north. The size of Eugenes Dry Cleaners faciluty is estimated to be 0.1 acres (approximately 50 feet in street frontage and 100 feet in length) (see Photo Set No.1).

The Eugenes Dry Cleaners Site comprises of a building. The building is approximately 50 feet in width by 100 feet in length. The owner of the site's property (Ms. Maria O'Shea Manning) also owns the property on which several building to the west stand. There is a driveway on the east side of this property which is approximately 30 feet wide. On the other side of the driveway, there is a health club. The property line is approximately in the middle of this driveway. On the south sides of the property, there is a parking area. To the southeast, there is a larger parking lot owned by the Village of Babylon. Further south, there is a commercial equipment repair business. The Eugenes Dry Cleaners building consists of one story and a basement, and is constructed of concrete block. An antique store is adjacent to Eugenes Dry Cleaners on the west side.

1.3.1 Land Use

The Eugenes Dry Cleaners Site is located in a commercialized portion of East Main Street in the Village of Babylon, Suffolk County, New York. The surrounding area is a mix of residential and commercial properties located along East Main Street and the Streets located to the north and south.

1.3.2 Climate

The local climate of Long Island is considered temperate. Air masses and weather systems mostly originate in the humid continental climate of North America and are tempered by the maritime influences within the region. As a result of these influences, daily and annual temperatures have a reduced range. Precipitation is fairly uniform, but generally heavier in the winter and spring.

The major influences on the regional temperature pattern are the Atlantic Ocean to the south and east and Long Island Sound to the north. The proximity of the ocean moderates temperatures thus reducing seasonal temperature extremes. Winter temperatures are milder than those of mainland areas at similar latitudes, while summer temperatures are cooler.

The prevailing wind is from the west-northwest. The strength of the wind generally increases in the winter and decreases in the summer. This change coincides with the movement of the mid-latitude jet stream. During the summer, the jet stream is well to the north of the region, resulting in slightly lower relative wind speeds with some significant gusts related to thunderstorms or squall lines. Significant gusts occur during winter.

1.3.3 Topography

The topography in the site area is relatively level with areas of local relief of less than 5 feet. The Eugenes Dry Cleaners Site is located at an elevation of approximately 5 feet above Mean Sea Level (MSL).

1.3.4 Soil

According to the soil survey of Suffolk County, New York, prepared by the United States Soil Conservation Service, the soil in the site area is classified as either Urban Land or other. Urbanized areas are defined as areas covered with asphalt, concrete and other impervious building material. These areas are nearly level or gently sloping.

1.3.5 Storm Water/Surface Drainage

The property gradually slopes away from East Main Street. Site drainage infiltrates directly to the subsurface in areas that are not paved or via dry wells. Runoff flows toward the rear of the property. The topography gently slopes towards the end of the driveway near the southeast corner of the building and continues on to the Village parking lot to the southeast of the property. The basement of Eugenes Dry Cleaners is flooded periodically during rain events and high tides.

1.3.6 Regional Geology

Long Island is composed of a thick succession of unconsolidated sediments overlying a southeasterly sloping bedrock basement. In the region of Suffolk County, where the Eugenes Dry Cleaners Site is located, the thickness of the unconsolidated deposits is significant, possibly up to 1800 feet. Figure 1 shows a typical geological profile for this area of Long Island.

The age of the bedrock beneath Long Island has been established as Precambrian. The geologic history of this region exceeds 575 million years. However, long periods of non deposition and/or periods of large-scale erosion are responsible for limiting the rock record to the older Precambrian bedrock and younger Upper Cretaceous and Pleistocene sands, gravels and clays, which are thought to have been deposited during the last 125 million years.

1.3.7 Regional Hydrogeology

Long Island is composed of a thick succession of unconsolidated sediments overlying a southeasterly sloping bedrock. In the region of Suffolk County, in the approximate location of the site, the unconsolidated deposits are about 1400 to 1800 feet thick. The Upper Glacial aquifer is located between the ground surface and the first unconformity. The Magothy aquifer occupies the zone between the first and second unconformities. The Gardiners Clay acts as a confining layer between the Upper Glacial aquifer and the underlying Magothy aquifer.

The Upper Glacial aquifer is approximately 100-150 feet thick and consists mostly of glacial outwash which is generally fine to coarse sand and gravel with thin local lenses of clay.

The Magothy aquifer ranges from 800 to 1000 feet thick. The unit typically consists mostly of fine to medium sand to clayey sand interbedded with lenses and layers of coarse sand, and sandy to solid clay. Gravel is common in the basal zone and discontinuous layers of gray

lignitic clay are common in the upper zones.

The groundwater at the Eugenes Dry Cleaners Site is located approximately 8 feet below grade and is influenced by rain events and tidal fluctuations. On October 21, 1998, A survey was performed of the geoprobe points and and three piezometers installed on July 24,1998. The groundwater elevations indicated that the groundwater flows in a southeasterly direction (see figure No. 3).

1.3.8 Water Supply

The site area is served by a public water supplied by the Suffolk County Water Authority (SCWA). SCWA uses water supply wells at various locations in Suffolk County to provide water to various municipalities in Suffolk County (see Map No. 3). The water supply wells are screened in the aquifers below the Upper Glacial aquifer. The water is treated, tested, and pumped into holding tanks, before it is pumped into service areas.

1.4 Site History

The Eugenes Dry Cleaners Site is located at 54 East Main Street in the Village of Babylon (see Map No. 2). Small businesses and light commercial establishments line both sides of East Main Street which runs east/west. Homes and residents are located on the streets located to the north and south of East Main Street. Eugenes Dry Cleaners was operated by Donald Gottwald from 1989 to 1999.

Prior to 1989, Eugenes Dry Cleaners was founded and initially operated by Eugene McCusker. The present operator has stated that he has operated his equipment properly and disposes of his dry cleaners waste according to the current standards of the trade. There have been three documented fuel oil spills at the property. The New york State Department of Environmental Conservation (NYSDEC) Bureau of Spills has records of these fuel oil spills which occurred at Eugenes Dry Cleaners during the period from December 1993 to January 1996 (see Appendices 1, 2, & 3).

Periodic flooding of the basement has caused the residues from past spills of tetrachloroethylene also known as perchloroethylene or PCE and fuel oil to resuspend and mix in the water and cause contamination. When the level of flooding in the basement recedes, this contamination has drained into openings in the basement floor and the sump located in the basement. The PCE contamination has been documented by the Suffolk County Department of Health Services (SCDHS) (see Appendix No. 4). The oil spills have been documented by the NYSDEC.

1.5 Previous Investigations

The SCDHS sampled the PCE waste in the basement of Eugenes Dry Cleaners in 1994. SCDHS found PCE in the following concentrations: soil from the sump - 12,000 parts per million (ppm) and groundwater 840 parts per billion (ppb). The NYSDEC cleanup quidelines

for soil contaminated with PCE is 1.4 ppm. The NYSDEC groundwater standard for PCE is 5 ppb. Note that These levels of PCE contamination found in the basement sump at Eugenes Dry Cleaners were above acceptable levels for both soil and groundwater. The SCDHS performed this work in 1994 (see Appendix No.4).

The SCDHS placed two monitoring wells in the Village parking located southeast from the Dry Cleaners. Results of sampling were reported in a New York Stae Department of Health (NYSDOH) Report dated February 17, 1997 (see Appendix No. 5). The NYSDOH concurred with the NYSDEC recommendation to give this site a classification of 2 on May 26, 1995 (see Appendix No.6).

A Potential Responsible Party (PRP) search was performed by the NYSDEC Division of Environmental Conservation (DEE). No viable PRP's willing to do the work were found. In early 1998, the site was referred to the Division of Environmental Remediation (DER) to begin the Remedial Investigation/Feasibility Study (RI/FS) process. The funds for the RI at this site are allocated from the New York State Superfund Program.

1.6 Overview of the Remedial Investigation and Report Organization

The purpose of the Eugenes Dry Cleaners Site Remedial Investigation is to locate and document the source of previously identified groundwater contamination, define the vertical and horizontal extent of soil and groundwater contamination and implement an IRM at the site as appropiate. The approach of the RI is to utilize existing data obtained from previous investigations and data collected during the RI as the basis for a remedy.

As part of New York State's program to investigate and remediate hazardous waste sites, the NYSDEC has utilized an investigative services contract with Lawler Matuskey and Skelley (LMS) Consulting Engineers of Pearl River, New York. LMS's Work Plan was to conduct the geoprobe field work and assist in surveys with the NYSDEC in developing the RI for the Eugenes Dry Cleaners Site.

Section 2

Study Area Investigation

2.0 STUDY AREA INVESTIGATION

2.1 Overview of Field Activities

The field activities conducted at the Eugenes Dry Cleaners Site were conducted in a phased approach with the goal of locating the source of the groundwater contamination. In order to accomplish this goal several investigation techniques were utilized. These field activities included the following:

Facility review
Surface and subsurface soil sampling
Groundwater sampling
Piezometers
Surveying
Health and Safety
Quality Assurance Quality Control Program

The initial phase of the field program included conducting a source area investigation both indoor and outdoor of the facility to identify the source point or points of contamination from dry cleaning fluid. The source area investigation included the collection of both surface and subsurface soil and groundwater samples.

The identification of groundwater contamination source(s) was determined by retrieving soil and ground samples. The delineation of any potential contaminated groundwater plume was was determined by the use of groundwater probes.

Piezometers were installed to determine the direction of groundwater flow. The piezometers were surveyed to determine their relative heights and relationship to each other. By using a base elevation, the groundwater elevation and direction of flow was determined.

If a source of contamination can be identified, then a decision to perform a IRM could be made.

2.2 Facility Review

In 1994, Suffolk County forwarded the results of the analysis of soil and groundwater samples retrieved from the basement of Eugenes Dry Cleaners. The analytical results of soil samples retrieved from the basement sump indicated concentrations of PCE to be as high as 12,000 ppm. Soil cleanup levels for PCE are 1.4 ppm. The analytical results of water samples indicated concentration of PCE to be as high as 840 ppb. This exceeded the groundwater standard for PCE (5 ppb).

This concentration of PCE was sufficiently high enough to confirm that hazardous waste had been disposed of at the site. A Preliminary Site Assessment was not necessary. In 1995, the Department of Environmental Conservation listed this site as a Class 2 on the Registry of

Inactive Hazardous Waste Sites as a result of the information received from Suffolk County.

The site was referred to the Division of Environmental Enforcement (DEE) to determine if a viable PRP was available to perform a Remedial Investigation/Feasibility Study (RI/FS). In March 1998, DEE completed a PRP search. No viable PRP was found. In April 1998, this site was referred to the Bureau of Eastern Remediation Action to perform a RI/FS .

On February 6, 1998, a reconnaissance site visit was conducted in order to develop RI/FS background information. One significant observation was the presence of water in the basement. Both a soil sample and water sample were retrieved from the Dry Cleaner's basement in order to confirm the PCE finding of Suffolk County. DER's inhouse laboratory test results indicated a PCE concentration in the soil sample to be 0.160 ppm and in the water sample to be 13 ppb.

2.3 Surface Soil and Subsurface Soil Sampling

Fourteen interior surface and subsurface soil samples were retrieved from the basement of Eugenes Dry Cleaners. Seven samples were retrieved from 0 foot elevation (surface) and seven samples were retrieved from the -4 foot elevation (subsurface) at locations B1, H1, B2, B3, B4, H2, and S1 (see Figure No. 2). On previous visits to the site, water was observed in the basement. It was assumed that the basement floor consisted of soil since the basement of the facility was flooded on initial visits to the site. It was determined that the floor consisted of concrete only after NYSDEC staff had mobilized at the site for RI field work when the basement was dry. Subsequently, the locations beginning with 'B' were developed using a concrete drill. Samples beginning with 'H' were retrieved from existing holes in the basement floor. The final soil sample was retrieved from an existing sump location S1 in the basement floor. This point had previously been tested by the SCDHS and found to contain extremely high concentrations of PCE and was the primary reason the site had been listed on the NYSDEC Registry of Inactive Hazardous waste Sites as a Class 2 (see Photoset No. 2). The 'B' soil samples were retrieved from 0 foot (ft.) And -4 ft. depth. The 'H' and 'S' soil samples were retrieved from -1 ft. and -5 ft. depths.

Two exterior surface and subsurface soil samples were retrieved from location GP4 (indicated on Figure No.3 as SS-1) in the alley adjacent to the suspected source area (sump S1 located in basement of Eugenes Dry Cleaners (see Figure No.2)). The GP4 soil samples were retrieved from depths 0 ft. To -4 ft. and 4 ft. to 8 ft. respectively. A bottom surface soil sample and a bottom subsurface sample were retrieved from the storm water drainage basin SD1 (near GW-5) located to the rear of Eugenes Dry cleaners . The SD1 soil samples retrieved from the bottom of the storm drain were from depths of -7 ft. and -7 ft. to -11 ft. Note that figure No.3 is orientated in the opposite direction as figure No.2.

Individual surface and subsurface soil samples were retrieved from the top layer and bottom layer of a 4 foot polyethylene sleeve contained in a metal probing unit manually driven to the desired depth. Samples were collected from the split sleeve by hand using disposable gloves and transferred directly to laboratory supplied containers. The sample containers were labeled

and delivered to an onsite mobile laboratory. Duplicate split spoon samples from potential hot spots were transported to a contract laboratory for confirmatory analysis. VOC Analysis consisted of either Method 8010 or Method 8260.

Soil sampling results and their relationship to NYSDEC soil cleanup guidelines are shown on Table 1.

2.4 Geoprobe Groundwater (GW) Sampling Points

Geoprobe sampling point GW1 was located in the parking lot directly to rear of Eugenes Dry Cleaners. It was assumed that this location would indicate a high degree of groundwater contamination because it was located just south of the site. GW1 groundwater samples were retrieved from -15 ft., -30 ft., and -60 ft. depths.

Geoprobe sampling point GW2 was located in the general vicinity of where Suffolk County had previously installed 2 groundwater monitoring wells. Suffolk County's well could not be located . It appeared that the parking lot had been recently paved. Suffolk County's wells may have been paved over. Suffolk County had previously reported their groundwater sampling results in a DOH report dated February 17, 1997 (appendix No.5). Their total VOCs were 22 ppm. GW2 groundwater samples were retrieved from -15 ft. and -30 ft. depths.

Geoprobe sampling point GW3 was located as an upgradient geoprobe. The purpose of a upgradient GW sampling point is to determine if upgradient (background) groundwater is free of the contamination attributed to the site and to assess the site's contribution to downgradient contamination. GW3 is located north of the suspected contamination source in the alley next to Eugenes Dry Cleaners. GW3 groundwater samples were retrieved from -15 ft. and -32 ft. depths. Note that the depths from which groundwater samples were retrieved vary slightly (ie 15, 16, 30, & 32 etc.). This is due to the different lengths of pipes used in drilling geoprobe sampling points.

Geoprobe sampling point GW4 is located in the alley adjacent to the suspected source in the basement of Eugenes Dry Cleaners. It was anticipated that this location might exhibit significant contamination due to the its proximity to the suspected source of contamination. GW4 groundwater samples were retrieved from -15 ft., -30 ft. and -60 ft. depths.

Geoprobe GW5 is located about 50 ft. west of Geoprobe GW1. This point was sampled to determine if a contaminated groundwater plume might be spreading in a southwesterly direction. GW5 groundwater samples were retrieved from -15 ft. and -30 ft. depths.

Geoprobe sampling points GW6 & 7 were located in the southern portion of the municipal parking lot to approximately 300 ft. to the south of Geoprobe GW1 with GW7 approximately 200 ft. east of GW6. These points were sampled to determine how far south a potential contaminated groundwater plume may have migrated. GW6 groundwater samples were retrieved from -15 ft. and -32 ft. depths. GW7 groundwater samples were retrieved from -16 ft., -32 ft. and -60 ft. depths.

Geoprobe sampling point GW8 was located on the property of an commercial equipment repair business located to the west of the municipal parking lot. It was thought that evidence of cross contamination might be detected at this location. GW8 groundwater samples were retrieved from -16 ft., -32 ft. and -60 ft. depths.

Geoprobe sampling point GW9 was located on the next street south of East Main St. at 79 Prospect St. approximately 500 ft. south of GW1. This location was sampled to determine if a potential plume of contamination had extended this far south from the site. GW9 groundwater samples were retrieved from -15 ft., -32 ft. and -60 ft. depths.

2.5 Piezometers

Three Piezometers approximately 15 ft. in depth were placed in locations near GW1, GW6, and GW8 sampling points. These points are refered to as PZ1, PZ6, & PZ8 (see Figure Nos. 5 & 6). The initial purpose of installing these Piozmeters was to determine the direction of groundwater flow in the vicinity of the site. Later they would prove useful in determining the effectiveness of an IRM.

2.6 Survey

A Investigative Services Contract was utilized to perform a survey of both soil and groundwater sampling points to determine their location and elevation in relation to fixed datum. This survey was used to determine the depth of groundwater and it's direction of flow (see Figure Nos. 2 and 3).

2.7 Health and Safety

Prior to performance of the field program and as part of the Work Plan, a site-specific Health and Safety Plan was prepared in order to establish occupational health and safety requirements, responsibilities and procedures to protect workers during the field investigation at the Eugenes Dry Cleaners Site. The requirements for worker health and safety were based on the following:

The Standard Operating Safety Guides. US Environmental Protection Agency (EPA), Office of Emergency and Remedial Response;
The Occupational Health and Safety Administration (OSHA) Regulations, 29 CFR Parts 1019.120 and 1926;
NYSDEC Division of Hazardous Waste Remediation Technical and Administrative Memorandums 4016 and 4031;
Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH, OSHA, USCG and EPA;
Health and Safety Procedures for Hazardous Waste Sites and
Superfund Amendments and Reauthorization Act (SARA), Title I, Section 126.

Activities associated with the investigation were performed in accordance with this

Health and Safety Plan. A Generic Health and Safety Plan was prepared for the Eugenes Dry Cleaner site.

2.8 Quality Assurance Quality Control Program

As part of the Phase 1 RI Work Plan for the Eugenes Dry Cleaner site, the general provisions of a Generic Quality Assurance and Quality Control (QA/QC) Plan were followed. This plan adhered to the general procedures involving the detailed sample collection and analytical procedures used to ensure high quality, valid data. QA/QC samples were collected during the investigation to assure quality control for the soil, air and groundwater characterization of the site. The evaluation of the results of this sampling procedure enabled accurate data evaluation of data and supported the development of an IRM plan for the site. This QA/QC Plan included detailed descriptions of the following:

Data Quality Objectives and Scope
Data Usage
Monitoring Network Design and Rationale
Monitoring Parameters
Data Quality Requirements and Assessment
Sampling Procedures
Decontamination Procedures
Laboratory Sample Custody Procedures
Field Management Documentation
Control and Disposal of Contaminated Material
Trip Blanks
Field Blanks
Matrix SpikesMatrix Spike Duplicates and Spiked Blanks
Field Management Forms
NYSDEC Sample Identification, Preparation and Analysis Summary Forms

A number of samples were sent off site to a ELAP certified, NYSDEC CLP qualified Laboratory. This Lab complied with the following requirements:

Calibration Procedures and Preventive Maintenance
Documentation, Data Reduction and Reporting
Performance and System Audits
Method Blanks/Holding Blanks
Data Quality Requirements and Assessments

2.9 Data Validation

A NYSDEC DER QA Officer performed the data validation for this project and the New York State Department of Environmental Conservation (NYSDEC) laboratory located in Saratoga Springs, New York, were utilized to perform some analyses of the soil, groundwater collected during the investigation. This lab is also a New York State Department of Health

(NYSDOH) Environmental Laboratory Approved Program (ELAP) certified laboratories meeting requirements for performing sample analysis according to NYSDEC 1291 Analytical Services Protocols (ASP). FGL Environmental Laboratory.

Section 3

Environmental Setting

3.0 Environmental Setting

The regional geology and hydrogeology in the vicinity of the site are typical of Long Island; glacial deposits of Pleistocene age overlie Cretaceous deposits which rest on Precambrian crystalline bedrock. Of importance to this investigation are the Pleistocene deposits which are present in the shallow subsurface beneath the site.

3.1 Regional Geology

Precambrian bedrock is present at approximately 1600 feet beneath the surface of the site and is composed of crystalline igneous lithologies.

Cretaceous deposits unconformably overlie the bedrock and consist of the Raritan Formation and the Magothy Formation. The Raritan Formation includes the Lloyd Sand Member and the Raritan Clay Member. The Raritan Formation is present from approximately 1000 to 1,650 feet beneath the site. The Lloyd Sand Member is about 500 feet thick and the overlying Raritan Clay is approximately 150 feet thick. The Magothy Formation overlies the Raritan Formation and consists of interbedded fine sands, silts, and clays, with discontinuous zones of sand and gravel found at various depths. The Magothy Formation is present from approximately 80 feet to 1000 feet below grade at the site

The Pleistocene Gardiners Clay overlies the Magothy Formation and is present at a depth of 50 to 60 feet at a location not far from the site where deeper borings were completed. The Gardiners Clay is reported to be approximately 10 feet thick or less in the general vicinity of the site. The Gardiners Clay is composed of a marine clay with interbedded sand layers and lenses.

The Pleistocene Glacial Deposits overlie the Gardiners Clay and extend from at or near the ground surface to a depth of 50 to 60 feet below the site. The Glacial Deposits consist of fine to very coarse sand and gravel.

3.2 Regional Hydrology

The region of Long Island surrounding the site is underlain by three aquifers separated by confining layers. The lowest aquifer is the Lloyd aquifer and is comprised of the Lloyd Sand Member. The middle aquifer is the Magothy aquifer which is comprised of the Magothy Formation and is the primary water source for most public water supplies on Long Island.

Of primary interest to this investigation is the uppermost aquifer, the Upper Glacial Aquifer, comprised of the Pleistocene Glacial Deposits. The Gardiners Clay acts as a confining

layer between the Upper Glacial and the underlying Magothy Aquifer. The Upper Glacial is a water table aquifer and the depth to water at the site is approximately eight feet below grade. This aquifer is recharged by precipitation that infiltrates downward to the water table. Most of this recharge remains within the Upper Glacial Aquifer, moving laterally toward the discharge locations near the shore.

Based on water table measurements the Upper Glacial groundwater flow in the immediate vicinity of the site is to the south. Horizontal hydraulic gradients for site were calculated to be approximately 0.002 feet per minute, indicating a very flat water table gradient. Groundwater flow velocities are therefore suspected to be low.

Section 4

Nature and Extent of Contamination

4.0 NATURE AND EXTENT OF CONTAMINATION

The purpose of this section is to provide a discussion of the results of the field investigation, and the nature, location and significance of contamination found during the remedial investigation for the Eugenes Dry Cleaners Site.

4.1 Identification of Standards, Criteria and Guidelines

This section provides a presentation of the standards, criteria and guidelines (SCGs) which were used to determine the significance of the analytical results, and the potential threat to human health and the environment.

4.1.1 Surface and Subsurface Soil

The primary contaminant of concern at the Eugenes Dry Cleaners Site is PCE. Surface and subsurface soil samples were collected from the areas on-site believed to be the source of contamination. Soil cleanup guidance were used to evaluate the extent of soil contamination and are based on the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) No. 4046 - Determination of Soil Cleanup Objectives and Cleanup Levels. These cleanup levels are presented along with the data listed in Table 1.

4.1.2 Groundwater

In the review and interpretation of the Geoprobe groundwater well sampling results, the SCGs selected for the Eugenes Dry Cleaners Site were based on the NYSDEC Technical and Operational Guidance Series (TOGS) - Ambient Water Quality Standards and Guidance Values. The water quality standards and guidance values provide ambient contaminant concentrations which were developed to protect New York State groundwater. The SCGs also list the best classified usage for NYS groundwater. Analytical results obtained for groundwater and private well samples are compared to Class GA groundwater standards whose potential use is a potable water supply. These standards are listed along with groundwater monitoring results in the data Table No.2.

4.2 Site Characterization

4.2.1 Surface and Subsurface Soil Sampling

On July 22, 1998, soil samples were collected from nine interior and exterior locations . Seven interior surface and subsurface soil samples (B1 to 4, H1 &2, & S1) were collected from below the surface of the concrete floor in the basement of the Eugenes dry cleaners building (see Figure No.2) from depths ranging from 0 ft..to 5 ft. Two exterior soil samples were collected at two locations (GP4 & SD1) outside the Eugenes Dry Cleaners building in a effort to pinpoint contamination. GP4 depths ranged from 0 ft. to -8 ft. SD1 depths ranged from -7 ft. To -11 ft.

Eighteen soil samples were collected from the above surface and subsurface locations in the basement of Eugenes Dry Cleaners and from outside Eugenes Dry Cleaners building. These

samples were analyzed for volatile organic compounds (VOCs) by an onsite mobile lab. A summary of the soil VOC results is presented on Table No.1. Five of the nine surface/subsurface soil samples collected exceeded the soil cleanup objective for Volatile Organic Chlorinated Solvents (VOCs). Also see Table No.1.

Test results indicated that the outside soil samples (GP4 and SD1) did not exceed any of the SCGs.

Test results indicated that the basement soil samples (B1 to B4, H1 &2, & S1) did exceed SCGs. The highest exceedance which was 19,200 ppb occurred at S1 for PCE. The allowable SCG concentration for PCE is 1.4 ppb.

Based on the results of the interior sampling it appears that elevated levels of contamination are found primarily in the vicinity of the basement sump. Because of the PCE spills, oil spills and periodic flooding, the VOC contamination has spread throughout the basement. The basement floor of the building is in poor condition with numerous cracks and broken concrete, which apparently allowed the spilled PCE to migrate to the underlying soil. For this reason, the DEC decided to clean out the basement sump as an IRM.

Based upon discussions held with the operator of the Eugenes Dry Cleaners during the field investigative phase of the RI which was performed in the summer of 1998, past PCE spills and a history of poor operating procedures were the apparent main reasons that S1 exhibited such high levels of PCE.

4.2.2 Groundwater sampling by Geoprobe

The groundwater was sampled on three different occasions during the RI . The groundwater was initially sampled to determine the extent of contamination from spills of dry cleaning fluid. The second round of sampling was performed to determine what if any effect the sump cleanup IRM had on the quality of groundwater. The third round of groundwater sampling was performed to confirm the results of round two.

On July 21 & 23, 1998, groundwater samples were collected from nine locations in the vicinity of building housing Eugenes Dry Cleaners (see Figure No.3). Groundwater samples were collected from three general depths using a groundwater Geoprobe rig The depths sampled were defined as shallow, intermediate, & deep. The samples were collected from near the water table approximately (~) 15 feet below grade, an intermediate depth ~30 feet below grade and a deep depth ~60 feet below grade. All of the samples were collected from the Upper Glacial aquifer.

Twenty three groundwater samples were collected from groundwater probes upgradient and downgradient of the Eugenes Dry Cleaners Site. Each of the samples was analyzed for VOC compounds utilizing an onsite mobile lab to insure quick turn around. This facilitated flexibility in the field in order to obtain the optimum groundwater sampling information. Eight of the nine geoprobe points had constituents which exceeded NYSDEC groundwater standards. The most

significant amounts were at GW 1 with 131 ug/l of 1,2 Dichloroethane (cis) (1,2 DCE (c)) a breakdown product of PCE and at GW4 with 225 ug/l of PCE (see Figure No.3 & Table No.2). This is probably due to the fact that these groundwater sampling points are the closest downgradient groundwater sampling points to the suspected contaminated source. This was suspected to be the sump in the basement of Eugenes Dry Cleaners also known as sampling point S1.

Based upon the above results, it can be concluded that PCE and/or it's breakdown products have entered the groundwater from the sump in the basement of Eugenes Dry Cleaners. The most likely source of PCE is the sump (S1) found in the basement of Eugenes Dry Cleaners. Based upon the above facts, DEC staff decided to perform a clean out IRM of the sump in the basement of Eugenes Dry Cleaners..

4.3 IRM

Since the source and location of the PCE and oil spills has been documented, DEC staff proceeded to initiate a sump clean out IRM . The main purpose of the clean out IRM was to reduce the high concentration of PCE in the basement sump S1 (see Figure No. 2). DEC staff decided to use a preapproved Spills Emergency Response Contractor. The Spills Emergency Response Contractor Miller Environmental was selected to perform this IRM. Miller Environmental was directed to powerwash the basement of Eugenes Dry Cleaners, vacuum groundwater and soil from the basement sump S1, store waste material in 55 gallon drums, segregate drums containing hazardous/nonhazardous material, and stage drums for transport offsite to an appropriate facility (see Photo set No. 3). Measures were also taken to remediate the residuals from past fuel oil spills (see Appendix 1,2, &3). Fuel oil residues could be cleaned up along with PCE contamination. The fuel oil storage tank supports would be reinforced. The drums would be manifested (see Appendix 6) and transported off site to the appropriate treatment/storage facility. The sump clean out IRM was performed on October 22, 1998.

Administrative measures were also taken to prevent future spills. On October 22, 1998, NYSDEC staff held a meeting with the Operator (Donald Gottwald) of Eugenes Dry Cleaners to discuss ways to prevent future PCE spills. The Operator said that since the PCE/fuel oil spills, new procedures for handling spent PCE have been instituted. These new procedures significantly reduce the amount of spent PCE generated (new dry cleaning machines have been installed which use significantly less PCE). The operator said that the remaining spent Perc is now picked up by a recycling firm.

In order to determine the effectiveness of the sump clean out IRM, follow up groundwater testing was performed. On May 27, 1999, a second round of groundwater sampling was performed at pieozometer locations PZ1, PZ6, & PZ8. Groundwater sampling results indicated that no groundwater standards (SCGs) were contravened. Therefore, it was concluded that the clean out IRM was effective! (See table No. 3).

On July 27, 1999, a confirmatory round of groundwater sampling was performed to substantiate the May 27, 1999 results. Concentration levels were slightly higher (see Table No. 3). However, the conclusion that the cleanup IRM was effective is still valid!

4.4 Water Supply

Two Suffolk County Water Supply Wells are indicated on Map No. 3. These wells have been identified as the public water supplies nearest to the Eugenes Dry Cleaners Site. These public water supply well are approximately one half mile upgradient (northeast) from the site. Contamination from Eugenes Dry Cleaners does not threaten these wells since groundwater originating from Eugenes Dry Cleaners would flow in a southernly direction from these supply wells and discharge into Long Island Sound.

Section 5

Investigative Conclusions

5.0 INVESTIGATION CONCLUSIONS

The investigative conclusions are based on the following: field data (soil and groundwater) collected by NYSDEC staff; a NYSDOH report containing groundwater information collected by the SCDHS; an investigative work assignment by LMS which provided Geoprobe soil and groundwater information; underground utility information obtained from the local water and wastewater treatment agencies; and other information obtained by NYSDEC staff during preliminary site visits.

The source of PCE contaminated soil and groundwater in the basement of the Eugenes Dry Cleaners Site has been determined to be a result of disposal of waste dry cleaning fluids spills that occurred in the basement of the building.

Fuel oil contaminated soil and groundwater which was first identified from the Bureau of Spills (NYSDEC DER) records was also verified during the investigation.

5.1 Surface and Subsurface Soil Investigation

Elevated levels of PCE, up to 19,200 ppm, were detected in the surface/subsurface soils samples in the basement of the building. The quantity listed was found in a 4 foot composite soil sample retrieved from the basement sump S1. The soil contamination in the basement of the building appears to be limited to about 4 feet below the concrete floor. Fuel oil and PCE contamination also entered the soil beneath the concrete floor though holes in the basement floor. levels of PCE up to 0.225 ppm were detected in the surface/subsurface soil samples outside the building. The quantity listed was found in a 4 foot composite soil sample retrieved from geoprobe point GP4 (see Figure No. 4).

The area of soil contamination in the basement of the building was highest in sump S1 and decreases in concentration at points located at increased distances from S1.

5.2 Groundwater

Based upon the results of the groundwater sampling, elevated levels of PCE up to 34 ppb and 1,2 Dichloroethylene (1,2 DCE) up to 131 ppb were detected in the immediate vicinity of the site at Geoprobe point GW1. 1,2 DCE is a breakdown product of PCE. Other Geoprobe groundwater sampling results indicates that shallow groundwater PCE contamination decreases to less than 5 ppb further downgradient in a southeasterly direction from the site. However at GW5, 1,2 DCE contamination concentration is significant at -30 ft. With a concentration of 151 ppb as it migrates away from the site. For this reason, NYSDEC is planning to install a groundwater monitoring well at this location.

In comparing the groundwater results from the nine geoprobe points installed, 1,2 DCE contamination shows up at deeper levels as it travels away from the site. Contributing factors for the deeper groundwater being more contaminated include the following: shallow groundwater is diluted and is displaced by clean rainwater/snowmelt which percolates down to the water table;

the downward flow of groundwater immediately downgradient of the site;
and the contaminants of concern having densities/specific gravities greater than water.

Previous to this investigation, the Suffolk County Water Authority had installed two wells near GW2. The groundwater test results of samples from these wells indicated that the Total Volatile Organics were in the same range as the test results from GW2 (Appendix 5). A second groundwater monitoring well will be placed near GW2 to check if contaminated groundwater is migrating in a easterly direction.

Due to the low permeability unit at the interface of the Upper Glacial and Magothy aquifers and the absence of significant downward gradients in the vicinity of the Eugenes Dry Cleaners Site, and the presence of horizontal and downward groundwater flow downgradient from the site, it is unlikely that significant contamination associated with the Eugenes Dry Cleaners Site has migrated, at least to a significant extent, into the deeper Magothy aquifer.

5.3 IRM

A S1 clean out IRM was performed which removed contaminated soil and water in the sump S1 in the basement of Eugenes Dry Cleaners.

The S1 clean out IRM that was performed on October 22, 1998 included power washing the basement and power vacuuming contaminated water and soil; power vacuuming out a 4 foot contaminated soil column source in the sump S1; power vaccuming contaminated soil and groundwater from beneath the sump; and securing the fuel oil storage tank. Clean sand material was replaced in the sump after power vacuuming was complete. The expected result of this clean out IRM was improved groundwater conditions at exterior points outside the Eugenes Dry cleaners facility.

It is believed that the S1 clean out IRM has reduced a substantial amount of the source which was contributed to the groundwater contamination at this site.

A follow up and confirmatory groundwater monitoring program was performed to determine the effectiveness of the IRM. Follow up groundwater monitoring was performed on May 27,1999. These sampling results indicated that groundwater contamination was significantly reduced. Confirmatory groundwater sampling performed on July 27, 1999 indicated slightly higher contaminate concentrations but still significantly less than the investigative sampling performed prior to the clean out IRM.

Since contaminated soils below the sump were removed to the extent practicable, the NYSDEC believes there is no need to develop alternatives for soils in a Feasibility Study.

5.4 Water Supply

The nearest Suffolk County wells are located approximately 1 mile to the northeast and 2 miles to the northwest (SEE Map No. 3). Since these wells are a significant distance upgradient of the Eugenes Dry Cleaners site, they are not threatened by any of the contamination associated with this site.

To the best of our knowledge, there are not any private water supply wells/shallow private wells immediately downgradient of the site. Any downgradient private wells probably wouldn't be contaminated by the EDC site because our investigation on Prospect St. (the next street south of the site) indicated that no contaminated groundwater was evident(GW9). There is a public water supply through the area which is routinely tested and produces water which meets all drinking water quality standards.

5.5 Ambient Air

Based upon the several site visits, there was no discernable dry cleaning odor PCE outside the dry cleaning facility. There were fuel oil odors in the basement of the facility which more than likely mask any PCE odors. There were noticeable PCE odors in the active portion of the facility. Since this is a one story facility, there are no other inhabitants (ie upstairs residents) at this facility. In October 1998, DEC staff discussed the operation of Eugenes Dry Cleaners with the operator (Mr. Gottwald). He said he was using a new dry cleaning procedure which eliminates most of the PCE waste. He said that the current PCE waste being generated is now being recycled. The old practice of PCE disposal at the site was no longer being used.

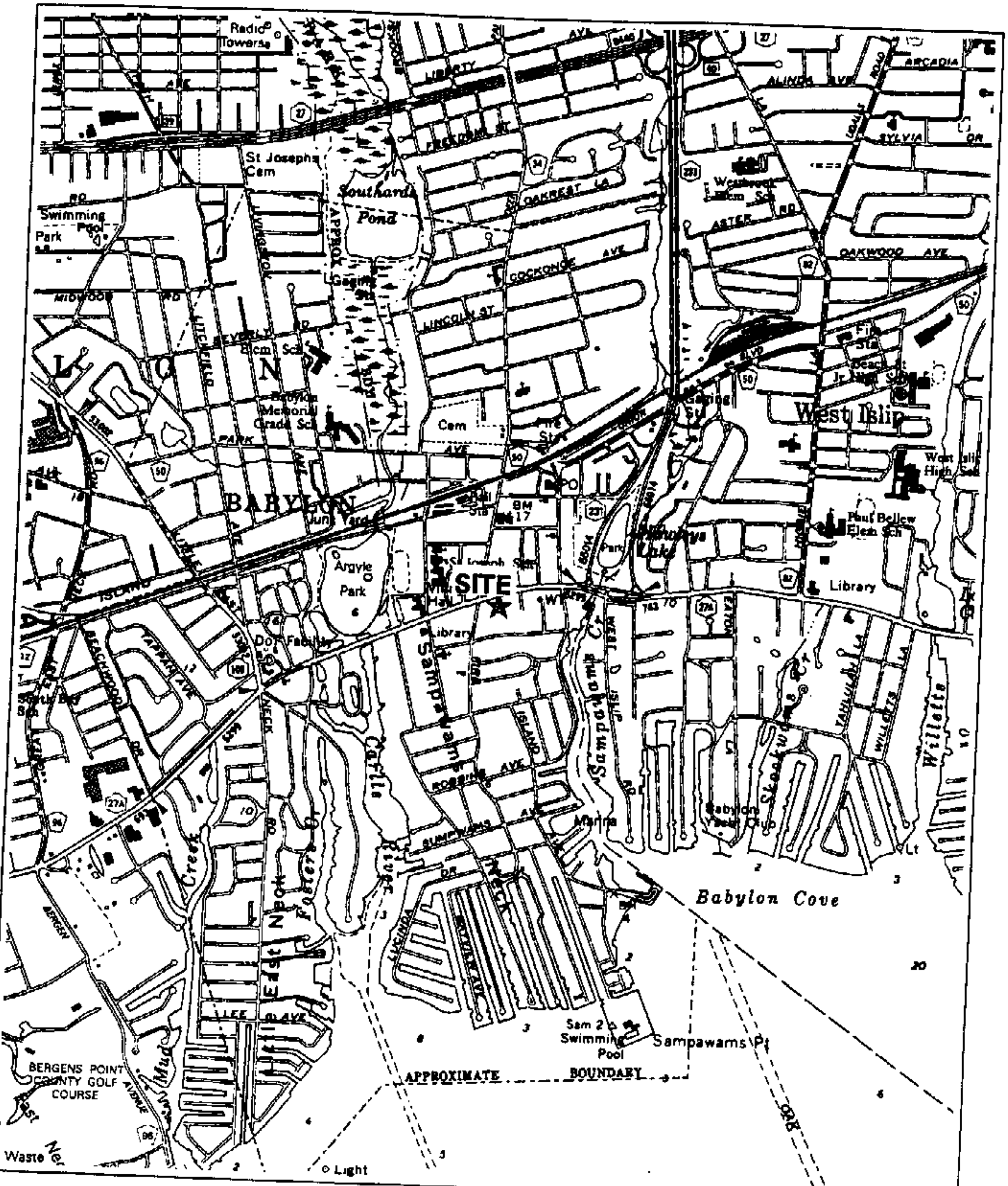
5.6 Long Term (or continued) Groundwater Monitoring

The main emphasis of future groundwater monitoring at the Eugenes Dry Cleaning Site will be to check the concentration of VOCs in the groundwater. At a minimum, annual monitoring will be performed at the 3 existing sampling points at locations PZ1, PZ6 & PZ8 and at two new groundwater monitoring wells.

Maps

$1 \Rightarrow 3$

Map 1



Site Location Map

152157 Eugene's Dry Cleaners

NYSDOT Planimetric Quadrangle(s):

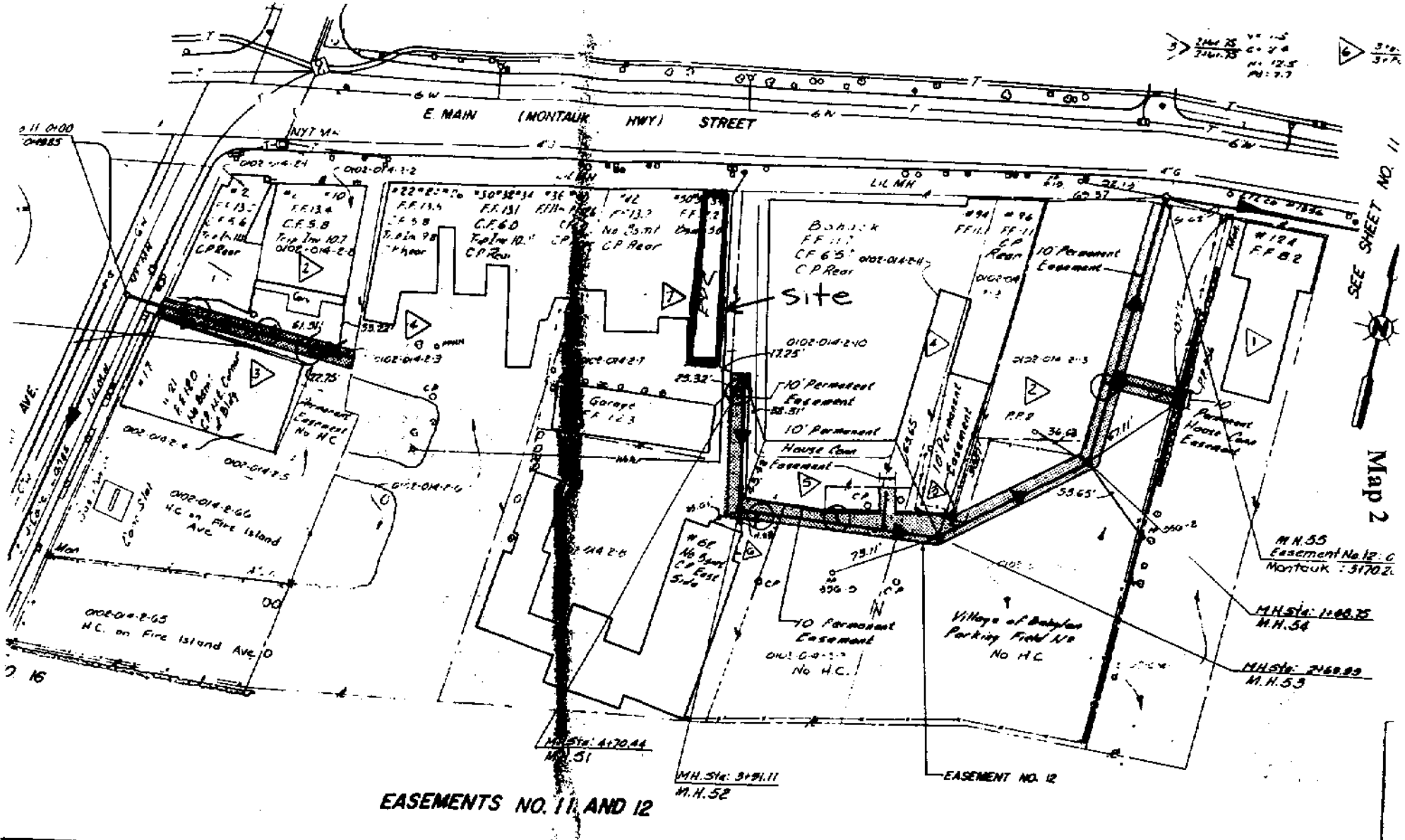
N

0 500 1000 1500 2000

FEET

Scale 1:24,000

April 18, 1996



EASEMENTS NO. 11 AND 12

CHARLES R VELZY ASSOCIATES, INC.

CONSULTING ENGINEERS

BABYLON ELMSFORD MINEOLA

REVISIONS

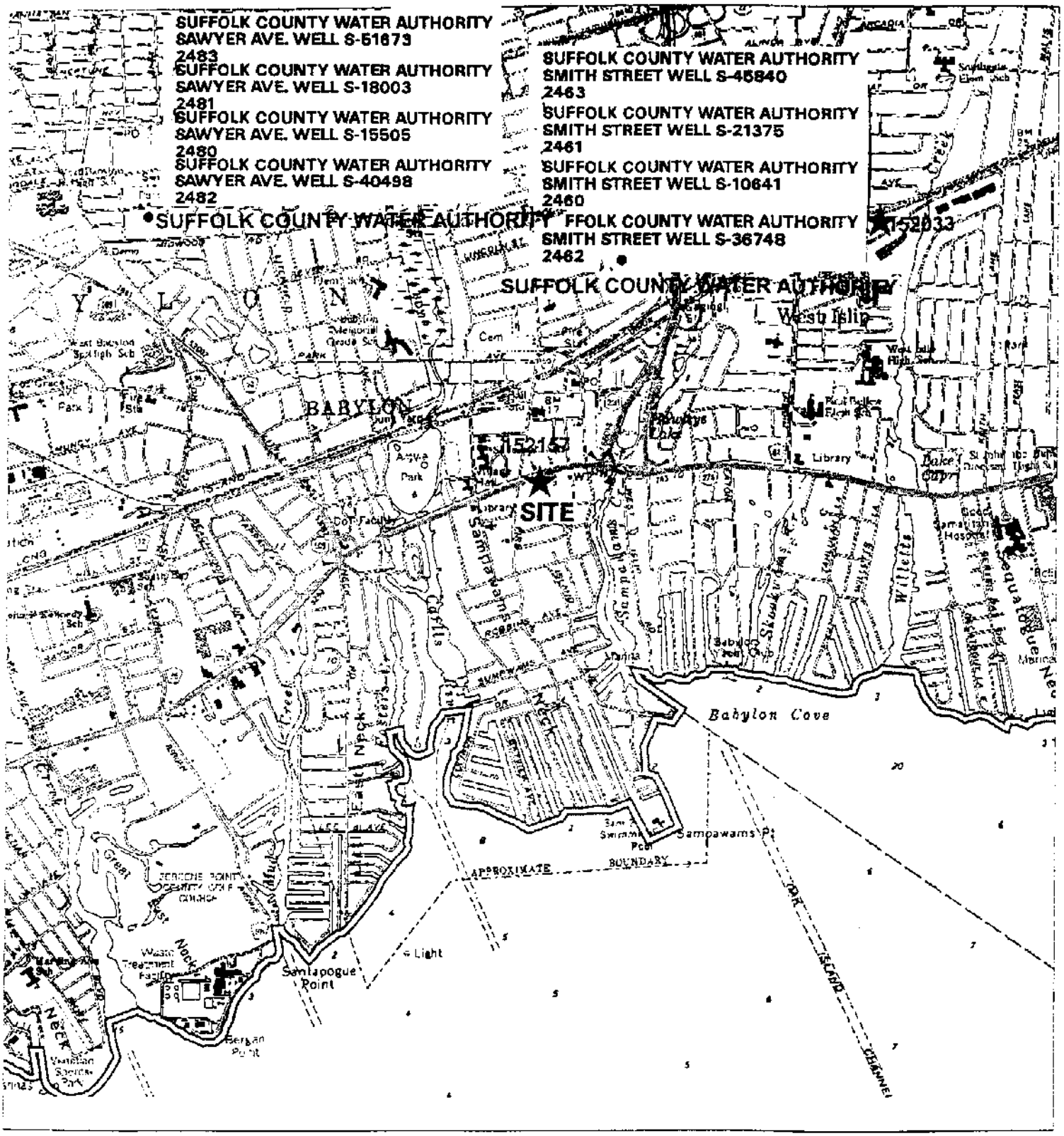
DESCRIPTION APP'D

SCALE:

HORIZONTAL 1"

VERTICAL 1"

Map 3



Municipal Water Supplies within the Vicinity of Old Bethpage Landfill, Site ID No. 152157

★ Hazsites

Major Road

County

County

• Pws

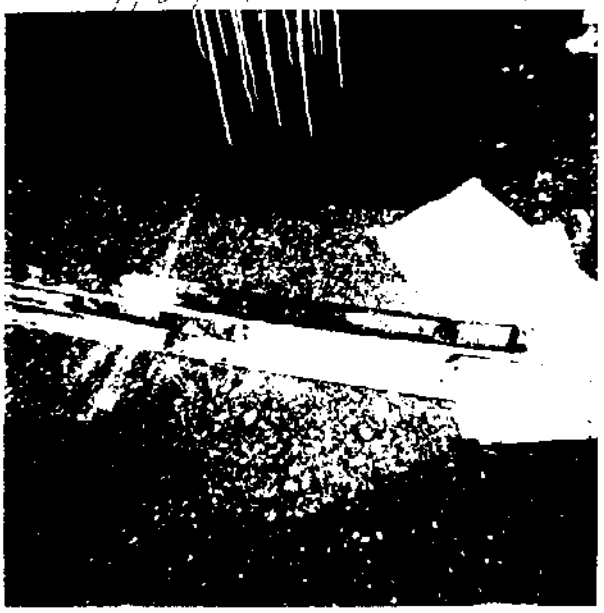
2000 0 2000 4000 Feet

Photosets

$1 \Rightarrow 3$

Photoset 1

Photoset 2



GP-4 0-4 ↓ 4-8

GW5 15,30'

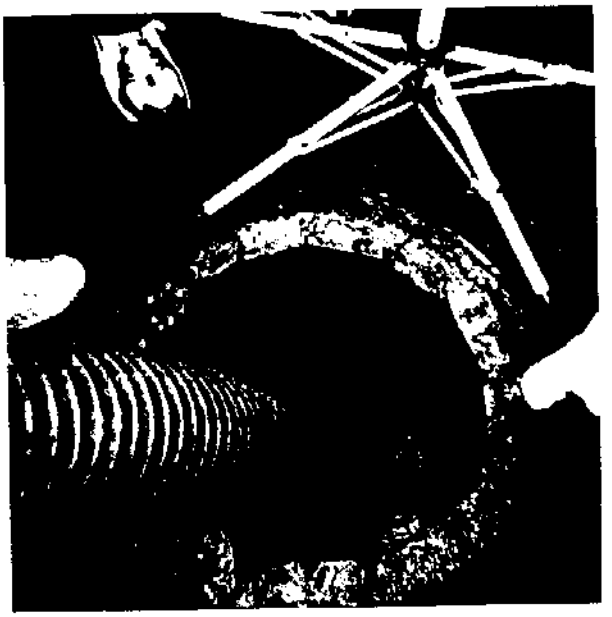
Photoset 3

Eugene Dry Cleaners site #152157
10/22/89
Miller Environmental Set-up
Looking North

Eugene Dry Cleaners site #152157
10/22/89
Miller Environmental Set-up
Looking South

Eugene Dry Cleaners site #152157
10/22/89
Miller Environmental Set-up
Looking [illegible]

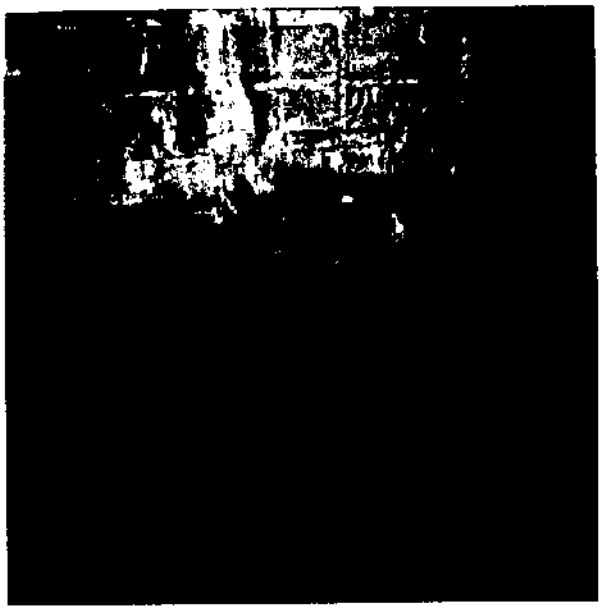
Eugene Dry Cleaners Site # 1S215 7
10/22/98
View of Sump in basement
looking East



Eugene Dry Cleaners Site # 1S215 7
10/22/98
View of Sump in basement
looking East

Eugene Dry Cleaners Site # 1S215 7
10/22/98
View of Sump in basement
looking East

Eugene Dry Cleaners Site # 1S215 7
10/22/98
View of Sump in basement
looking East



Eugene Dry Cleaners Site # 152177
10/22/93
Lead on basement wall
after power wash

Eugene Dry Cleaners Site # 152177
10/22/93
Securing oil storage tank
Leak test in basement

Eugene Dry Cleaners Site # 152177
10/22/93
[illegible]

Figures

$1 \Rightarrow 6$

Figure 1

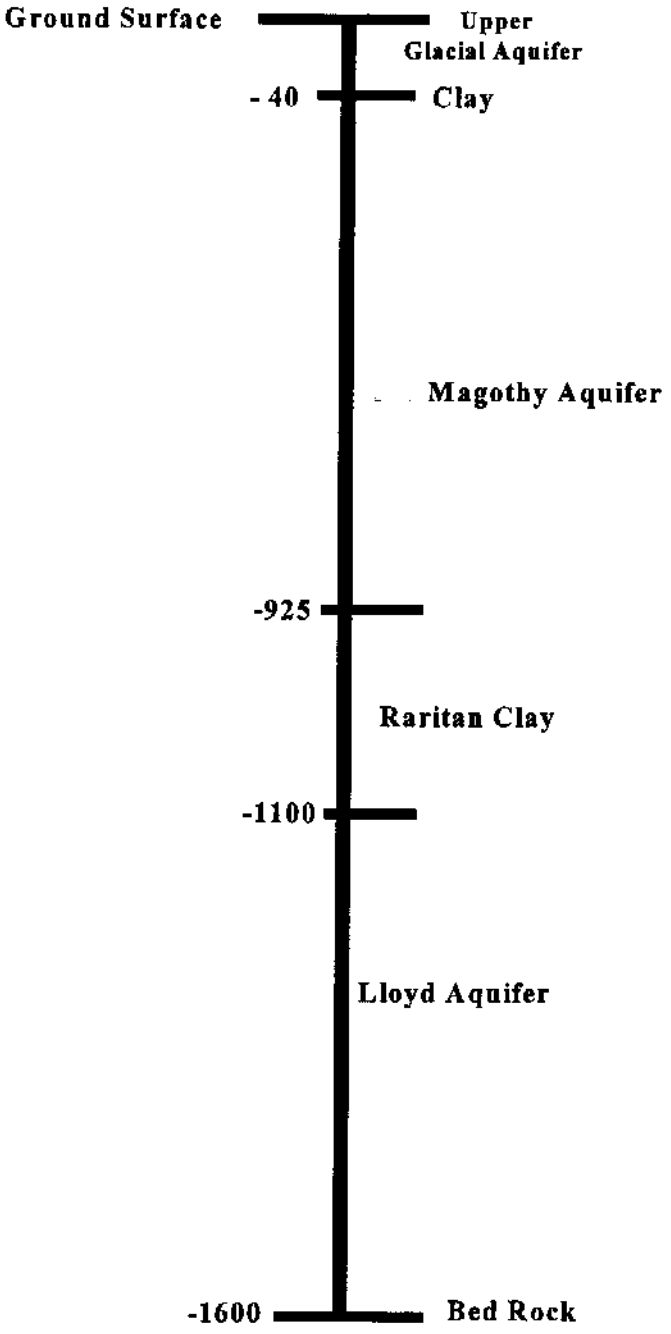
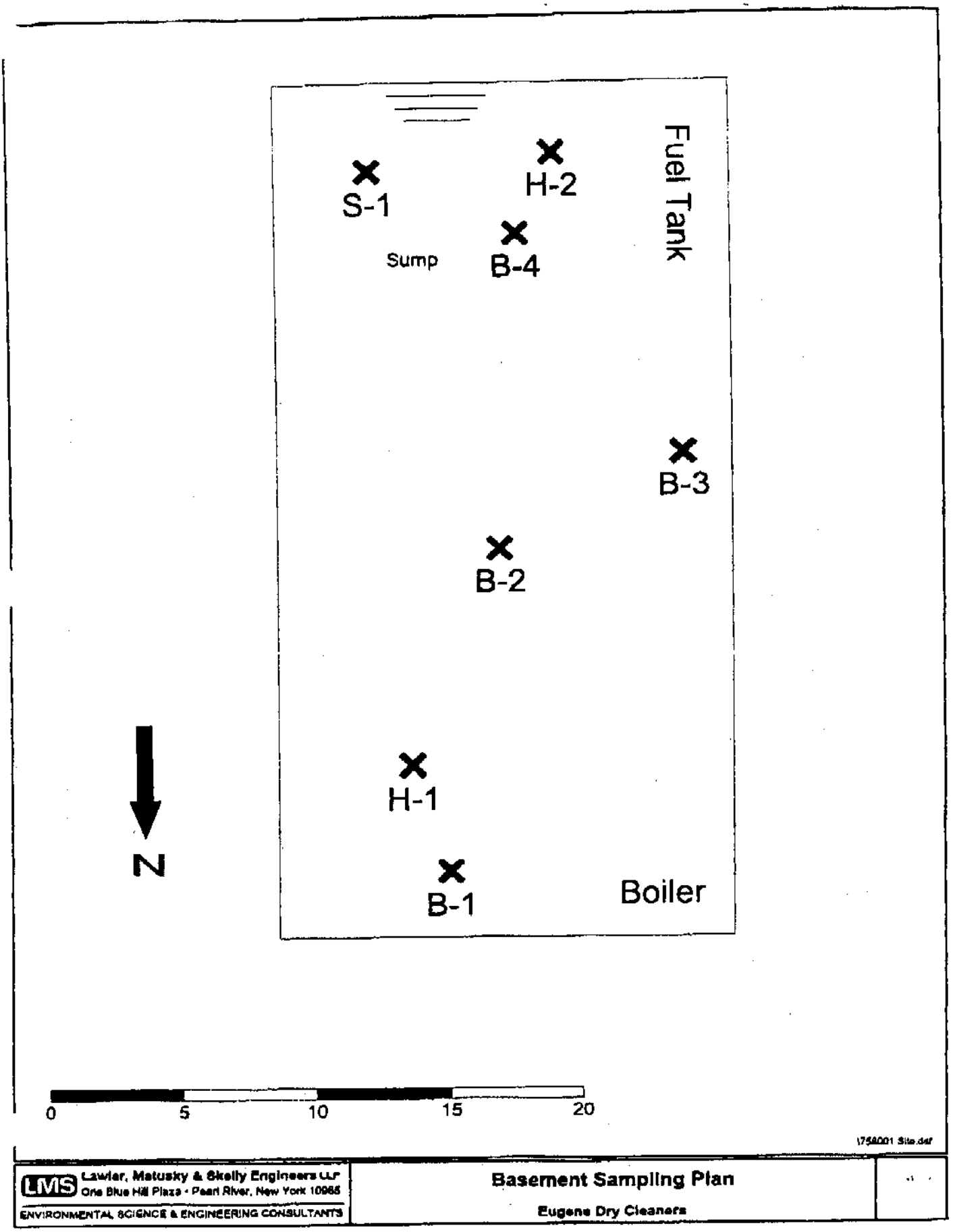

Ground Surface
Upper
Glacial Aquifer
- 40
Clay
Magothy Aquifer
-925
Raritan Clay
-1100
Lloyd Aquifer
-1600
Bed Rock

Figure 2

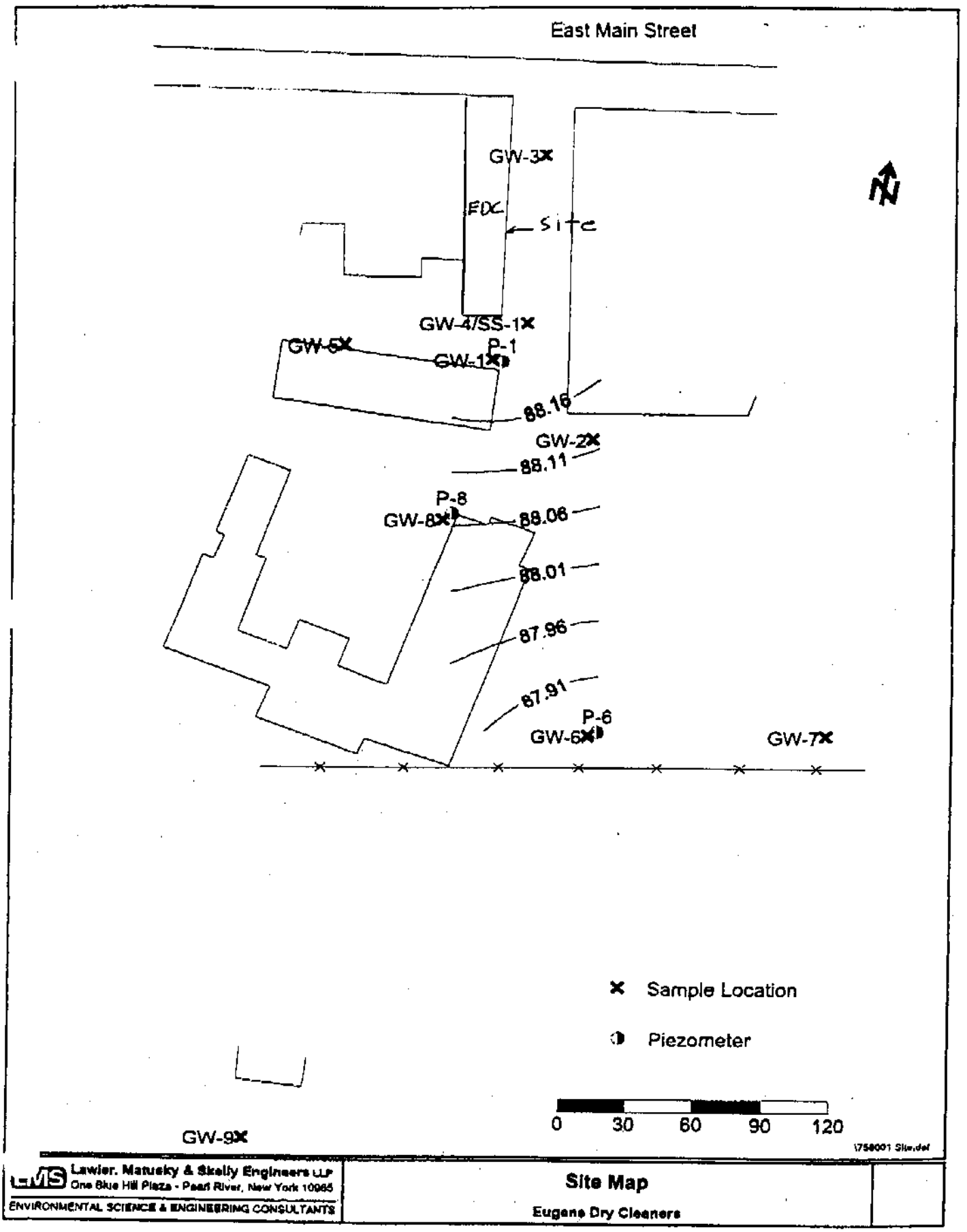


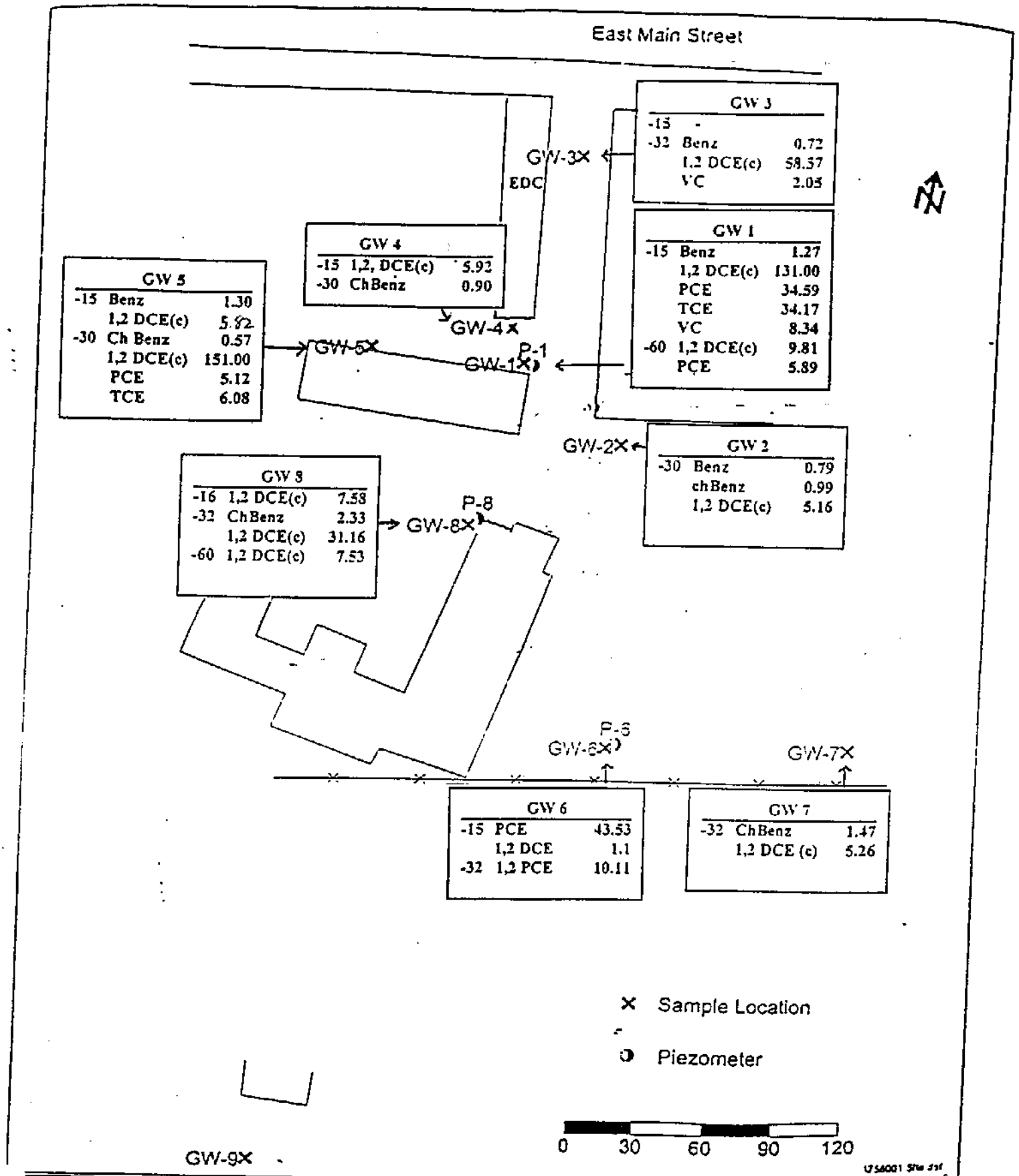
LMS Lawler, Matusky & Skelly Engineers LLP
One Blue Hill Plaza • Pearl River, New York 10965
ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS

Basement Sampling Plan

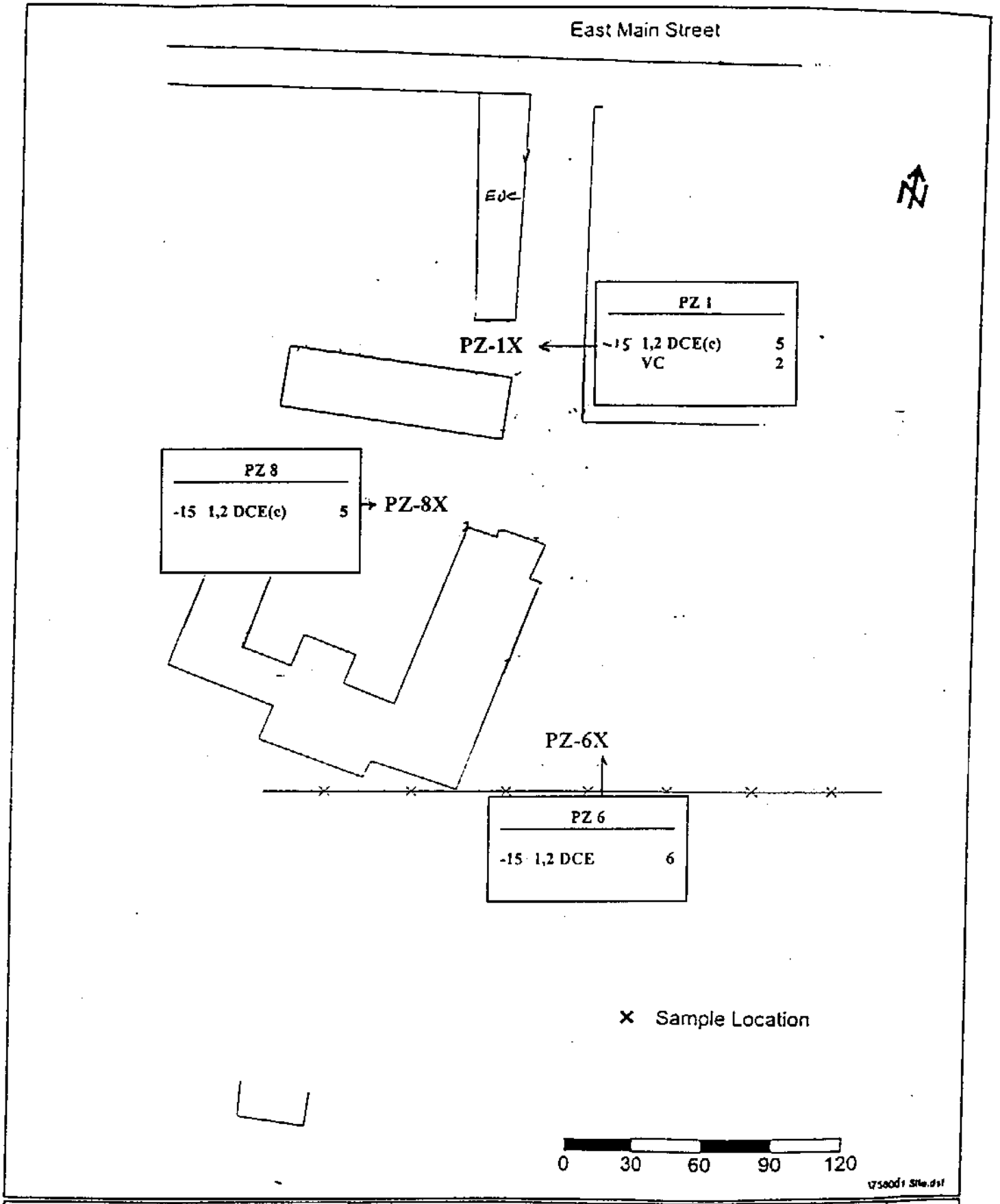
Eugene Dry Cleaners

Figure 3

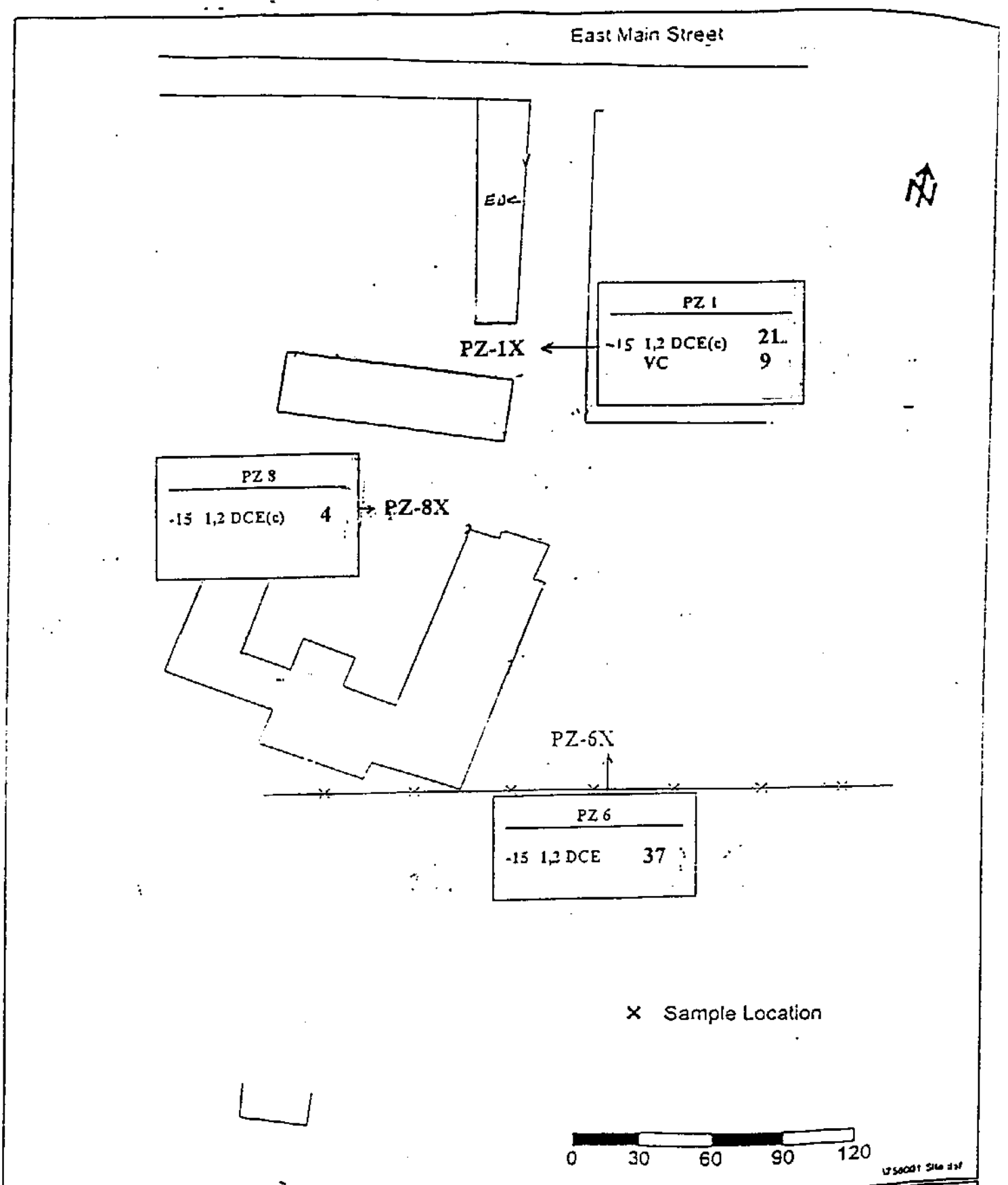

East Main Street
GW-3
FDC
Site
GW-4/SS-1
GW-5
P-1
GW-1
88.16
GW-2
88.11
P-8
GW-8
88.06
88.01
87.96
87.91
P-6
GW-6
GW-7
N
Sample Location
Piezometer
0
30
60
90
120
GW-9
1758001 Site.dgn
Lawler, Matusky & Skelly Engineers LLP
One Blue Hill Plaza - Pearl River, New York 10965
ENVIRONMENTAL SCIENCE & ENGINEERING CONSULTANTS
Site Map
Eugene Dry Cleaners



Focused Remedial Investigation Round 1 (units ug/l)	Site #152137 July 1998 GW Geoprobe Sampling Result Eugene Dry Cleaners (EDC)	Fig No 4



Focused Remedial Investigation Round 2 Sampling	Site #152157 May 1999 GW Sampling Results Eugene Dry Cleaners (EDC)	Fig No. 5



Focused Remedial Investigation Round 3 Sampling	Site #152157 July 1999 GW Sampling Results Eugene Dry Cleaners (EDC)	Fig No. 6

Tables

$1 \Rightarrow 3$

Chemical Abbrieviations

Tetrachloroethene	PCE
Trichloroethene	TCE
Toluene	TOL
Acetone	Act
2-Butanone	2 But
Methylene Chloride	MC
Ethylbenzene	EBZ
Xylene (total)	XyL
1,1,2-Trichloroethane	1,1,2 T
1,2-Dichloroethene (cis)	1,2 DCE (c)
Vinyl Chloride	VC
Benzene	Benz
Chlorobenzene	Ch Benz
1,1-Dichloroethene	1 DCE
1,1,1-Trichloroethene	111 TCE

Table 1
Eugenes Dry Cleaners
Site #152 157
Soil Probe Analytical Results (ug/kg)

Geoprobe Point	Depth Below Ground Level	Constituent	Result	Cleanup Level	Excedence + Non Excedence -
GP 4	0' to 4'	PCE	225.00	1400	-
		TCE	3.66	700	-
GP 4	-4' to -8'	PCE	7.39	1400	-
SD 1	-7'	TOL	37.84	1500	-
SD 1	-7' to -11'	Act	14.96	200	-
		2 But	3.38	300	-
		MC	2.56	100	-
		PCE	18.34	400	-
B 1	0'	Act	3.40	200	-
		EBZ	6.18	550	-
		MC	1.23	100	-
		XyL	24.36	1200	-
B 1	-4'	Act	6.83	200	-
		2 But	1.50	300	-
		MC	1.32	100	-
		PCE	7.98	1400	-
H 1	-1'	Act	84.77	200	-
		2 But	50.79	300	-
		PCE	361.00	1400	-
		1,1,2 TCE	24.92	1200	-
		XyL	22.56	1200	-

Table 1 (Cont'd)

Geoprobe Point	Depth Below Ground Level	Constituent	Result	Standard	Excedence + Non Excedence -
H 1	-5'	Act	17.27	200	-
		2 But	3.48	300	-
		MC	2.57	100	-
		PCE	23.48	1400	-
B 2	0'	EBZ	5144.00	550	+
		XyL	26151.00	1200	+
B 2	-4'	Act	28.30	200	-
		MC	2.08	100	-
		PCE	15.18	1400	-
B 3	0'	Act	278.60	200	+
		2 But	134.80	300	-
		1,2 DCE (c)	247.03	800	-
		EBZ	469.86	550	-
		MC	116.14	100	+
		PCE	731.17	1400	-
		TOL	223.98	1500	-
		1,1,2 TCE	100.93	1200	-
		XyL	2520.96	1200	+
B 3	-4'	Act	94.00	200	-
		2 But	55.00	300	-
		1,2 DCE(c)	60.60	800	-
		MC	31.29	100	-
		PCE	3080.00	1400	+
		TCE	116.00	700	-

Table 1 (Cont'd)

Geoprobe Point	Depth Below Ground Level	Constituent	Result	Standard	Excedence + Non Excedence -
B 4	0'	Act	188.00	200	-
		2 But	549.02	300	+
		EBZ	908.00	550	+
		TOL	231.00	1500	-
		XyL	4521.00	1200	+
B 4	-4'	Act	25.13	200	-
		2 But	3.70	300	-
		MC	5.77	100	-
		PCE	5.70	1400	-
H 2	-1'	Act	183.00	200	-
		2 But	584.56	300	+
		1,2 DCE (c)	102.00	800	-
		EBZ	253.00	1200	-
		PCE	430.00	1400	-
		XyL	777.00	1200	-
H 2	-5'	Act	18.40	200	-
		2 But	2.96	300	-
		MC	2.58	100	-
		PCE	6.53	1400	-

Table 1 (Cont'd)

Geoprobe Point	Depth Below Ground Level	Constituent	Result	Standard	Excedence + Non Excedence -
S 1	-2'	Act	2204.00	200	+
		2 But	5762.00	300	+
		1,2 DCE (c)	7570.00	800	+
		EBZ	1142.00	550	+
		PCE	19200000	1400	+
		TOL	683.00	1500	-
		TCE	256.00	700	-
		XyL	6503.00	1200	+
S 1	-5'	Act	294.49	200	+
		2 But	294.49	300	-
		PCE	4844.00	1400	+
		TCE	75.00	700	-

Note: Samples retrieved during week of 7/20/98 to 7/24/98

Table 2
Eugenes Dry Cleaners
Site #152 157
Geoprobe Groundwater Monitoring Results (Volatile) (ug/L)

Geoprobe Point	Depth Below Ground Level	Constituent	Result	Standard	Excedence + Non Excedence -
GW 1	-15	Benz	1.27	1	+
		1,2 DCE (c)	131.00	5	+
		PCE	34.59	5	+
		TCE	34.17	5	+
		VC	8.34	2	+
		XyL	1.94	5	-
GW 1	-30	Benz	0.79	1	-
		Ch Benz	1.14	5	-
		1,1 DCE	1.48	5	-
		1,2 DCE (c)	59.93	5	+
		PCE	2.97	5	-
		1,1,1 TCE	1.14	5	-
		TCE	2.24	5	-
		VC	1.71	2	-
GW 1	-60	1,2 DCE (c)	9.81	5	+
		PCE	5.89	5	+
GW 2	-15	PCE	4.72	5	-
GW 2	-30	Benz	0.79	1	-
		ch Benz	0.99	5	-
		1,1 DCE	1.76	5	-
		1,2 DCE (c)	5.16	5	+
		PCE	0.91	5	-
		TCE	0.69	5	-

Table 2 (Cont'd)

Geoprobe Point	Depth Below Ground Level	Constituent	Result	Standard	Excedence + Non Excedence -
GW 3	-15				
GW 3	-32	Benz	0.72	1	-
		ch Benz	0.54	5	-
		1,2 DCE (c)	58.57	5	+
		PCE	0.61	5	-
		TCE	2.02	5	-
		VC	2.05	2	+
GW 4	-15	CD	3.55	50	-
		1,2 DCE (c)	5.92	5	+
		PCE	4.90	5	-
GW 4	-30	Act	14.66	50	-
		2-But	1.60	80	-
		ch Benz	0.90	5	-
		1,1 DCE	0.92	5	-
		1,2 DCE (c)	2.85	5	-
		PCE	2.63	2	-
GW 4	-60	1,2 DCE	2.82	5	-
		PCE	2.36	5	-
GW 5	-15	Benz	1.30	1	+
		1,2 DCE (c)	5.82	5	+
GW 5	-30	ch Benz	0.57	5	-
		1,2 DCE (c)	151.00	5	+
		1,2 DCE (T)	0.83	5	+
		PCE	5.12	5	+
		TCE	6.08	5	0

Table 2 (Cont'd)

(›robe Point	Depth Below Ground Level	Constituent	Result	Standard	Excedence + Non Excedence -
GW 6	-15	1,2 DCE (c)	1.10	5	-
		PCE	43.53	5	+
		TCE	2.29	5	-
GW 6	-32	ch Benz	0.88	5	-
		1,1 DCE	1.30	5	-
		1,2 DCE	10.11	5	+
		PCE	1.27	5	-
		TCE	0.62	5	-
GW 7	-16				
	-32	ch Benz	1.47	5	-
		1,1 DCE	2.68	5	-
		1,2 DCE (c)	5.26	5	+
		PCE	0.70	5	-
		TCE	1.64	5	-
	-60				
GW 8	-16	1,2 DCE (c)	7.58	5	+
		PCE	2.49	5	-
GW 8	-32	ch Benz	2.33	5	-
		1,2 DCE (c)	31.16	5	+
		PCE	1.73	5	-
		1,1,1 TCE	1.38	5	-
		TCE	1.39	5	-
GW 8	-60	1,2 DCE (C)	7.53	5	+
GW 9	-15				
GW 9	-32				
GW9	-60	PCE	1.22	5	-

Note: Samples retrieved during week of 7/20/98 to 7/24/98

TABLE 3

Eugene Dry Cleaners
Site No. 152 157

Summary of Groundwater Monitoring Results (ug/l)

Sampling Pt	July 23, 1998 -16' Depth	May 27, 1999 -15' Depth	July 27, 1999 -15' Depth	Standard
GW1/PZ1				
1,2 DCE	131	5	21	5
PCE	34.59★	U	U	5
TCE	34.17	U	U	5
VC	8.34	2	9	2
GW6/PZ6				
1,2 DCE	1.1	6	37	5
PCE	43.53★	U	U	5
TCE	2.29	U	U	5
VC	U	U	6	2
GW8/PZ8				
1,2 DCE	7.58	5	4	5
PCE	2.49★	U	2	5
TCE	U	U	U	5
VC	U	U	U	2

Note: A cleanout IRM of the basement sump was performed on October 22, 1998

U Undetectable

★ PCE breaks down into 1,2, DCE

Appendices

$1 \Rightarrow 8$

Appendix 1

NYS Spill Report No. 9311297

Appendix 1

NYSDEC SPILL REPORT FORM

DEC REGION# 1 (Stony Brook) SPILL NUMBER 9311297

SPILL NAME: EUGENE FRENCH CLEANERS DEC LEAD: PARISH

CALLER'S NAME: OFFICER DENNIS NOTIFIER'S NAME:

CALLER'S AGENCY: SCEMS NOTIFIER'S AGENCY:

CALLER'S PHONE: (516) 854-5707 EXT. NOTIFIER'S PHONE: EXT.

SPILL DATE: 12/17/93 TIME: 17:04

CALL RECEIVED DATE: 12/17/93 TIME: 19:40 RECEIVED BY CID #:

	Material Spilled	Mat. Class	Am't Spilled	Units	Am't Recovered
1)	#2 FUEL OIL	(Pet)-Haz-Other-Unk.	0	(Gal) Lbs	0
2)		Pet-Haz-Other-Unk.		Gal - Lbs	
3)		Pet-Haz-Other-Unk.		Gal - Lbs	
4)		Pet-Haz-Other-Unk.		Gal - Lbs	

SPILL LOCATION

PLACE: EUGENE FRENCH CLEANERS

STREET: 54 EAST MAIN STREET

T/C/V: BABYLON CO: SUFFOLK

CONTACT:

PHONE: EXT.

POTENTIAL SPILLER

NAME: EUGENE FRENCH CLEANERS

STREET:

CITY:

STATE: ZIP:

CONTACT:

PHONE: (516) 661-2604 EXT.

SPILL CAUSE

Human Error	Tank Test Failure *	Tank Failure
Traffic Accident	Housekeeping	Tank Overfill
Equipment Failure	(Deliberate)	Other
Vandalism	Abandoned Drums	Unknown

SPILL SOURCE

Gas Station	Private Dwelling	Non-Maj Facility
Passenger Vehicle	Vessel	(Comm/Indust)
Comm. Vehicle	Railroad Car	Non-Comm/Instit
Tank Truck	Major Facility	Unknown

RESOURCE AFFECTED

On Land	Groundwater	Air
(In Sewer)	Surface Water **	

**WATERBODY:

SPILL REPORTED BY

Responsible Party	Tank Tester	Local Agency
Affected Persons	DEC	Federal Gov't
(Police Department)	Citizen	Other
Fire Department	Health Dept.	

CALLER REMARKS: OWNER PUMPING OUT BASEMENT TO PARKING LOT, OIL AND WATER & CHEMICAL ODOR IN AREA, SCDH & ADA NOTIFIED

*PBS Number	Tank Number	Tank Size	Test Method	Leak Rate

PRIMARY CONTACT CALLED DATE: TIME: hrs. REACHED DATE: TIME: hrs.

SECONDARY CONT. CALLED DATE: TIME: hrs. FAXED BY CID#:

PIN #	T & A	Cost Center	ISR to Central Office
Cleanup Ceased	Meets St'ds NO	Last Inspection	Penalty NO
RP-CUI	ENF-INIT	INVES-COM	CAP
UST Trust Eligible NO	Site: A (B) C D E	Resp. Party 1 (2) 3 4 5 6	Reg Close Date

Created on 12/21/93 Last Updated on / / Is Updated? NO EDO: DATA INPUT [ ]

Date Printed: 10/08/98

PrintPur 1/9/98 AAA

Spill Number: 9311297 **Spill Name:** EUGENE FRENCH CLEANERS **Printed on:** 10/08/98

DEC REMARKS

10/10/95: This is additional information about material spilled from the translation of the old spill file: POSS DRY CLEANING FL.

Appendix 2

NYS Spill Report No. 9512630

Appendix 2

NYSDEC SPILL REPORT FORM

DEC REGION# 1 (Stony Brook) SPILL NUMBER 9512630

SPILL NAME: DEC LEAD: PARISH

CALLER'S NAME: MR GOTTWALD NOTIFIER'S NAME: MR GOTTWALD

CALLER'S AGENCY: EUGENE CLEANERS NOTIFIER'S AGENCY: EUGENE FRENCH CLEANERS

CALLER'S PHONE: (516) 661-2604 EXT. NOTIFIER'S PHONE: (516) 661-2604 EXT.

SPILL DATE: 01/10/96 TIME: 16:30

CALL RECEIVED DATE: 01/10/96 TIME: 19:11 RECEIVED BY CID #: 196

Material Spilled	Mat. Class	Am't Spilled	Units	Am't Recovered
1) #4 FUEL OIL	(Pet)-Haz-Other-Unk.	200	(Gal) Lbs	Unknown
2)	Pet-Haz-Other-Unk.		Gal - Lbs	
3)	Pet-Haz-Other-Unk.		Gal - Lbs	
4)	Pet-Haz-Other-Unk.		Gal - Lbs	

SPILL LOCATION

PLACE:

STREET: 54 EAST MAIN STREET

T/C/V: BABYLON CO: SUFFOLK

CONTACT: MR GOTTWALD

PHONE: (516) 661-2604 EXT.

POTENTIAL SPILLER

NAME: STATE UTILITIES

STREET:

CITY: LINDENHURST

STATE: NY ZIP:

CONTACT: MR GOTTWALD

PHONE: (516) 661-2604 EXT.

SPILL CAUSE

Human Error	Tank Test Failure *	Tank Failure
Traffic Accident	Housekeeping	Tank Overfill
(Equipment Failure)	Deliberate	Other
Vandalism	Abandoned Drums	Unknown

SPILL SOURCE

Gas Station	Private Dwelling	Non-Maj Facility
Passenger Vehicle	Vessel	(Comm/Indust)
Comm. Vehicle	Railroad Car	Non-Comm/Instit
Tank Truck	Major Facility	Unknown

RESOURCE AFFECTED

(On Land)	Groundwater	Air
In Sewer	Surface Water **	

**WATERBODY:

SPILL REPORTED BY

Responsible Party	Tank Tester	Local Agency
(Affected Persons)	DEC	Federal Gov't
Police Department	Citizen	Other
Fire Department	Health Dept.	

CALLER REMARKS: oil co. on scene and was making delivery when the oil tank split and at this point 200 gals could have spilled in basement. process of clean up at this time. oil co is state utility

*PBS Number	Tank Number	Tank Size	Test Method	Leak Rate

PRIMARY CONTACT CALLED DATE: TIME: hrs. REACHED DATE: TIME: hrs.

SECONDARY CONT. CALLED DATE: TIME: hrs. FAXED BY CID#:

PIN #	T & A	Cost Center	ISR to Central Office
Cleanup Ceased	Meets St'ds NO	Last Inspection	Penalty NO
RP-CUI	ENF-INIT	INVES-COM	CAP
UST Trust Eligible NO	Site: A (B) C D E	Resp. Party 1 2 (3) 4 5 6	Reg Close Date

Created on 01/10/96 Last Updated on 04/07/97 Is Updated? NO EDO# DATA INPUT [ ]

Date Printed: 10/08/98

Print Per 1/9/98 AAA

Spill Number: 9512630 **Spill Name:** **Printed on:** 10/08/98

DEC REMARKS

ALSO SEE 95-12641

Appendix 3

NYS Spill Report No. 9512641

Appendix 3

NYSDEC SPILL REPORT FORM

DEC REGION# 1 (Stony Brook) SPILL NUMBER 9512641
SPILL NAME: EUGENE DRY CLEANERS DEC LEAD: LAMANNO
C ER'S NAME: RAYMOND YOUNG NOTIFIER'S NAME: FRED FRIERMUTH
CALLER'S AGENCY: STATE UTILITYS INC OIL NOTIFIER'S AGENCY: STATE UTILITYS OIL INC
CALLER'S PHONE: (516) 226-2380 EXT. NOTIFIER'S PHONE: (516) 226-2380 EXT.

SPILL DATE: 01/10/96 TIME: 15:30
CALL RECEIVED DATE: 01/11/96 TIME: 07:53 RECEIVED BY CID #: 297

	Material Spilled	Mat. Class	Am't Spilled	Units	Am't Recovered
1)	#2 FUEL OIL	(Pet)-Haz-Other-Unk.	100	(Gal) Lbs	Unknown
2)		Pet-Haz-Other-Unk.		Gal - Lbs	
3)		Pet-Haz-Other-Unk.		Gal - Lbs	
4)		Pet-Haz-Other-Unk.		Gal - Lbs	

SPILL LOCATION

PLACE: EUGENE DRY CLEANERS
STREET: 54 EAST MAIN STREET
T/C/V: BABYLON VILLAGE CO: SUFFOLK
CONTACT: RAYMOND YOUNG
PHONE: (516) 226-2380 EXT.

POTENTIAL SPILLER

NAME: DONALD GOTTWALD
STREET: 54 EAST MAIN STREET
CITY: BABYLON VILLAGE
STATE: NY ZIP: 11702-
CONTACT: DONALD GOTTWALD
PHONE: (516) 661-2604 EXT.

SPILL CAUSE

Human Error | Tank Test Failure * | Tank Failure
Tra Accident | Housekeeping | Tank Overfill
(Equipment Failure) | Deliberate | Other
Vandalism | Abandoned Drums | Unknown

SPILL SOURCE

Gas Station | Private Dwelling | Non-Maj Facility
Passenger Vehicle | Vessel | (Comm/Indust)
Comm. Vehicle | Railroad Car | Non-Comm/Instit
Tank Truck | Major Facility | Unknown

RESOURCE AFFECTED

(On Land) | Groundwater | Air
In Sewer | Surface Water ** |

**WATERBODY:

SPILL REPORTED BY

(Responsible Party) | Tank Tester | Local Agency
Affected Persons | DEC | Federal Gov't
Police Department | Citizen | Other
Fire Department | Health Dept. |

CALLER REMARKS: DRIVER WAS MAKING AN OIL DELIVERY AND WHILE FILLING A 275 GAL OIL TANK IN THE BASEMENT OF THE BUSINESS , THE TANK SPLIT AND APPROX 100 GALS OF #2 FUEL OIL SPILLED ONTO A CEMENT FLOOR - MOST OF THE SPILL WAS CLEANED UP WITH SPEDDY DRY, PADS AND ALSO PUMPED OIL OUT OF THE TANK ITSELF - ALL SPEEDY DRY AND PADS HAVE

*PBS Number	Tank Number	Tank Size	Test Method	Leak Rate

PRIMARY CONTACT CALLED DATE: TIME: hrs. REACHED DATE: TIME: hrs.
SECONDARY CONT. CALLED DATE: TIME: hrs. FAXED BY CID#:

PIN #	T & A	Cost Center	ISR to Central Office
Cleanup Ceased	Meets St'ds YES	Last Inspection	Penalty NO
RP-SOI	ENF-INIT	INVES-COM	CAP
UST Trust Eligible NO	Site: A (B) C D E	Resp. Party 1 2 (3) 4 5 6	Reg Close Date 04/07/97

Created on 01/11/96 Last Updated on 04/08/97 Is Updated? NO EDD: DATA INPUT [ ]
Date Printed: 10/08/98

Spill Number: 9512641 **Spill Name:** EUGENE DRY CLEANERS **Printed on:** 10/08/98

CALLER'S REMARKS (continued)

BEEN PLACED IN 55GAL DRUMS - COMPLAINANT NEEDS A CALL BACK BECAUSE HE DOES NOT KNOW WHAT TO DO WITH THE 55 GAL DRUMS OF CLEANING AGENTS

DEC REMARKS

ALSO SEE 95-12630

DUPLICATE REPORT, ALSO SEE 95-12630 FOR INFORMATION

Appendix 4

SCDHS June 20, 1994 Analysis

Appendix 4

CENTER FOR FORENSIC SCIENCE
PUBLIC & ENVIRONMENTAL HEALTH LABORATORY ERL JUN 2 0 1994
NYSDOH LAB ID. NUMBER 10528
ORGANIC & FLASHPOINT ANALYSIS OF INDUSTRIAL & HAZARDOUS MATERIALS

Lab No. IW- 594092
Id No. IRM 5-25

Data Completed 6-[illegible]
EPA Method 8260/1010/

Name Eugene's French Dry Cleaners, Babylon. grnd H2o-hole.

Remarks Hyd

Compound	ppb	Compound	ppb
[] Purgeable Halocarbons1		Acetone	<400
Chlorodifluoromethane		*Methyl ethyl ketone	<400
Dichlorodifluoromethane		Methyl isobutyl ketone	<400
Trichlorofluoromethane		tert-Butyl methyl ether	45
*Vinyl Chloride		*Benzene	240
Chloromethane		Toluene	220
Bromomethane		*Chlorobenzene	
Chloroethane		Ethylbenzene	220
[] Purgeable Halocarbons2/Aromatics		Xylene(s)	1400
*1,1-Dichloroethene		Styrene	
Methylene Chloride		Isopropylbenzene	120
Freon 113		Bromobenzene	
trans-1,2-Dichloroethene		Chlorotoluene(s)	
1,1-Dichloroethane		n-Propylbenzene	250
cis-1,2-Dichloroethene	670	p-Ethyltoluene	1100
Bromochloromethane		1,3,5-Trimethylbenzene	470
*Chloroform		tert-Butylbenzene	
2,2-Dichloropropane		1,2,4-Trimethylbenzene	1400
1,2-Dichloroethane		1,3-Dichlorobenzene	
1,1,1-Trichloroethane		*1,4-Dichlorobenzene	
1,1-Dichloropropene		sec-Butylbenzene	150
*Carbon Tetrachloride		p-Isopropyltoluene	
Dibromomethane	<100	*1,2-Dichlorobenzene	
1,2-Dichloropropane		n-Butylbenzene	
Bromodichloromethane		p-Diethylbenzene	
*Trichloroethene	140	1,2,4,5-Tetramethylbenzene	350
cis-1,3-Dichloropropene		1,2,4-Trichlorobenzene	
trans-1,3-Dichloropropene	<100	Naphthalene	1300
1,1,2-Trichloroethane		1,2,3-Trichlorobenzene	
1,3-Dichloropropane		[] Miscellaneous	
Dibromochloromethane	<100	Vinyl acetate	
1,2-Dibromoethane		2-Chloroethyl vinyl ether	
*Tetrachloroethene	940		
1,1,1,2-Tetrachloroethane		* Indicates TCLP Compounds	
Bromoform			
1,1,2,2-Tetrachloroethane			
1,2,3-Trichloropropane			
1,2-Dibromo-3-chloropropane	<100		
*Hexachlorobutadiene			

Results are <40ppb for Purgeable Haiocarbons2/Aromatics — except where noted.

Analyst [illegible]

[ ] Flash Point
Pensky-Martens Closed Cup Flash Point _____ °C= _____ °F

Analyst _____

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
NTER FOR FORENSIC SCIENCES
PUBLIC & ENVIRONMENTAL HEALTH LABORATORY
NYSDOH LAB ID. NUMBER 10528
ORGANIC & FLASHPOINT ANALYSIS OF INDUSTRIAL & HAZARDOUS MATERIALS

JAN 13 1994 AL

Lab. No. IW- 1293061
Field No. SMF-12-17 DA

Date Completed 1-6-94
EPA Method 8240/1010/

Name Eugene's Dry Cleaners

std-soil

Remarks STORM DRAIN SOIL

Compound	ppb	Compound	ppb
[] Miscellaneous			
Vinyl acetate		Acetone	<1300
2-Chloroethyl vinyl ether		Methyl ethyl ketone	<1300
		Methyl isobutyl ketone	<1300
[] Purgeable Halocarbons1		Benzene	
Chlorodifluoromethane		Toluene	
Dichlorodifluoromethane		Chlorobenzene	
Trichlorofluoromethane		Ethylbenzene	
Vinyl Chloride		Xylene(s)	
Chloromethane		Styrene	
Bromomethane		Isopropylbenzene	
Chloroethane		Chlorotoluene(s)	
		1,3,5-Trimethylbenzene	
[] Purgeable Halocarbons2/Aromatics		1,2,4-Trimethylbenzene	
1,1-Dichloroethene		1,3-Dichlorobenzene	
Methylene Chloride		1,4-Dichlorobenzene	
Freon 113		1,2-Dichlorobenzene	
trans-1,2-Dichloroethene		1,2,4-Trichlorobenzene	
1,1-Dichloroethane		Naphthalene	
Bromochloromethane			
Chloroform		[] TCLP	
1,2-Dichloroethane		Vinyl Chloride	
1,1,1-Trichloroethane		1,1-Dichloroethene	
1,1-Dichloropropene		Chloroform	
Carbon Tetrachloride		Carbon Tetrachloride	
Dibromomethane		Trichloroethene	
1,2-Dichloropropane		Tetrachloroethene	
Bromodichloromethane		Hexachlorobutadiene	
Trichloroethene		Methyl ethyl ketone	
cis-1,3-Dichloropropene		Benzene	
trans-1,3-Dichloropropene		Chlorobenzene	
1,1,2-Trichloroethane		1,4-Dichlorobenzene	
1,3-Dichloropropane		1,2-Dichlorobenzene	
Dibromochloromethane			
1,2-Dibromoethane			
Tetrachloroethene	420		
1,1,1,2-Tetrachloroethane			
Bromoform			
1,1,2,2-Tetrachloroethane			
1,2-Dibromo-3-chloropropane	<250		
Hexachlorobutadiene			

Results are <100ppb for Purgeable Halocarbons2/Aromatics except where noted.

Analyst GLA

[] Flash Point
Pensky-Martens Closed Cup Flash Point _____ °C= _____ °F

Analyst _____

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
CENTER FOR FORENSIC SCIENCE
PUBLIC & ENVIRONMENTAL HEALTH LABORATORY
NYSDOH LAB ID. NUMBER 10528
MAR 17 1994
ORGANIC & FLASHPOINT ANALYSIS OF INDUSTRIAL & HAZARDOUS MATERIALS

Lab No. IW- 294026
Field No. 1 Rm-2-16

Date Completed 3-11-94
EPA Method 8240/1010/

Name Eugene's French Dry Cleaners, Babylon Sump in basement

Remarks oil layer - upper of 2 layers

Compound	ppb	Compound	ppb
[] Purgeable Halocarbons1			
Chlorodifluoromethane		Acetone	
Dichlorodifluoromethane		*Methyl ethyl ketone	
Trichlorofluoromethane		Methyl isobutyl ketone	
*Vinyl Chloride		*Benzene	
Chloromethane		Toluene	
Bromomethane		*Chlorobenzene	
Chloroethane		Ethylbenzene	
		Xylene(s)	
[] Purgeable Halocarbons2/Aromatics		Styrene	
*1,1-Dichloroethene		Isopropylbenzene	
Methylene Chloride		Bromobenzene	
Freon 113		Chlorotoluene(s)	
trans-1,2-Dichloroethene		n-Propylbenzene	
1,1-Dichloroethane		p-Ethyltoluene	
cis-1,2-Dichloroethene		1,3,5-Trimethylbenzene	
Bromochloromethane		tert-Butylbenzene	
*Chloroform		1,2,4-Trimethylbenzene	450 000
2,2-Dichloropropane		1,3-Dichlorobenzene	
1,2-Dichloroethane		*1,4-Dichlorobenzene	
1,1,1-Trichloroethane		sec-Butylbenzene	
1,1-Dichloropropene		p-Isopropyltoluene	
*Carbon Tetrachloride		*1,2-Dichlorobenzene	
Dibromomethane		n-Butylbenzene	
1,2-Dichloropropane		p-Diethylbenzene	
Bromodichloromethane		1,2,4,5-Tetramethylbenzene	
*Trichloroethene		1,2,4-Trichlorobenzene	
cis-1,3-Dichloropropene		Naphthalene	
trans-1,3-Dichloropropene		1,2,3-Trichlorobenzene	
1,1,2-Trichloroethane			
1,3-Dichloropropane		[] Miscellaneous	
Dibromochloromethane		Vinyl acetate	
1,2-Dibromoethane		2-Chloroethyl vinyl ether	
*Tetrachloroethene	230000		
1,1,1,2-Tetrachloroethane		* Indicates TCLP Compounds	
Bromoform			
1,1,2,2-Tetrachloroethane			
1,2,3-Trichloropropane			
1,2-Dibromo-3-chloropropane			
*Hexachlorobutadiene			

Analyst Gja

[] Flash Point
Pensky-Martens Closed Cup Flash Point _____ °C= _____ °F

Analyst _____

SUFFOLK COUNTY DEPARTMENT OF HEALTH SERVICES
CENTER FOR FORENSIC SCIENCES
PUBLIC ENVIRONMENTAL HEALTH LABORATORY
NYSDOH LAB ID. NUMBER 10528
ORGANIC & FLASHPOINT ANALYSIS OF INDUSTRIAL & HAZARDOUS MATERIALS

JAN 13 1994

No. IN- 1293058
Lab No. 3MF-12-17 DA

Date Completed 1-6-94
EPA Method (8240)/1010/

Name Eugene's Dry Cleaners. Sump-sludge

Remarks

Compound	ppb	Compound	ppb
[] Miscellaneous			
Vinyl acetate		Acetone	
2-Chloroethyl vinyl ether		Methyl ethyl ketone	
		Methyl isobutyl ketone	
[] Purgeable Halocarbons1		Benzene	
Chlorodifluoromethane		Toluene	
Dichlorodifluoromethane		Chlorobenzene	
Trichlorofluoromethane		Ethylbenzene	
Vinyl Chloride		Xylene(s)	
Chloromethane		Styrene	
Bromomethane		Isopropylbenzene	
Chloroethane		Chlorotoluene(s)	
		1,3,5-Trimethylbenzene	4700
[X] Purgeable Halocarbons2/Aromatics		1,2,4-Trimethylbenzene	6900
1,1-Dichloroethene		1,3-Dichlorobenzene	
Methylene Chloride		1,4-Dichlorobenzene	
Freon 113		1,2-Dichlorobenzene	
trans-1,2-Dichloroethene		1,2,4-Trichlorobenzene	
1,1-Dichloroethane		Naphthalene	
Bromochloromethane			
Chloroform		[] TCLP	
1,2-Dichloroethane		Vinyl Chloride	
1,1,1-Trichloroethane		1,1-Dichloroethene	
1,1-Dichloropropene		Chloroform	
Carbon Tetrachloride		Carbon Tetrachloride	
Dibromomethane		Trichloroethene	
1,2-Dichloropropane		Tetrachloroethene	
Bromodichloromethane		Hexachlorobutadiene	
Trichloroethene	170 000	Methyl ethyl ketone	
cis-1,3-Dichloropropene		Benzene	
trans-1,3-Dichloropropene		Chlorobenzene	
1,1,2-Trichloroethane		1,4-Dichlorobenzene	
1,3-Dichloropropane		1,2-Dichlorobenzene	
Dibromochloromethane			
1,2-Dibromoethane			
Tetrachloroethene	12 000 000		
1,1,1,2-Tetrachloroethane			
Bromoform			
1,1,2,2-Tetrachloroethane			
1,2-Dibromo-3-chloropropane			
Hexachlorobutadiene			

Analyst EJA

[] Flash Point
Pensky-Martens Closed Cup Flash Point ____ °C= ____ °F

Analyst ____

FORMER FRENCH DRY CLEANING
54 E. MAIN ST, BABYLON, NY

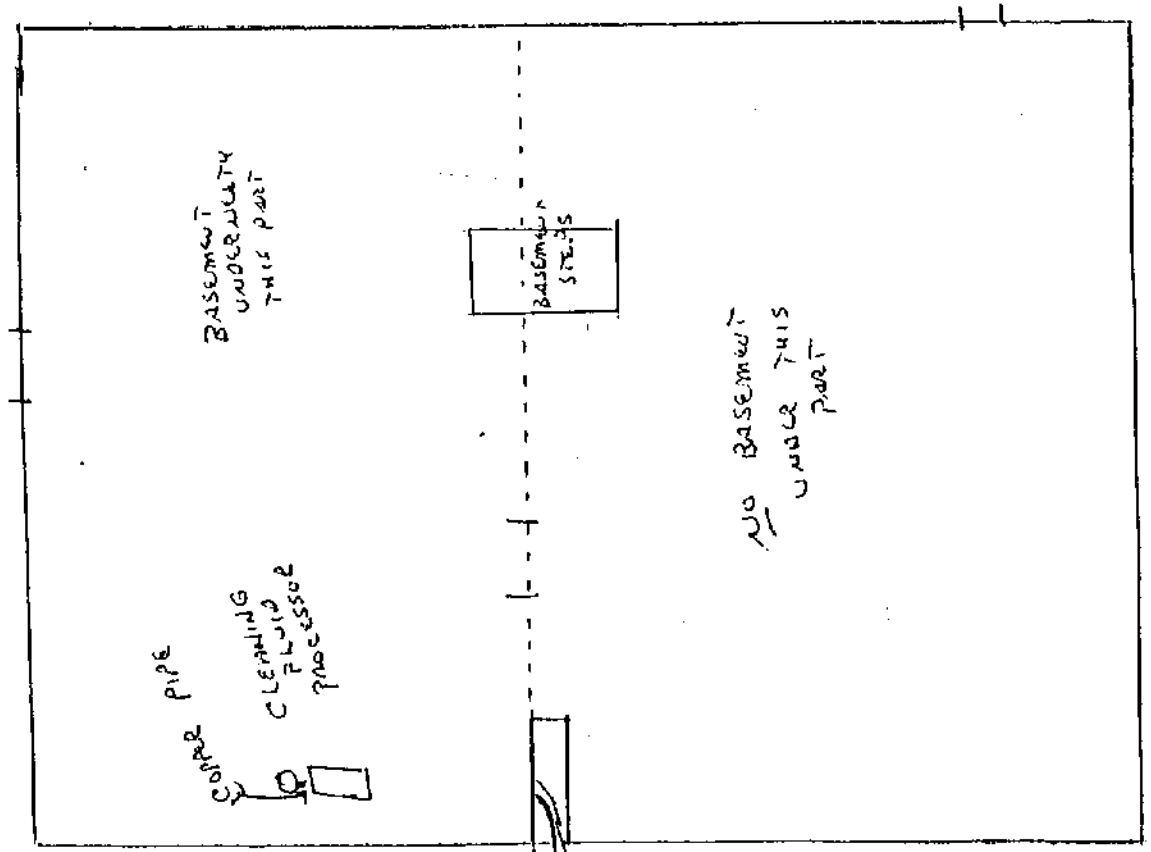
FACILITY NAME:

ADDRESS:

CRIME SCENE SKETCH

DATE: 12/17/93

CCH 93-623412
93-1666/SOA



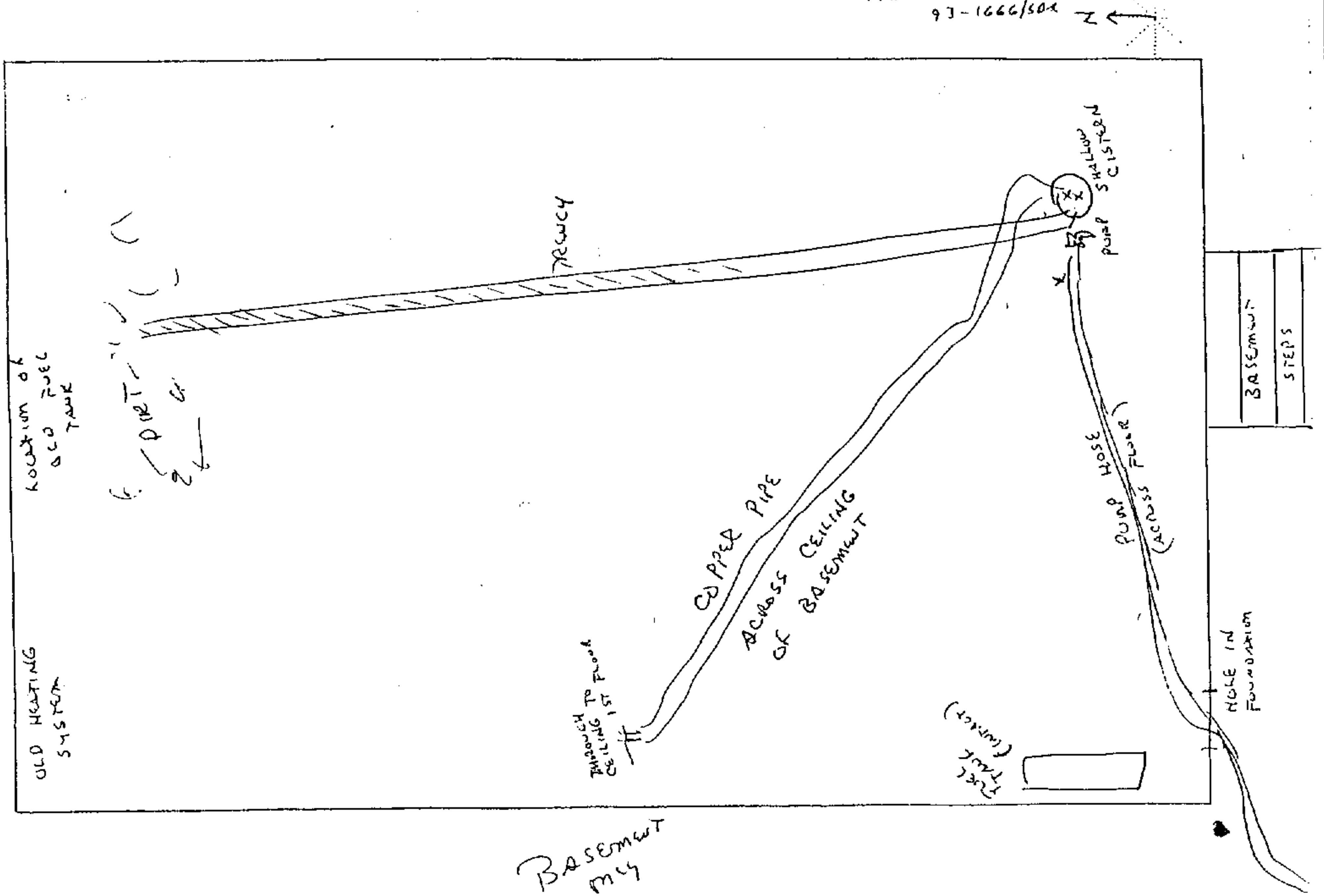
X = SAMPLE POINT

DETECTIVE:

CRIME SCENE SKETCH

FACILITY NAME: E[illegible] ...
ADDRESS: 54 E. Main St, Babylon, NY

DATE: 12/17/93
CC#: 93-633412
93-1666/SOX



BASEMENT
MCY

X - SAMPLE POINT

DETECTIVE: RJ OC 4SCIC

Appendix 5

DOH February 17, 1997
Dry Cleaner Study

Appendix 5

DOH

New York State Department of Health
Center for Environmental Health

Health Consultation

DRY CLEANER STUDY

Private Wells and Groundwater Contamination

DUTCHESS, PUTNAM, SARATOGA AND SUFFOLK COUNTIES,
NEW YORK

Draft

February 17, 1997

Cerclis No. NYD980507677

Prepared under a Cooperative Agreement with

U.S. Department of Health & Human Services
Public Health Service
Agency for Toxic Substances and Disease Registry

- Mattituck Village Dry Cleaners, Mattituck, Suffolk County

  Eleven samples were collected, one each in ten residential wells and one commercial well. Three wells contained methyl *tert*-butyl ether only (0.6 mcg/L, 0.6 mcg/L and 7 mcg/L). One well contained tetrachloroethene only (0.6 mcg/L) and another well contained tetrachloroethene (2 mcg/L), methyl *tert*-butyl (1 mcg/L) and 1,1,1-trichloroethane (3 mcg/L).

- Ham's Laundromat and Dry Cleaner, Clifton Park, Saratoga County

  Two samples were collected, one in a residential well and one in a commercial well. No contamination was detected in either well.

- Eugene's Dry Cleaners, Babylon Village, Suffolk County

  Six groundwater samples were collected. The Suffolk County Department of Health Services (SCDHS) found no private wells near Eugene's Dry Cleaners. Therefore, the SCDHS installed two monitoring wells downgradient from the dry cleaner and screened the monitoring wells at three different depths (5-10 feet, 15-20 feet and 25-30 feet). All six samples contained chlorinated solvents, including tetrachloroethene. Total volatile organic compound concentrations ranged from 1.2 mcg/L to 22 mcg/L.

E. Community Health Concerns

Throughout this investigation, the communities/residents involved have not expressed any concerns regarding potential exposures to dry cleaner related contaminants.

DISCUSSION

To evaluate the potential health risks from contaminants of concern that are associated with dry cleaning facilities, the NYS DOH assessed the risks for cancer and noncancer health effects. The health effects are related to contaminant concentration, exposure pathway, exposure frequency and duration. For additional information on how the NYS DOH determined and qualified health risks applicable to this health consultation, see Appendix A.

For an undetermined period of time, private water supply wells were contaminated with chlorinated and non-chlorinated volatile organic compounds. Based on an estimate from the owner of the shopping plaza where Rainbow Cleaners is located, dry cleaning has been done on the site for between 10 to 15 years. The highest level of tetrachloroethene (13 mcg/L) to which users of the private commercial well may have been exposed, exceeds the present NYS DOH public drinking water standard.

Appendix 6

DOH May 26, 1995
Class 2 Recommendation

DOH STATE OF NEW YORK
DEPARTMENT OF HEALTH

Corning Tower The Governor Nelson A. Rockefeller Empire State Plaza Albany, New York 12237

E ira A. DeBuono, M.D., M.P.H.
Commissioner

Karen Schimke
Executive Deputy Commissioner

May 26, 1995

Mr. Earl Barcomb, P.E.
Director
Bureau of Hazardous Site Control
NYS Department of Environmental Conservation
50 Wolf Road, Room 218
Albany, New York 12233

RE: Registry Site Classification Decision
Eugene's Dry Cleaners
Site #152514
NYSDOH Site #152844N
Babylon, Suffolk County

Dear Mr. Barcomb:

My staff have reviewed the Site Classification Package for the Eugene's Dry Cleaners site. Based on that review, I understand that high levels of tetrachloroethene have been detected in the groundwater (840 mcg/L), the soil (420 mcg/L), and in the sludge/sediment (12,000,000 mcg/kg) found in the basement sump area. The contamination has impacted the sole-source aquifer underlying the site. The facility is an active drycleaning business, therefore workers and the general public have the potential of being exposed to contaminated soils and soil vapors. Based on this information, the contamination on-site represents a significant threat to the public health and the environment. Therefore, I concur with the proposed classification of this site (Class 2, Priority 2). The signed classification package is enclosed.

Block 11 (Conclusion) needs no modification. If you have any questions, please contact Mr. Steve Bates of my staff at (518) 458-6305.

Sincerely,

G. Anders Carlson, Ph.D.
Director
Bureau of Environmental Exposure
Investigation

sg/95142PR00056

Enclosure

Appendix 7

Hazardous Waste Manifest
No. NYP003631553

NYG 1326474

STATE OF NEW YORK
DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF SOLID & HAZARDOUS MATERIALS

HAZARDOUS WASTE MANIFEST

P.O. Box 12820, Albany, New York 12211

Appendix 7

Please type or print. Do not staple

(Hazardous Waste Manifest 1/28/93)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No.	Manifest Doc. No.	2. Page 1 of	Information within heavy bold line is not required by Federal Law.
	NYP0036315553		1	

3. Generator's Name and Mailing Address
NYSDEC-DIVISION OF SPILL MGMT
BLDG 40 - SUNY, STONY BROOK, NY 11790

4. Generator's Telephone Number (800) 457-7362

5. Transporter 1 (Company Name) MILLER ENVIRONMENTAL GROUP — 6. US EPA ID Number NYD986908835

7. Transporter 2 (Company Name) — 8. US EPA ID Number

9. Designated Facility Name and Site Address
CHEMICAL POLLUTION CONTROL
119 SOUTH FOURTH ST.
BAYSHORE, NY 11706

10. US EPA ID Number NYD082785429

A. NYG1326474

B. Generator's ID EUGENE'S DRY CLEANERS
54 E. MAIN ST., BABYLON, NY 11702

C. State Transporter's ID

D. Transporter's Telephone (516) 369-4988

E. State Transporter's ID

F. Transporter's Telephone ( )

G. State Facility ID

H. Facility Telephone (516) 586-0333

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers Number	12. Containers Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a. RQ, HAZARDOUS WASTE LIQUID, N.O.S., (TETRACHLOROETHANE) 9, UN3082, PGIII, ERG: 171 (F001)	X	DM	500	G	F001
					STATE
b.					EPA
					STATE
c.					EPA
					STATE
d.					EPA
					STATE

J. Additional Descriptions for Materials listed Above
a. WATER/SOIL W/SOLVENTS
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. T
b.
c.
d.

15. Special Handling Instructions and Additional Information
SPF 93-11291
95-12630
95-12461
EMERGENCY CONTACT - 516-369-4988

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations and state laws and regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name — Signature — Mo. Day Year

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Mo. Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials
Printed/Typed Name — Signature — Mo. Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.
Printed/Typed Name — Signature — Mo Day Year

GENERATOR

TRANSPORTER

FACILITY

In case of emergency or spill immediately call the National Response Center (800) 424-8802 and the NYS Department of Environmental Conservation (518) 457-7362

FPA ... NYPO#3631553

MILLER ENVIRONMENTAL GROUP INC.

P.O. # ____

DATE 22 OCT 93 THURS

DAILY JOB REPORT

CUSTOMER NYSDEC ... Phone (...) 457-...

JOE PECK

BILLING ADDRESS ____

LOCATION OF WORK EUGENE'S DRY CLEANERS
51 E. MAIN ST. BABYLON NY

JOB DESCRIPTION 1) CLEAN ~~...~~ FUEL OIL ... FROM ... BASEMENT
2) CLEAN OUT SOLIDS & LIQUIDS FROM SUMP PIT 3) TRANSPORT WASTE FOR DISPOSAL

MATERIALS (10) 17 H. DRUMS 0008 (1) Basket Tyvek 0010 SUBCONTRACTORS
(7) Gal Kartec 0020 (1) ... 0017
(11) Bags ... 9014 (1) Roll Plastic 0011 (?) Cement Blocks
(1) ... 1203 (1) ... 36 1202

EQUIPMENT
UTILITY VEHICLE #668
S. DECAD ... #18
HOIST TRK #92
BOX TRK #116

(3) WORKER PROTECTION LEVEL - D

PERSONNEL	TOTAL HOURS	PERSONNEL	TOTAL HOURS
SPV GAROFALO	7		
HT CUTRE	7		
HT LOSCO	7		
HT CASTILLO	7		

DAILY OPERATIONS 0700 SECURED 1400 SUBSISTENCE 10 lunch

DISPOSAL 8 - DRMS HAZ WASTE LIQUID (F002) TO CPC NYE 1326474
2 - DRMS OILY/WATER NON HAZ ... TO CPC CO # 6853
1 - 40 ... SOLIDS ... TO ... #9317

BILL GRP. # ____

APPROVED Joseph E. Peck
CUSTOMER REPRESENTATIVE

34565

... Generator—Retained by Generator

Appendix 8

Selected Soil & Groundwater Sampling Results

Onsite Environmen[illegible] Laboratories, Inc.
Analytic.. Results

Sample ID	Compound	Type	Conc. ug/L	EQL ug/L	SQL ug/L	Date Sampled	Date Analyzed	Time Analyzed	Flag
	Volatile Organics by EPA 8260B								
GW-1 (15)	Acetone	V	10.00	10.00	1.312	07/20/98	07/21/98	13:31	U
GW-1 (15)	Benzene	V	1.27	1.00	0.560	07/20/98	07/21/98	13:31	
GW-1 (15)	Bromodichloromethane	V	1.00	1.00	0.410	07/20/98	07/21/98	13:31	U
GW-1 (15)	Bromoform	V	1.00	1.00	0.648	07/20/98	07/21/98	13:31	U
GW-1 (15)	Bromomethane	V	1.00	1.00	0.518	07/20/98	07/21/98	13:31	U
GW-1 (15)	2-Butanone	V	10.00	10.00	1.102	07/20/98	07/21/98	13:31	U
GW-1 (15)	Carbon Disulfide	V	2.00	2.00	1.878	07/20/98	07/21/98	13:31	U
GW-1 (15)	Carbon Tetrachloride	V	1.00	1.00	0.664	07/20/98	07/21/98	13:31	U
GW-1 (15)	Chlorobenzene	V	1.00	1.00	0.490	07/20/98	07/21/98	13:31	U
GW-1 (15)	Chloroethane	V	1.00	1.00	0.780	07/20/98	07/21/98	13:31	U
GW-1 (15)	Chloroform	V	1.00	1.00	0.694	07/20/98	07/21/98	13:31	U
GW-1 (15)	Chloromethane	V	1.00	1.00	0.938	07/20/98	07/21/98	13:31	U
GW-1 (15)	Dibromochloromethane	V	1.00	1.00	0.504	07/20/98	07/21/98	13:31	U
GW-1 (15)	Dichlorodifluoromethane	V	1.00	1.00	0.876	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,1-Dichloroethane	V	1.00	1.00	0.770	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,2-Dichloroethane	V	1.00	1.00	0.662	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,1-Dichloroethene	V	2.00	2.00	1.088	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,2-Dichloroethene (cis)	V	131	1.00	0.536	07/20/98	07/21/98	13:31	
GW-1 (15)	1,2-Dichloroethene (trans)	V	1.00	1.00	0.704	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,2-Dichloropropane	V	1.00	1.00	0.506	07/20/98	07/21/98	13:31	U
GW-1 (15)	cis-1,3-Dichloropropene	V	1.00	1.00	0.580	07/20/98	07/21/98	13:31	U
GW-1 (15)	trans-1,3-Dichloropropene	V	1.00	1.00	0.540	07/20/98	07/21/98	13:31	U
GW-1 (15)	Ethylbenzene	V	1.00	1.00	0.596	07/20/98	07/21/98	13:31	U
GW-1 (15)	Freon 113	V	1.00	1.00	0.712	07/20/98	07/21/98	13:31	U
GW-1 (15)	2-Hexanone	V	10.00	10.00	0.922	07/20/98	07/21/98	13:31	U
GW-1 (15)	4-Methyl-2-Pentanone	V	10.00	10.00	0.826	07/20/98	07/21/98	13:31	U
GW-1 (15)	Methylene Chloride	V	1.00	1.00	0.498	07/20/98	07/21/98	13:31	U
GW-1 (15)	Styrene	V	1.00	1.00	0.456	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,1,2-2-Tetrachloroethane	V	1.00	1.00	0.600	07/20/98	07/21/98	13:31	U
GW-1 (15)	Tetrachloroethene	V	34.59	1.00	0.542	07/20/98	07/21/98	13:31	
GW-1 (15)	Toluene	V	1.00	1.00	0.586	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,1,1-Trichloroethane	V	1.00	1.00	0.550	07/20/98	07/21/98	13:31	U
GW-1 (15)	1,1,2-Trichloroethane	V	1.00	1.00	0.642	07/20/98	07/21/98	13:31	U
GW-1 (15)	Trichloroethene	V	34.17	1.00	0.602	07/20/98	07/21/98	13:31	
GW-1 (15)	Trichlorofluoromethane	V	1.00	1.00	0.667	07/20/98	07/21/98	13:31	U
GW-1 (15)	Vinyl Chloride	V	8.34	1.00	0.572	07/20/98	07/21/98	13:31	
GW-1 (15)	Xylenes (Total)	V	1.94	2.00	1.076	07/20/98	07/21/98	13:31	J
GW-1 (15)	TVH (C4-C12)	V	200.00	200.00	200.000	07/20/98	07/21/98	13:31	U
	Surrogates:		QC Acceptance Limits						
	Dibromofluoromethane	100	86-118						
	Toluene-d8	94	88-110						
	Bromofluorobenzene	103	86-115						
	Dilution Factor	1							

Appendix 8

Onsite Environmer Laboratories, Inc.
Analytical Results

Sample ID	Compound	Type	Conc. ug/L	EQL ug/L	SQL ug/L	Date Sampled	Date Analyzed	Time Analyzed	Flag
	Volatile Organics by EPA 8260B								
GW-6 (15)	Acetone	V	10.00	10.00	1.312	07/21/98	07/21/98	20:47	U
GW-6 (15)	Benzene	V	1.00	1.00	0.560	07/21/98	07/21/98	20:47	U
GW-6 (15)	Bromodichloromethane	V	1.00	1.00	0.410	07/21/98	07/21/98	20:47	U
GW-6 (15)	Bromoform	V	1.00	1.00	0.648	07/21/98	07/21/98	20:47	U
GW-6 (15)	Bromomethane	V	1.00	1.00	0.518	07/21/98	07/21/98	20:47	U
GW-6 (15)	2-Butanone	V	10.00	10.00	1.102	07/21/98	07/21/98	20:47	U
GW-6 (15)	Carbon Disulfide	V	2.00	2.00	1.876	07/21/98	07/21/98	20:47	U
GW-6 (15)	Carbon Tetrachloride	V	1.00	1.00	0.664	07/21/98	07/21/98	20:47	U
GW-6 (15)	Chlorobenzene	V	1.00	1.00	0.490	07/21/98	07/21/98	20:47	U
GW-6 (15)	Chloroethane	V	1.00	1.00	0.780	07/21/98	07/21/98	20:47	U
GW-6 (15)	Chloroform	V	1.00	1.00	0.694	07/21/98	07/21/98	20:47	U
GW-6 (15)	Chloromethane	V	1.00	1.00	0.938	07/21/98	07/21/98	20:47	U
GW-6 (15)	Dibromochloromethane	V	1.00	1.00	0.504	07/21/98	07/21/98	20:47	U
GW-6 (15)	Dichlorodifluoromethane	V	1.00	1.00	0.876	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,1-Dichloroethane	V	1.00	1.00	0.770	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,2-Dichloroethane	V	1.00	1.00	0.662	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,1-Dichloroethene	V	2.00	2.00	1.088	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,2-Dichloroethene (cis)	V	1.10	1.00	0.536	07/21/98	07/21/98	20:47	
GW-6 (15)	1,2-Dichloroethene (trans)	V	1.00	1.00	0.704	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,2-Dichloropropane	V	1.00	1.00	0.506	07/21/98	07/21/98	20:47	U
GW-6 (15)	cis-1,3-Dichloropropene	V	1.00	1.00	0.580	07/21/98	07/21/98	20:47	U
GW-6 (15)	trans-1,3-Dichloropropene	V	1.00	1.00	0.540	07/21/98	07/21/98	20:47	U
GW-6 (15)	Ethylbenzene	V	1.00	1.00	0.596	07/21/98	07/21/98	20:47	U
GW-6 (15)	Freon 113	V	1.00	1.00	0.712	07/21/98	07/21/98	20:47	U
GW-6 (15)	2-Hexanone	V	10.00	10.00	0.922	07/21/98	07/21/98	20:47	U
GW-6 (15)	4-Methyl-2-Pentanone	V	10.00	10.00	0.826	07/21/98	07/21/98	20:47	U
GW-6 (15)	Methylene Chloride	V	1.00	1.00	0.498	07/21/98	07/21/98	20:47	U
GW-6 (15)	Styrene	V	1.00	1.00	0.456	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,1,2-2-Tetrachloroethane	V	1.00	1.00	0.600	07/21/98	07/21/98	20:47	U
GW-6 (15)	Tetrachloroethene	V	43.53	1.00	0.542	07/21/98	07/21/98	20:47	
GW-6 (15)	Toluene	V	1.00	1.00	0.586	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,1,1-Trichloroethane	V	1.00	1.00	0.550	07/21/98	07/21/98	20:47	U
GW-6 (15)	1,1,2-Trichloroethane	V	1.00	1.00	0.642	07/21/98	07/21/98	20:47	U
GW-6 (15)	Trichloroethene	V	2.29	1.00	0.602	07/21/98	07/21/98	20:47	
GW-6 (15)	Trichlorofluoromethane	V	1.00	1.00	0.667	07/21/98	07/21/98	20:47	U
GW-6 (15)	Vinyl Chloride	V	1.00	1.00	0.572	07/21/98	07/21/98	20:47	U
GW-6 (15)	Xylenes (Total)	V	2.00	2.00	1.076	07/21/98	07/21/98	20:47	U
GW-6 (15)	TVH (C4-C12)	V	200.00	200.00	200.000	07/21/98	07/21/98	20:47	U
	Surrogates:		QC Acceptance Limits						
	Dibromofluoromethane	104	86-118						
	Toluene-d8	95	88-110						
	Bromofluorobenzene	103	86-115						
	Dilution Factor	1							

Onsite Environme. Laboratories, Inc.
Analytical Results

Sample ID	Compound	Type	Conc. ug/L	EQL ug/L	SQL ug/L	Date Sampled	Date Analyzed	Time Analyzed	Flag
	Volatile Organics by EPA 8260B								
GW-8 (16')	Acetone	V	10.00	10.00	1.312	07/23/98	07/23/98	18:19	U
GW-8 (16')	Benzene	V	1.00	1.00	0.560	07/23/98	07/23/98	18:19	U
GW-8 (16')	Bromodichloromethane	V	1.00	1.00	0.410	07/23/98	07/23/98	18:19	U
GW-8 (16')	Bromoform	V	1.00	1.00	0.648	07/23/98	07/23/98	18:19	U
GW-8 (16')	Bromomethane	V	1.00	1.00	0.518	07/23/98	07/23/98	18:19	U
GW-8 (16')	2-Butanone	V	10.00	10.00	1.102	07/23/98	07/23/98	18:19	U
GW-8 (16')	Carbon Disulfide	V	2.00	2.00	1.878	07/23/98	07/23/98	18:19	U
GW-8 (16')	Carbon Tetrachloride	V	1.00	1.00	0.664	07/23/98	07/23/98	18:19	U
GW-8 (16')	Chlorobenzene	V	1.00	1.00	0.490	07/23/98	07/23/98	18:19	U
GW-8 (16')	Chloroethane	V	1.00	1.00	0.780	07/23/98	07/23/98	18:19	U
GW-8 (16')	Chloroform	V	1.00	1.00	0.694	07/23/98	07/23/98	18:19	U
GW-8 (16')	Chloromethane	V	1.00	1.00	0.938	07/23/98	07/23/98	18:19	U
GW-8 (16')	Dibromochloromethane	V	1.00	1.00	0.504	07/23/98	07/23/98	18:19	U
GW-8 (16')	Dichlorodifluoromethane	V	1.00	1.00	0.876	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,1-Dichloroethane	V	1.00	1.00	0.770	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,2-Dichloroethane	V	1.00	1.00	0.662	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,1-Dichloroethene	V	2.00	2.00	1.088	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,2-Dichloroethene (cis)	V	7.58	1.00	0.536	07/23/98	07/23/98	18:19	
GW-8 (16')	1,2-Dichloroethene (trans)	V	1.00	1.00	0.704	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,2-Dichloropropane	V	1.00	1.00	0.506	07/23/98	07/23/98	18:19	U
GW-8 (16')	cis-1,3-Dichloropropene	V	1.00	1.00	0.580	07/23/98	07/23/98	18:19	U
GW-8 (16')	trans-1,3-Dichloropropene	V	1.00	1.00	0.540	07/23/98	07/23/98	18:19	U
GW-8 (16')	Ethylbenzene	V	1.00	1.00	0.596	07/23/98	07/23/98	18:19	U
GW-8 (16')	Freon 113	V	1.00	1.00	0.712	07/23/98	07/23/98	18:19	U
GW-8 (16')	2-Hexanone	V	10.00	10.00	0.922	07/23/98	07/23/98	18:19	U
GW-8 (16')	4-Methyl-2-Pentanone	V	10.00	10.00	0.826	07/23/98	07/23/98	18:19	U
GW-8 (16')	Methylene Chloride	V	1.00	1.00	0.498	07/23/98	07/23/98	18:19	U
GW-8 (16')	Styrene	V	1.00	1.00	0.456	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,1,2-2-Tetrachloroethane	V	1.00	1.00	0.600	07/23/98	07/23/98	18:19	U
GW-8 (16')	Tetrachloroethene	V	2.49	1.00	0.542	07/23/98	07/23/98	18:19	
GW-8 (16')	Toluene	V	1.00	1.00	0.586	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,1,1-Trichloroethane	V	1.00	1.00	0.550	07/23/98	07/23/98	18:19	U
GW-8 (16')	1,1,2-Trichloroethane	V	1.00	1.00	0.642	07/23/98	07/23/98	18:19	U
GW-8 (16')	Trichloroethene	V	1.00	1.00	0.602	07/23/98	07/23/98	18:19	U
GW-8 (16')	Trichlorofluoromethane	V	1.00	1.00	0.667	07/23/98	07/23/98	18:19	U
GW-8 (16')	Vinyl Chloride	V	1.00	1.00	0.572	07/23/98	07/23/98	18:19	U
GW-8 (16')	Xylenes (Total)	V	2.00	2.00	1.076	07/23/98	07/23/98	18:19	U
GW-8 (16')	TVH (C4-C12)	V	200.00	200.00	200.000	07/23/98	07/23/98	18:19	U
	Surrogates:		QC Acceptance Limits						
	Dibromofluoromethane	102	86-118						
	Toluene-d8	99	88-110						
	Bromofluorobenzene	104	86-115						
	Dilution Factor	1							

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PZ1-EDC

Lab Name: H2M LABS, INC. Contract: COO3786

Lab Code: 10478 Case No.: RA099 SAS No.: NDEC SDG No.: 0527

Matrix: (soil/water) WATER Lab Sample ID: 9914816

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: F0941.D

Level: (low/med) LOW Date Received: 05/27/99

% Moisture: not dec. Date Analyzed: 05/28/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	2	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-4	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	5	J
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PZ6-EDC

Lab Name: H2M LABS, INC. Contract: COO3786

Lab Code: 10478 Case No.: RA099 SAS No.: NDEC SDG No.: 0527

Matrix: (soil/water) WATER Lab Sample ID: 9914817

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: F0942.D

Level: (low/med) LOW Date Received: 05/27/99

% Moisture: not dec. Date Analyzed: 05/28/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	2	J
75-35-4	1,1-Dichloroethene	10	U
75-34-4	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	6	J
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

PZ8-EDC

Lab Name: H2M LABS, INC. Contract: COO3786

Lab Code: 10478 Case No.: RA099 SAS No.: NDEC SDG No.: 0527

Matrix: (soil/water) WATER Lab Sample ID: 9914818

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: F0943.D

Level: (low/med) LOW Date Received: 05/27/99

% Moisture: not dec. Date Analyzed: 05/28/99

GC Column: RTX624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-4	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	5	J
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1A

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDC PZ1

Lab Name: H 2M LABS,INC Contract: C003786

Lab Code: 10478 Case No.: RA097 SAS No.: _____ SDG No.: 0727

Matrix: (soil/water) WATER Lab Sample ID: 9921455

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: A23905.D

Level: (low/med) LOW Date Received: 07/27/99

% Moisture: not dec. _____ Date Analyzed: 07/28/99

GC Column: RTX502. ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	Q	
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	9	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	21	
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U