ABB ENVIRONMENTAL SERVICES

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SUPERFUND STANDBY CONTRACT

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK
WORK ASSIGNMENT NO. D002472-11

DATA SUMMARY REPORT
VOLUME I - TEXT AND APPENDIX A

ABB ENVIRONMENTAL SERVICES
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SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

Submitted to:

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DATA SUMMARY REPORT

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PREFACE

The New York State Department of Environmental Conservation (NYSDEC), under the New York State Standby Contract (NSSC) Assignment No. D002472-11, assigned ABB Environmental Services (ABB-ES), formerly E. C. Jordan Co., to conduct a Remedial Investigation (RI) at the Sheridan Waste Oil Co. site (Sheridan) in Medford, New York. Sheridan was a waste oil recycling operation, and is currently listed by ID No. 152-024 as a Type 2 inactive hazardous waste site in the *Registry of Inactive Hazardous Waste Sites in New York* (NYSDEC, 1992c). To ensure the proper conduct of work, ABB-ES developed and followed the requirements in three NYSDEC-approved site project plans: (1) *Remedial Investigation/Feasibility Study Work Plan* (WP); (2) *Quality Assurance Project Plan* (QAPP); and (3) *Health and Safety Plan* (HASP) (ABB-ES, 1992a,b,c).

To provide for the selection of sound and protective remedial measures, the WP (ABB-ES, 1992) technical approach is structured in general accordance with the NYSDEC Technical and Administrative Guidance Memorandum (TAGM) HWR-89-4025 (NYSDEC, 1989) and U.S. Environmental Protection Agency (USEPA) Office of Solid Waste and Emergency Response (OSWER) Directive 9355.3-01 (USEPA, 1988).

1.0 INTRODUCTION

This report presents the data collected by ABB-ES during the RI field program conducted at the Sheridan site from July to November 1992. The purpose of this report is to present the RI data before delivery of the final RI Report to facilitate communication and responsiveness between ABB-ES and NYSDEC. Documents used to provide background data for project scoping include a file of letters, affidavits, maps, and documents compiled by the Suffolk County Department of Health Services (SCDHS) and NYSDEC's Division of Hazardous Waste Remediation.

1.1 DATA SUMMARY REPORT ORGANIZATION

The RI objectives, scope of work, and a brief history of operations at the Sheridan Waste Oil Co. are presented in Section 1.0. In Section 2.0, the physical setting and characteristics of the site are discussed. The technical approach to the field investigation program, including sampling and analysis of environmental media, are presented in Section 3.0; and a preliminary interpretation of the site hydrogeology is discussed in Section 4.0. Appendix A contains the field program log, soil boring logs, monitoring well installation logs, and hydraulic conductivity raw data and test plots. Appendix B contains tables of analytical results from field gas chromatography (GC) screening of soil gas, soil, and groundwater, and laboratory analytical results for soil and groundwater. Appendix B also contains the data validation memoranda for the Contract Laboratory Program (CLP) samples and the field sample data records. Appendix C presents applicable Standard Operating Procedures (SOPs) for the field GC screening methods and

apparatus used at Sheridan.

1.2 REMEDIAL INVESTIGATION OBJECTIVES

The objectives of the RI are to:

- characterize the nature and distribution of contamination in soil and groundwater at the site;
- assess the contaminant fate and potential transport pathways;
- provide the technical basis for public health and habitat-based ecological risk assessments; and
- identify the affected media and contaminants of potential concern (CPCs) for the Feasibility Study (FS).

The nature and distribution of contamination are characterized through data collection, observations during file reviews, and an on-site field investigation of environmental media potentially affected by former site activities. The potential fate and transport pathways of contamination are evaluated using the field investigation data and approved methods and applications outlined in the WP and QAPP (ABB-ES, 1992). The risk assessment process assesses public health and environmental risks associated with the CPCs. Exposure scenarios based on assumptions of present and future site uses and likely users of the affected media (e.g., users of contaminated drinking water from wells at or near the site) are

developed and assessed in accordance with USEPA guidelines (USEPA, 1989; 1992). Conclusions of the risk assessments are used to identify any data gaps and develop preliminary remediation goals. The FS will identify remedial action objectives and screen alternative remedial technologies that potentially reduce the toxicity, volume, and mobility of the site contaminants.

1.3 SCOPE OF WORK

The scope of work required to fulfill the RI objectives consists of the following seven major activities:

(1) A site reconnaissance, and compilation and review of existing site-specific information, including data from previous studies, aerial photographs, and documents relating to the site

(2) Community relations

(3) A field investigation program including the following activities:

- a residential well survey in the study area to identify groundwater users
- a geophysical survey to locate known or suspected underground tanks and structures
- collection and GC analysis of soil gas samples to help select

soil boring locations on-site

- soil borings and monitoring well borings with collection of soil and groundwater samples
- field GC analysis of soil and groundwater samples to help select monitoring well locations and well screen depths
- installation and sampling of shallow water table and deep groundwater monitoring wells
- CLP analysis of soil and groundwater samples for selected Target Compound List (TCL) and Target Analyte List (TAL) parameters, Toxicity Characteristic Leachate Procedure (TCLP) organics and metals, and water quality parameters
- collection of water level data from monitoring wells, and piezometric analysis of local hydraulic gradients and groundwater flow directions
- estimation of aquifer hydraulic conductivity from rising-head tests in new monitoring wells, and interpretation of test data to estimate groundwater seepage rates in the upper aquifer
- elevation and location survey of new wells and sampling points by a licensed New York land surveyor

(4) Preparation and submission of an RI Data Summary Report

(5) Data evaluation

(6) Risk assessments, including identification and evaluation of site-specific CPCs that may affect public health and ecological receptors

(7) Development of remedial response objectives

1.4 SITE HISTORY

This site history is based on file documents compiled by SCDHS and NYSDEC Division of Hazardous Waste Remediation. Existing reports and documents concluded that the Sheridan site is degrading groundwater quality by contributing acids, petroleum hydrocarbons, and volatile organic compounds (VOCs) to the groundwater.

Mr. William Sheridan operated the Sheridan Waste Oil Co. at 114 Peconic Avenue in Medford, New York, as a waste oil recycling facility from 1977 to 1983. During this time, unknown quantities of waste oil, solvents, and acids were reported to have been reprocessed and resold. In April 1982, an employee of the Vulcan Fuel Corporation contacted SCDHS, claiming that he was overcome by fumes from a shipment of waste oil from Sheridan. As a follow-up to this preliminary involvement, SCDHS conducted a hydrogeologic investigation at the Sheridan site to establish the impact of site operations on groundwater quality. This study was completed in 1983. This report did not describe the exact nature

of site operations; however, SCDHS confirmed that the facility collected and stored waste oil and separator water in aboveground and subsurface tanks, and operated an oil/water evaporator. Letters and affidavits from the site file suggest that Sheridan handled solvents and acid products in addition to waste oil at the site. Sheridan was operated for several years without a permit, although the owner began the application process.

The SCDHS study included sampling and analysis of groundwater in temporary profile wells to depths of 80 feet below ground surface (bgs). The study did not detect organic compounds in groundwater upgradient of the site, nor in drinking water from residential wells directly downgradient of the site on Eileen Court. However, concentrations of organic chemicals above drinking water guidelines were detected at several SCDHS profile well locations downgradient of the site. An on-site inspection, conducted in May 1983 as part of the initial county litigation process, revealed many areas of surface spillage and discoloration of soil, and soil samples reportedly exhibited organic solvent and petroleum product contamination. On the basis of the 1983 SCDHS report, the Suffolk County Attorney obtained a court order to close down the Sheridan site operations. All aboveground and underground tanks and other types of equipment and structures were removed from the site in 1984. The former Sheridan Waste Oil Co. office and garage building was converted to a multiple-unit residence.

2.0 PHYSICAL SETTING

This section describes the physical setting at the Sheridan Waste Oil site, briefly covering local demography, natural resources, climate, and geology. The site location is shown in Figure 2-1.

2.1 SITE DESCRIPTION

The Sheridan site is located on the south side of Peconic Avenue in Medford, New York. The ground surface at the site, approximately 80 feet above mean sea level (MSL), is mostly level and slopes gradually toward the south. Low areas that flood during heavy rainstorms are present on Peconic Avenue approximately one-half mile east and west of the site. Peconic Avenue is less than a mile south of, and roughly parallel to, the east-west Long Island Railroad tracks and the Long Island Expressway, and is commercially developed. The commercial development on Peconic Avenue east and west of the Sheridan site consists of several extensive metal and motor vehicle recycling yards, some light industry, and a large multimedia recycling facility.

2.2 POPULATION CHARACTERISTICS / LAND USE

Medford is an unincorporated village in the Suffolk County town of Brookhaven (Hagstrom, 1988). Based on the 1990 Census and statistics compiled by the New York Department of Economic Development, 21,274 residents live in approximately 6,206 households in Medford. The north side of Peconic Avenue is not residentially developed near the Sheridan site; however, a few residences abut

the west side of the site on the south side of Peconic Avenue, and a large residentially developed area consisting of several subdivisions abuts the south side of the site (Figure 2-2). The closest public schools are located on Buffalo and Oregon avenues, within 1 mile of the site.

2.3 NATURAL RESOURCES

The major natural resource of the area is groundwater contained in the Upper Glacial and Magothy aquifer systems. These systems are the sole source of drinking water in Suffolk County. Five Suffolk County Water Authority (SCWA) municipal well fields are within 3 miles of the site. All the residentially developed areas near the site and within the study area obtain drinking water through the SCWA public water system except the residences on Eileen Court, located directly south of the Sheridan site. These residences obtain drinking water from private groundwater wells.

An important surface water resource, the Carmans River and estuary system, is located approximately 4.7 miles east of the Sheridan site. The Carmans River flows south and discharges to Bellport Bay, which is part of the Great South Bay/Fire Island barrier beach system.

2.4 CLIMATE

Long Island is situated in a humid-temperate zone between Long Island Sound and the Atlantic Ocean, and the local climate is strongly influenced and moderated by the proximity of coastal waters (Ruffner, 1985). Summers are warm

and humid, followed by mild winters. The average temperature for the months of August through October of 1992 during the field program was 62.3 degrees Fahrenheit (F), 2.6 degrees lower than normal for the three-month period in which the field program was conducted. Precipitation is generally greatest in the spring and least in the fall. For the months of August through October of 1992, precipitation was less than projected, averaging 3.81 inches per month with a high of 5.57 inches in August. Generally, drying conditions were experienced through September. The drought index for Long Island indicates moderate drought conditions for Long Island from January through October 1992 (Northeast Regional Climate Center, 1992).

2.5 REGIONAL STRATIGRAPHY

Suffolk County is underlain by Precambrian bedrock, the surface of which has a southerly slope of approximately 65 feet per mile. The surface elevation of bedrock in south-central Suffolk County is approximately 2,000 feet below MSL (McClymonds and Franke, 1972).

A wedge of Cretaceous unconsolidated sedimentary material overlies bedrock (Figure 2-3). The deepest portion of the unconsolidated sediments consists of the Raritan and Magothy Formations. The Raritan Formation includes the basal Lloyd Sand Member, a fine to coarse sand and gravel approximately 500 feet thick that directly overlies bedrock. The Raritan Clay consists of a solid clay layer approximately 300 feet thick, underlying the Magothy Formation. The Magothy Formation consists of fine to medium sand with interbedded layers of coarse sand and clay. The uppermost member of the Magothy Formation is the Monmouth

Group, which consists of Cretaceous greensand and clay and is encountered along the south shore of Suffolk County (Eckhardt and Wexler, 1986). The Monmouth Group deposit underlies the large back shore bays between the barrier islands and sand bars and the Long Island mainland and extends from the Nassau-Suffolk border eastward to the western part of the island's south fork (Soren and Simmons, 1987).

The uppermost glacial-stratigraphic units blanketing Suffolk County are composed of Quaternary late-glacial deposits. The Sangamon Gardiners Clay unit, a glacial marine clay associated with interstadial sea level rise and overlapping deposition of fine sediments in near-shore marine waters, is present in southern Suffolk County and offshore to the south, overlying the Monmouth greensand and clay. The Gardiners Clay consists of a sequence of layered clay, silt, and sand. The Upper Glacial deposits form distinct geomorphologic features at the surface that reflect Late-Wisconsin glacial activity. The Harbor Hill Moraine along the north shore of Long Island and the Ronkonkoma Moraine that bisects the center of Suffolk County are prominent upland areas. Both moraines generally trend east-west and consist of till. Between the moraines and south of the Ronkonkoma Moraine are outwash plains consisting of fine to coarse sand and gravel (McClymonds and Franke, 1972).

2.6 SITE GEOLOGY

The Sheridan site is located on a late-glacial outwash plain approximately 2 miles south of the Ronkonkoma moraine. Topography near the site is gently rolling because of headward erosion of the outwash plain, characterized by several post-

glacial meltwater channels that extend southwesterly from the moraine toward the south shore. Surface water is present in these channels only during very heavy rainstorms. The original topsoil, a sandy Podzol-group (observed in the wooded areas abutting the site) was covered with a thin layer of sandy fill by a site owner when the waste oil facility was closed.

Soil samples were obtained from 40 to 85 feet above MSL from on-site soil borings that were advanced into the Upper Glacial deposits as part of the field investigation. The recovered material was generally a tan-to-brown, well-graded quartz sand and gravel, which is representative of outwash material from the Upper Glacial deposit. The original soil surface, where present, was a thin layer of dark brown fine-to-medium sand over a narrow horizon of white, sand. In the area where the waste oil facility was located, some black, odiferous staining obscured the natural color of the subsurface sand. Orange-to-brown mottling was observed near the top of the saturated zone. The boring logs in Appendix A have detailed descriptions of the soils encountered beneath the site.

Monitoring well borings were advanced from ground surface to a maximum of 88.6 feet below MSL; however, soil samples were not recovered from these (screened auger) borings, so that geologic formations deeper than 40 feet above MSL are not described in this report. The Gardiners Clay unit, as illustrated on Figure 2-2, becomes progressively thinner northward, eventually pinching out a few miles south of the site. The Magothy Formation, however, is likely to be present beneath the site at approximately 150 below MSL (Soren and Simmons, 1987).

3.0 REMEDIAL INVESTIGATION PROGRAM

The field investigation was conducted to characterize the hydrogeology, evaluate the extent of contamination and paths of migration, and assess the significance of the hazards posed by the site. This section presents the analytical program for chemical analysis of the soil and groundwater samples, and discusses the on-site field investigation activities at the Sheridan site by ABB-ES personnel from July through November of 1992. The field investigation consisted of the following activities:

- a door-to-door survey of residential well owners and potential groundwater users in residential areas close to the site;
- ground-penetrating radar and magnetometry surveys to locate underground storage tanks or other man-made structures at the site;
- collection of 179 soil gas samples from the ground surface to 5 feet bgs at regularly spaced grid points using a TerraProbe™ unit;
- analysis of the soil gas samples for selected VOCs using a field GC unit;
- collection of five surface soil samples in the area surrounding the original Sheridan Waste Oil Co. office and garage;
- collection of 175 subsurface soil samples, obtained at 2-foot intervals

via split-spoon sampling tools during completion of 10 on-site vadose (unsaturated) zone soil borings;

- analysis of 102 soil samples for selected VOCs using a field GC unit;

- completion of 21 deep borings on-site within the study area including collection of 167 screened auger groundwater samples from the saturated zone of each boring;

- analysis of 167 screened auger groundwater samples for selected VOCs using a field GC unit;

- installation of 19 new groundwater monitoring wells;

- collection of two rounds of groundwater samples from the 19 new monitoring wells, and one round of groundwater samples from four private residential wells near the site;

- laboratory analysis of selected soil and groundwater samples using NYSDEC *Analytical Services Protocols* (ASP)(1991a) for TCL organics and TAL metals, selected water quality parameters, and TCLP organics and metals;

- in situ hydraulic conductivity testing in 19 monitoring wells; and

- elevation/location survey of new explorations at the completion of the well installation and sampling activities.

3.1 ANALYTICAL PROGRAM

The analytical parameters and methods described in this subsection were selected to enable ABB-ES and NYSDEC to evaluate the nature of chemicals in soil and groundwater, and to assess the risks associated with contamination in the source area and the groundwater plume downgradient of the site. Subsection 3.1.1 presents the chemical analytical parameters and methods selected to meet these objectives. Subsection 3.1.2 discusses laboratory data management procedures, including reduction, validation, and reporting formats. The state and federal standards that will be used in the RI to assess the data are discussed in Subsection 3.1.3.

The quality control/quality assurance (QA/QC) requirements and data quality objectives (DQOs) developed for the RI are outlined in detail in the site-specific QAPP (ABB-ES, 1992c). All analytical procedures used for the off-site laboratory analyses follow the requirements outlined in the NYSDEC ASP (1991a).

DQOs were developed in the WP (ABB-ES, 1992) for the Sheridan project to ensure that data collected during the field investigation were of sufficient quality to support decision-making during the RI/FS process (USEPA, 1987). The DQO development process matched sampling and analytical capabilities to the data targeted for specific uses; the selection process was done to ensure that the quality of data met project requirements. Data quality refers to the degree of

uncertainty of data with respect to precision, accuracy, representativeness, completeness, and comparability (PARCC).

Five general levels of data quality are defined by the USEPA (1987) as potentially applicable to field investigations conducted at known or suspected hazardous waste sites under the Comprehensive Environmental Response, Compensation, and Liability Act. Four levels of data quality are applicable to the Sheridan investigation needs: Levels I, II, III, and IV.

Level I. Field measurements such as pH, temperature, specific conductance, and readings from photoionization detectors (PIDs) constituted Level I field analytical and health and safety data.

Level II. Level II results from the magnetometer/ground-penetrating radar surveys, TerraProbe soil gas sampling, and field GC analysis of soil gas were appropriately used in the field to confirm or modify proposed locations of soil borings and groundwater monitoring wells. In addition, Level II data results from field GC analysis of soil and groundwater (screened auger) samples were used interactively in the field to confirm the presence or absence of subsurface contamination and the nature and distribution of any contamination found in those media.

Level III. Level III data were obtained from three media: surface soil, subsurface soil, and groundwater. Nytest Environmental, Inc. (NEI) provided data analysis of groundwater samples using NYSDEC ASP (1991a) non-CLP methods to obtain water quality data: chemical oxygen demand (COD), total dissolved

solids (TDS), total suspended solids (TSS), and total alkalinity. Selected soil samples were analyzed using NYSDEC ASP (1991a) non-CLP methods for total organic carbon (TOC) and TCLP methods for organics and metals.

Level IV. CLP protocols for TCL organics and TAL metals analyses were requested for soil and groundwater samples to support the requirements for the baseline public health and habitat-based ecological risk assessments planned for the RI.

3.1.1 Laboratory Analysis

Field GC Laboratories. Field GC laboratories were used on-site during two field investigation events at the Sheridan site. A portable field GC workstation installed in the TerraProbe truck was used in July 1992 to analyze soil gas samples before the start of the drilling program. The instrumentation included an HP5890 Series II GC equipped with a flame ionization detector and an electron capture detector, two HP339C Series II integrators, and a Tekmar LSC 2000 purge-and-trap concentration device.

The target soil gas analytes were the organic aromatic compounds:

- benzene
- ethylbenzene
- toluene
- xylene

collectively known as BETX compounds; and the halogenated compounds:

- tetrachloroethene (PCE)
- trichloroethene (TCE)
- 1,1,1-trichloroethane (1,1,1-TCA)
- 1,1-dichloroethene (1,1-DCE)

The GC reporting limits (RLs) established for the soil gas BETX compounds and 1,1-DCE ranged from 0.5 to 1.0 micrograms per liter (μg/L); the GC RLs established for PCE, TCE, and 1,1,1-TCA ranged from 10 to 100 nanograms per liter (ng/L).

At the start of the drilling program in August 1992, two GC workstations were set up on-site in the office trailer to analyze split-spoon and surface soil samples and screened auger groundwater samples. The instrumentation included an HP3365 Chem Station in addition to two HP5890 Series II GCs equipped with PIDs and electrolytic conductivity detectors, and two Tekmar LSC 2000 purge-and-trap concentration devices. Chem Station computer software was used in the field laboratory as the GC data management system.

The target soil and groundwater organic analytes were:

- the BETX compounds
- PCE
- TCE
- 1,1,1-TCA

- 1,1-DCE
- 1,2-DCE
- 1,1-dichloroethane (1,1-DCA)
- 1,2-DCA
- vinyl chloride

The RLs for the target organic analytes were 0.5 μg/L for groundwater and 2.0 micrograms per kilogram (μg/kg) for soil. In addition to the field laboratory GC analyses, the soil samples were also analyzed in the field for total petroleum hydrocarbons (TPH) using an infrared (IR) spectrometer. Appendix C presents applicable SOPs for the field GC screening and IR TPH analysis methods and apparatus used at the Sheridan site.

Field Parameters. The following field parameters were measured on-site by ABB-ES personnel during collection of groundwater samples:

- pH
- specific conductance
- temperature
- dissolved oxygen (DO)

During collection of each groundwater sample, temperature and pH were measured with an Orion™ Model 230A water quality meter, and specific conductance was measured with a VWR Scientific™ Model 604 water quality meter. The water quality meters were calibrated daily with appropriate standards in accordance with procedures in the QAPP (ABB-ES, 1992c).

Following collection of each groundwater sample, DO was measured by performing a Winkler Method titration on an aliquot from each sample. The Winkler method is the standard procedure for measuring DO in water (Franson, 1989). In the procedure, Mn^{2+} (manganous ion) from manganese sulfate added to the sample aliquot reacts with the DO present in solution to form an Mn^{4+} oxide hydroxide floc. Alkaline iodide is added to suppress interference from any nitrate present that would react with the iodide. The solution is then acidified with sulfuric acid, whereby the manganese floc is reduced by iodide to produce Mn^{2+} and a quantity of free iodine in proportion to the oxygen present. This process gives the supernate a brown color. A standard sodium thiosulfate solution and a starch indicator (giving a blue color in the presence of free iodine) are then used to titrate the iodine to a clear end point. The DO in the sample is calculated from the quantity of titrant used. The results are summarized with the other water quality parameters in Table 3-1 .

Off-site Analytical Laboratory. NEI, as a subcontractor to ABB-ES, provided analytical services in accordance with the NYSDEC ASP (1991a) for the Sheridan program. The laboratory followed CLP and non-CLP protocols as required by ABB-ES and as outlined in the preceding subsection.

The laboratory analytical parameters selected included several broad spectrum analyses (e.g., CLP protocol TCL organics and TAL metals) to provide NYSDEC with technically defensible risk assessment data. The broad spectrum CLP analyses for soil and groundwater included:

- TCL volatile and semivolatile organic compounds

- TCL pesticides and polychlorinated biphenyls (PCBs)
- TAL metals

The non-CLP analyses requested from NEI for selected soil samples included:

- TCLP organics and metals
- TOC

During the two groundwater sampling rounds, analysis for several non-CLP water quality parameters were requested from NEI:

- COD
- TSS
- TDS
- Total alkalinity

Groundwater samples from MW-4B, MW-5B, and MW-7A were also analyzed for TOC. The specific analytical parameters and methods selected for each target medium are detailed in Table 3-2. These parameters were measured to confirm that representative samples were collected, and could be used to assess the quality of groundwater at the site.

3.1.2 Data Evaluation

The purpose of data evaluation is to confirm that laboratory analytical data are comparable, adequate in quality, and sufficient in quantity to meet project objectives. The three steps to the data evaluation process completed for the Sheridan analytical database were:

(1) Data Reduction - the process of converting laboratory data results to an expression of the parameter consistent with the PARCC objectives.

(2) Data Validation - the systematic process of reviewing the laboratory data to provide assurance that they are adequate for their intended use.

(3) Data Reporting - presentation of the body of analytical results in formats suitable for review, comparison, and evaluation.

3.1.2.1 Data Reduction. Analytical data packages are received from NEI in the formats specified by the NYSDEC ASP (1991a) and the ABB-ES subcontract agreements, which include duplicate hard copy report formats and computer disk formats. The data are electronically transferred and stored via a UNIX™ disk operating system and FOXBASE™ data management software. The original hard copy data packages and the electronic database are stored in a secure and retrievable fashion.

3.1.2.2 Data Validation. Validation of laboratory data was performed in accordance with "Standard Operating Procedure No. HW-6, CLP Organics Data Review," Revision No. 8 (NYSDEC, January 1992a), and "Evaluation of Metals Data for the CLP based on USEPA SOW 3/90", Revision XI (NYSDEC, January 1992b), as well as appropriate USEPA Region II revisions to these protocols. The validation protocols were also modified by NYSDEC to include laboratory requirements in the NYSDEC ASP (1991a).

3.1.2.3 Data Reporting. The analytical data are presented in three phased tabular formats, prepared by transferring the FOXBASE data file electronically to LOTUS™ software spreadsheet templates. Data validation qualifiers and all non-CLP data are entered into the spreadsheets manually. All tables contain an explanation of any data qualifiers used and a cross-reference to associated QA/QC samples. The tables presented in Appendix B conform to the following requirements:

Table 1 - The raw data as received from the laboratory, organized by medium and analytical fraction.

Table 2 - The annotated data results after the validation process, organized by medium and analytical fraction. These data are used for risk assessments.

Table 3 - The summary data results that are considered suitable for site contaminant interpretation.

3.1.2.4 Detection Limits and Quantitation Limits

Two types of detection limits are used: (1) Instrument Detection Limits (IDLs), used for inorganics, and (2) RLs, used for TCLP and field GC analytical results. The IDL is generally the lowest amount of a substance that can be detected by an analytical instrument; any effects that sample matrix, handling, and preparation may have are not considered (USEPA 1992). Inorganic IDLs are reported by the analytical laboratory and are the lowest limit for inorganics. RLs are the lower reporting limits for all parameters in the TCLP extracts and for the GC field laboratory target analytes.

Two types of quantitation limits are used: (1) Contract Required Quantitation Limits (CRQLs), used for TCL organics (Contract-Required Detection Limits [CRDLs] is an equivalent term specified by USEPA [1992] for TCL inorganics); and (2) Sample Quantitation Limits (SQLs). To be in the USEPA CLP program, a laboratory such as NEI must be able to meet USEPA CRQLs/CRDLs, which are chemical-specific. They represent the levels that a CLP laboratory should reliably detect and quantitate in a variety of sample matrices (USEPA, 1992). They are not necessarily the lowest detectable level that can be achieved, and occasionally state and federal guidelines and standards are lower than the CRQLs/CRDLs (NYSDEC 1989a). SQLs, which are sample-specific and take into account sample characteristics, preparation, and analytical adjustments, are sometimes more relevant than CRQLs/CRDLs for evaluation of site contaminants. The organic qualifier for concentrations reported by the laboratory below the CRQLs is JJ; inorganic concentrations reported below the CRDLs are qualified by a closed brackets([]) symbol.

3.1.3 Data Assessment

Data assessment protocols discussed in this subsection will be applied to the Sheridan analytical database in the contamination assessment section of the Final RI Report.

To establish which detected compounds are site contaminants, the broad spectrum CLP data are compared to background concentrations, published guidelines, and/or published standards established by NYSDEC and USEPA. The specific steps used to compare and evaluate the laboratory results are described in the following paragraphs.

For soil samples:

(1) Organic chemicals detected in soils were considered site contaminants unless they could be attributed to laboratory or sampling contamination (see Validation Memoranda, Appendix B), or represented background concentrations.

(2) Inorganic concentrations detected were compared to site background samples, where available, and the New York regional background soil concentrations presented in Table 3-3 (McGovern, no date). An inorganic was considered a site contaminant if the concentration exceeded site background samples or the New York regional ranges.

The NYSDEC Wildlife Resources Center data presented on Table 3-3 were

collected in New York State and compiled by McGovern to establish the New York regional ranges; they are considered appropriate by NYSDEC for use in the contamination assessment.

For the groundwater evaluation, the primary standards for comparison were New York State (NYS) Class GA groundwater standards, or, if a chemical had no associated Class GA standard, concentrations were compared to NYS Drinking Water Standards or federal Maximum Contaminant Levels (MCLs):

(1) Concentrations of organics and inorganics detected in groundwater were compared to background concentrations detected in upgradient wells and to NYS and federal standards presented on Table 3-4.

(2) If the reported concentrations exceeded the appropriate standard, it was compared to background concentrations to establish if the contaminant was site-related.

(3) If the concentration of a chemical did not exceed the appropriate standard but was greater than site background concentrations, it was considered a site contaminant.

(4) If no appropriate standards existed for a chemical, the concentration was compared to background concentrations to establish if it was a site contaminant.

Many inorganic water quality standards in New York State are based on the hardness measurement in aqueous media. Hardness (as milligrams per liter [mg/L] of calcium carbonate [$CaCo_3$]) of groundwater samples was computed from the TCL inorganic laboratory analytical results by the following equation (Hem, 1989; Standard Methods, 1989):

$$HARDNESS[mgCaCO^3/L] = 2.497[Ca,mg/L] + 4.118[Mg,mg/L]$$

The hardness results are summarized with other water quality data in Table 3-1 and are tabulated in Appendix B-1.

3.2 FIELD PROGRAM TECHNICAL APPROACH

This subsection discusses the on-site field investigation activities completed at Sheridan by ABB-ES personnel from July through November of 1992. All activities were performed in accordance with the requirements in the NYSDEC-approved project plans (ABB-ES, 1992a,b,c), and included a residential well survey, geophysical and soil gas surveys, surface soil sampling, soil boring and monitoring well installation and sampling, aquifer testing techniques, and an exploration location/elevation survey.

3.2.1 Residential Well Survey

A door-to-door residential well usage survey was conducted in the projected plume area during the field program in August 1992. A total of 160 private

residences and the management of a cluster housing development (La Bonne Vie II) were included in the survey. Except for four residences on Eileen Court, drinking water within the survey area is provided by the local public utility, SCWA. Other residences within the study area still use their wells for non-drinking purposes (e.g., watering lawns and washing cars). All residential wells confirmed to still be in use (approximately 10 in all) were reported by NYSDEC to SCDHS in September 1992.

Three active residential wells near the site on Eileen Court and one residential well (not used for drinking water) on Hanover Place were sampled for the TCL and TAL analytes during the first round of groundwater sampling in October 1992. The residential well survey sheets are presented in Appendix A; the results of laboratory analysis for the residential wells are presented in Appendix B.

3.2.2 Geophysical Surveys

Magnetometry. Before any invasive (drilling) activities where the waste oil facility was originally located, a magnetometer survey was conducted to "sweep" the shallow subsurface area. Magnetometers measure the intensity of the earth's magnetic field; buried ferrous objects can cause variations in the field which are detected by the magnetic gradiometer. The purpose of the survey was to identify the locations of any underground oil storage tanks not removed when the waste oil facility was closed.

Magnetometer survey instruments are fully portable and self-contained. The EDA Omni Plus vertical gradiometer consists of a pair of total field magnetic

sensors mounted on a survey pole, which measure magnetic field strength. Simultaneous readings from each sensor when the survey pole is held vertically provides the gradient value by calculating the difference in field strength between the sensors. The unit is equipped with a portable data-logging device that records discrete gradient and total field strength readings; data readings stored in the data logger are downloaded to a personal computer daily or at the conclusion of fieldwork for processing and evaluation. The survey results are presented in Appendix A as a vertical gradient contour anomaly map annotated with the interpretation of any metallic anomalies (e.g., potential underground tanks). Most magnetic anomalies on the map are due to magnetic interference caused by the presence of several large tractor trailers that were later moved from the site.

The magnetometer survey data was collected at grid nodes that were field-flagged at 20-foot spacings by the geophysical survey crew. The area covered by the geophysical survey was approximately 2 acres of the 3.7-acre site, concentrating in a target area where historical records show that structures and tanks were originally located. The magnetometer survey results suggested that no underground tanks or structures were present at the site that would pose a danger to the drilling crews.

Ground-Penetrating Radar. To supplement the magnetometer survey data, a ground-penetrating radar unit was used to survey two areas where slight magnetic anomalies were detected, and other areas where large metal storage trailers caused magnetic interference during the magnetometer survey (metallic objects do not interfere with ground-penetrating radar data).

Ground-penetrating radar uses electromagnetic waves in the frequency range of 80 to 1,000 megahertz to define subsurface stratigraphy. Electromagnetic energy is radiated downward into the subsurface from an antenna pulled slowly across the ground by hand. Radio wave energy is reflected from surfaces where there is a contrast in the electrical properties of subsurface materials (e.g., buried underground utilities or storage tanks). The data is processed and displayed as a continuous strip chart recording of distance versus time, where time is approximately proportional to depth. The ground-penetrating radar data confirmed that no underground tanks were in the surveyed area.

3.2.3 Soil Gas Survey

Following the geophysical survey "sweep" of the site, a soil gas survey was conducted, covering an area of approximately 80,000 square feet, or 1.8 acres. Analysis of soil gas drawn from pore spaces in the sandy vadose (unsaturated) zone provided data to better define the distribution of subsurface contamination in the area formerly occupied by the waste oil facility. A total of 179 soil gas samples were collected and analyzed from the sampling points shown in Figure 3-1.

To collect the soil gas samples systematically, a 20-by-25-foot grid was field-flagged by the soil gas survey crew, oriented on the north-south traverse lines used by the geophysical crew, and a TerraProbe hydraulic unit was used to drive 1-inch outside diameter (OD) hollow-stem probes into the vadose zone sand to approximately 5 feet bgs. The probe depth was kept constant throughout the survey. To obtain a sample once the probe was in place, a Teflon™ tube

connected to a suction pump was attached to the probe, and the probe was pulled up 1 or 2 inches. The pump then drew a sample of soil gas vapor into the tube, where it was withdrawn from the tube using a syringe. Each syringe was capped, labeled, and given to the TerraProbe GC operator for analysis of the target VOCs discussed in Subsection 3.1.1. The GC analytical results for soil gas are presented in Appendix B and summarized in Table 3-5.

3.2.4 Surface Soil Sampling

In response to concerns from the New York Department of Health (NYDOH) (letter communication, 1992) and NYSDEC TAGM HWR-92-4046 (NYSDEC, 1992d), surface soil samples were obtained from the yard area surrounding the original Sheridan Waste Oil Co. office and garage at 114 Peconic Avenue. This building is currently a three-unit rental property surrounded by lawn.

Five samples were obtained from locations on the lawn near the building shown in Figure 3-2. Samples SS-1 through SS-5 were collected with clean spatulas and bulb planters from depths ranging from 0.3 to 1 foot bgs. Field personnel noted that the shallow soils sampled were black with strong "kerosene-type" odor. The surface soil sampling records are in Appendix A.

Samples SS-1 through SS-5 were screened with the on-site GC for selected organics and four samples, SS-1 through SS-4, were shipped off-site for laboratory analysis of selected TCL organics and TAL metals (see Subsection 3.1.1). GC screening results for surface soil are presented in Table 3-5. The laboratory analytical results for surface soil are presented in Appendix B and summarized in

3.2.5 Soil Borings

Ten soil borings, SB-1 through SB-10, were drilled and sampled on-site to characterize the depth of cover fill (if any), the nature and distribution of contamination in the soils beneath the site, and the vadose zone geology. The soil borings were drilled using 4.25-inch inside diameter (ID) hollow-stem augers (HSAs). Split-spoon samples were obtained continuously (at 2-foot intervals, using a 2-foot-long sampling tool) from ground surface to the water table. The borings were terminated when the recovered samples were water-saturated (indicating that the water table had been reached); final depths of the soil borings on-site ranged from 32 to 38 feet bgs (a summary of subsurface exploration termination depths and elevations above or below MSL is shown in Table 3-6). Each soil boring was backfilled with cement-bentonite grout by pumping the grout into the annular space under pressure using a tremie pipe placed at the bottom of the borehole. The soil reference samples were placed in soil jars and used to complete descriptions and Unified Soil Classification System classifications, which were recorded on the soil boring logs in Appendix A. The soil boring locations are shown in Figure 3-2.

In accordance with the WP (ABB-ES, 1992), every other split-spoon sample was screened with the on-site GC for selected organics. The GC screening results for subsurface soil samples are summarized in Table 3-5. Three samples from each soil boring were obtained in accordance with the site-specific QAPP (ABB-ES, 1992) and shipped off-site to NEI for laboratory analysis of selected TCL organics and TAL metals. In addition, analysis for TCLP parameters was requested for selected samples from six of the borings and TOC analysis was requested for

three soil boring samples. The laboratory analytical results are presented in Appendix B and summarized in Table 3-7.

3.2.6 Monitoring Well Borings and Installation

Nineteen new monitoring wells were installed in 1992 as part of the RI field program. The well locations were based on site walkover visits in 1990 and 1992, an assessment of previous site-related reports and files, the historically interpreted groundwater flow direction and local geology, available physical access to locations by drilling rigs and equipment, results of the geophysical surveys, and GC screening data from the soil gas and soil boring sampling events. Four wells, MW-1, MW-2A, MW-2B, and MW-3, are located upgradient of the site and seven wells, MW-4A, MW-4B, MW-5A, MW-5B, MW-6, MW-7A, and MW-7B, are located on-site (see Figure 3-2). Eight wells, MW-8 through MW-14, and MW-17, are located downgradient of the site within the study area and are shown in Figure 3-3. The boring depths and elevations, well installation details, and boring location coordinates are recorded in Table 3-8.

An additional two borings, SB-15, and SB-16, located downgradient of the site within the study area, were drilled and sampled using the screened auger technique described in the following paragraphs. Groundwater samples obtained from these borings were screened with the on-site GC; however, monitoring wells were not installed in these borings. The boring locations are shown in Figure 3-3; boring depths and elevations are listed in Table 3-8. The new wells were installed for several purposes:

- to obtain analytical and geologic samples of the underlying subsurface soil unit(s);

- to relate direct contributions from contaminated soils in the vadose zone (that may have been related to oil spills) to the saturated soils directly beneath the site;

- to identify probable site contributions to groundwater contamination in the study area downgradient of the site;

- to calculate vertical hydraulic gradients in the saturated zone beneath the site using data from four sets of paired wells; and

- to estimate the hydraulic conductivity of the upper aquifer in the study area.

In addition, the upgradient monitoring wells were installed to identify contributions of non-site-related contaminants, if any, from off-site.

The monitoring well borings were drilled using the screened auger method described in the WP (ABB-ES, 1992). This method uses a drill string of 4.25-inch ID HSAs in which the lead (bottom) auger is modified by the addition of stainless steel well screen welded over cutouts in the auger wall so that groundwater can pass into the auger. A Teflon bottom plug is fitted into the end of the auger to prevent soil from entering. Each boring (except for the shallow member of each set of paired wells) was advanced to the water table, then groundwater samples

were obtained through the screened auger at 10-foot intervals as the borehole was advanced to the termination depth.

The screened auger samples were collected with a submersible pump following a purge of three auger volumes. To reduce the volume of purge water and improve efficiency, a packer system was used within the auger annulus. To collect a groundwater sample, the packer system was set and inflated in the annulus above the lead auger, then the purge and sample volumes were pumped from the annulus below the packer.

The on-site GC laboratory was used to analyze the screened auger samples for selected organics (see Subsection 3.1.1). For confirmation of GC sample results, screened auger split samples (at a frequency of 5 percent, or 1 in 20) were shipped off-site to NEI for laboratory analysis of TCL VOCs. The analytical results for the groundwater GC screening and laboratory confirmation samples are presented in Appendix B and summarized in Table 3-9.

Using the GC screening results and the reported results of a previous investigation conducted by SCDHS for criteria, ABB-ES personnel and the NYSDEC project manager on-site established the well screen depths of the new monitoring wells. Each well installation began within 24 hours of boring completion. All new wells were constructed of 2-inch ID Schedule 5 flush-joint stainless steel with 10-foot-long wire-wrapped screens that have 0.010-inch slot openings. Before installation, the auger string was withdrawn to the desired well depth and the Teflon bottom plug was knocked out. In all cases, the well screen and riser materials were steam-cleaned prior to installation through the auger

annulus. Sandpack filter material of clean, graded silica sand was placed around each well screen, extending a minimum of 2 feet above the top of the screen. A minimum 3-foot thick bentonite seal was placed above the sandpack. A bentonite slurry seal was used in place of a pellet seal if the seal depth exceeded 45 feet bgs. When bentonite slurry was used, it was tremied into the borehole with a side delivery port to avoid disturbing the sandpack. Portland cement/bentonite grout (mixed at a ratio of 95:5) was used to backfill the annulus of the borehole from the water table to within 3 feet of the ground surface. After the grout had stabilized for a minimum of 24 hours, locking, flush-mounted road boxes (protective casings) were installed at ground surface to protect the well riser pipes. The protective casings prevent the entry of water, but not air; all padlocks used to lock the casings were keyed alike. Following installation, each monitoring well was developed by the drilling contractor, until the return was clear, using a pump-and-surge method to establish hydraulic connection with the formation. Well installation logs for the new monitoring wells are presented in Appendix A.

3.2.7 Groundwater Sampling

Two rounds of groundwater samples were collected in October and November of 1992, respectively, from the 19 new monitoring wells. Samples were also collected from four residential wells during the first round. The sampling locations are shown in Figures 3-2 and 3-3, respectively. The new monitoring wells were allowed to equilibrate with no disturbance for more than three weeks before each sampling round.

Monitoring well samples were collected using submersible pumps and bailers in accordance with the site-specific WP and QAPP (ABB-ES, 1992). The residential wells were sampled from available taps at each home, upstream of any in-line residential water treatment systems such as water softeners. Groundwater samples from each sampling round were sent off-site to NEI for laboratory analysis for selected TCL organics, TAL metals, COD, TDS, TSS, and total alkalinity (see Subsection 3.1.1). In addition, as they were collected, all aqueous samples were field-screened for water quality parameters: temperature, pH, DO, and specific conductance. These values, recorded on field sample data record sheets, are summarized in Table 3-1. The groundwater field sample data record sheets are presented in Appendix B; the groundwater analytical results are also presented in Appendix B and summarized in Table 3-10.

3.2.8 Hydraulic Conductivity Testing

In October 1992, following completion of the first groundwater sampling round, rising-head tests were conducted on each of the newly installed monitoring wells to estimate the hydraulic conductivity of the aquifer. Two techniques, physical displacement and air displacement, were used to depress the water level in each well (to stress the aquifer during testing). The physical displacement technique used a slug made from a 10-foot-long section of Schedule 40, polyvinyl chloride pipe with a 1.3-inch OD. The slug was filled with deionized water for weight. Pressurized breathing air was used with a pressure valve apparatus for the air displacement method. The aquifer response was measured using a 10 pounds per square inch pressure transducer and a Hermit™ Model 1000 data logger and software. The test procedure is discussed in detail in Subsection 4.2.

Hydraulic conductivity test data were analyzed using the Bouwer and Rice analytical model (1976) module of an AQTESOLV™ software package (Geraghty & Miller, 1990). Test results are consistent with published values and indicate highly permeable soils. Test results are discussed in detail in Subsection 4.2; the raw test data and plots of the aquifer response with time are presented in Appendix A.

3.2.9 Elevation Survey

The locations of the monitoring wells and test borings were surveyed by Lockwood, Kessler, and Bartlett, Inc. Nineteen monitoring wells and 12 soil borings were located by ground survey traversing, or by offsets therefrom. The horizontal positions were established to the nearest 1.0 foot, based on the New York State Plane Coordinate System, Long Island Zone. The original controls were Suffolk County monuments: (1) 2-779 and 2-780 (an intervisible pair), and (2) 2-750 (a single monument), for which State Plane coordinate values are published. Two closed traverses were run from these monuments.

Elevations (vertical positions) of the same monitoring wells and borings were obtained by spirit leveling from the same Suffolk County monuments, for which published MSL (NGVD, 1929) values were used. The positions were established to the nearest 0.1 foot at the natural ground surface. Two additional vertical positions, (1) the top of the uncapped well riser, and (2) the rim of the protective casing, were established to the nearest 0.01 foot for each new monitoring well.

The surveyed horizontal and vertical positions of the Sheridan RI explorations are

listed on Table 3-8. The mapping data have been incorporated with U.S. Geological Survey (USGS) data to create a base for the site map figures. In addition, the exploration elevations for the monitoring wells were used to convert the measured water level depths to water table elevations. These data are presented on Table 3-11 and were used to evaluate the groundwater flow regime discussed in Subsection 4.2.

4.0 HYDROGEOLOGY

The regional hydrogeologic regime is discussed in Subsection 4.1; local hydrogeology within the Sheridan study area, including calculated hydraulic conductivity values (K) and a seepage rate, are discussed in Subsection 4.2.

4.1 REGIONAL HYDROGEOLOGY

Groundwater is the sole source of water for public water supplies, agriculture, and industry in Suffolk County. Three major aquifers are in the central part of Suffolk County: the Lloyd, the Magothy, and the Upper Glacial aquifers (see Figure 2-3 for the relative locations of these formations). The Lloyd aquifer is confined between bedrock and the Raritan Clay Formation and ranges in thickness from 50 feet along the north shore of Long Island to approximately 550 feet beneath Fire Island off the south shore. Pumping from the Lloyd aquifer for public water supplies is minimal in Suffolk County (Soren and Simmons, 1987).

The Magothy aquifer is the thickest hydrogeologic unit in Suffolk County, ranging in thickness from 430 to 900 feet (McClymonds and Franke, 1972). The aquifer is generally unconfined near the top and becomes confined with depth because of interbedded lenses of clay. Along the south shore of Suffolk County, the top of the Magothy aquifer is confined by the Gardiners Clay; however, this unit does not extend as far north as the Sheridan site. The Magothy aquifer is the most widely used for public water supply (Soren and Simmons, 1987). Average K values in the Magothy aquifer range from 48 to 56 feet per day (McClymonds and Franke, 1972).

The Upper Glacial aquifer is unconfined and generally marked by highly permeable outwash deposits. Some clayey beds exist in the Upper Glacial aquifer in central Suffolk County; however, they are not continuous or laterally extensive. The thickness of the Upper Glacial aquifer ranges from 100 to 500 feet and its estimated average hydraulic conductivity ranges from 130 to 270 feet per day (McClymonds and Franke, 1972). Eckhardt and Wexler (1986) report that a hydraulic conductivity of 220 feet per day was calculated from a pumping test in the vicinity of the Horse Block Road sanitary landfill in the Town of Brookhaven, approximately 3 miles southeast of the Sheridan site. The ratio of horizontal to vertical hydraulic conductivity in the Upper Glacial aquifer is reported to range from 5:1 to 24:1 (Eckhardt and Wexler, 1986).

A groundwater divide, located subparallel to the east-west axis of the island, separates the flow direction of groundwater on Long Island into northern and southern components. Groundwater north of the divide eventually discharges into Long Island Sound; groundwater south of the divide flows into the Atlantic Ocean south of the island. The Sheridan site is located south of the divide. The hydraulic gradient in the Magothy aquifer in the proximity of the site is approximately 0.001 feet per foot (ft/ft) in a south-southeasterly direction.

Groundwater movement in the Upper Glacial aquifer can be influenced by rivers and other surface drainage systems (see Figure 2-1). Groundwater movement in the Upper Glacial aquifer in proximity of the site is indicated by a hydraulic gradient of 0.0013 ft/ft in a south-southeasterly direction.

Four SCWA well fields are located within 3 miles of the Sheridan site. The

downgradient well field nearest the site is the Maple Avenue well field, located approximately 6,000 feet to the southwest. There are two wells at the Maple Avenue location (SCWA Well Nos. S-71785 and S-82422). SCWA well S-71785 is screened from 294 to 358 feet bgs in the Magothy aquifer. SCWA well S-82422 has reportedly been abandoned because of the detection of chlorobenzene.

Precipitation is the primary recharge mechanism for groundwater in Suffolk County. Miller and Frederick (1969) estimate mean annual precipitation for the Medford area to be 45 inches per year. The New York Water Resources Commission (1968) estimates that 50 percent of available precipitation, or 22.5 inches per year, infiltrates to the upper aquifer. The remaining portion is recirculated via evapotranspiration, surface runoff, and precipitation that falls directly on surface water bodies. Recharge from precipitation is augmented by infiltration basins designed to capture precipitation and surface runoff. Infiltration basins are generally unlined excavations in the vadose zone over the Upper Glacial aquifer that allow precipitation to be captured and percolate to the water table. The bulk of the recharge is expected to occur from late fall through early spring, when the rate of evapotranspiration is at a minimum.

4.2 SITE HYDROGEOLOGY

Hydrogeology within the study area has been characterized by the 21 soil borings and the 19 monitoring wells installed and sampled as part of the 1992 RI field program. Boring logs, water table elevation measurements, and in situ hydraulic conductivity testing provided the data used in this evaluation.

The site is located in a light industrial neighborhood on Peconic Avenue and is currently not paved. Sandy overburden soils allow rainfall and melting snow to directly infiltrate site soils. During periods of heavy rain in August and September of 1992, ephemeral pools of standing water were observed for short durations, but runoff was not observed. In the suburban neighborhood south of the Sheridan site, pavement accounts for approximately 20 percent of the total ground surface. Pavement runoff is channeled through storm drains that eventually discharge to infiltration basins (shown in Figure 2-2) where the water recharges the aquifer. Groundwater may temporarily mound beneath the infiltration basins during periods of heavy rainfall.

The depth to groundwater ranges from 22 to 43 feet bgs due to topographic variation within the study area. The maximum actual difference in water level elevations (see Table 3-11) within the study area is 10.8 feet, which occurs between MW-1, located on the upgradient side of the site, and MW-14, located approximately 6,000 feet downgradient (south) of the site (Figure 3-3). The horizontal hydraulic gradient across the study area is 0.0018 ft/ft. The vertical hydraulic gradient, which is established by differences in water levels in well pairs screened at different depths, is not pronounced. Three on-site well pairs, MW-4A and MW-4B, MW-5A and MW-5B, and MW-7A and MW-7B, show a downward vertical gradient less than 0.002 ft/ft. MW-2A and MW-2B, situated upgradient of the site and approximately 10 feet apart along the line of groundwater flow, show a slight upward vertical gradient of 0.00074 ft/ft. The slight variation observed in the vertical hydraulic gradient between them is likely to be caused by the horizontal hydraulic gradient. Based on water level elevations from the existing monitoring wells and four nearby USGS wells, the groundwater flow

direction at the site appears to be to the south as shown in Figure 3-3.

Rising-head tests, using physical and air displacement methods to evaluate the hydraulic conductivity of the aquifer, were conducted on each new monitoring well in the study area. Some test data results were unsuitable for analysis using conventional analytical methods. The data for all of the tests conducted using air displacement, and some of the tests using physical displacement, showed significant harmonic oscillations throughout the data. Harmonic oscillations are a result of inertial forces due to rapid acceleration of the water column in the well during recovery (Bredehoeft et al, 1966) and are common in wells screened in highly permeable formations.

Pandit and Miner (1986) suggest that test results may be jeopardized if the steady portion of the response curve does not begin within 10 percent of the time that is equired to dissipate 80 percent of the initial excess head. Using this criterion, many test results that showed oscillations were excluded from evaluation. The results of evaluation of selected physical displacement tests are presented in Table 4-1. For these tests, K values range from 5.6×10^{-2} centimeters per second (cm/sec) to 1.4×10^{-1} cm/sec, with an arithmetic mean of $K = 8.4 \times 10^{-2}$ cm/sec or 238 feet per day (ft/day). These values are consistent with the values reported by McClymonds and Franke (1972) and Eckhardt and Wexler (1986).

Using the mean K value of 238 ft/day, the calculated horizontal hydraulic gradient (I_h) of 0.0018 ft/ft, and assuming an effective porosity (n_e) of 0.3 (McClymonds and Franke, 1972), the seepage rate (v) for groundwater was calculated by the following relationship:

$$v = \frac{K \times I_h}{n_e}$$

Using this calculation, the average seepage rate in the study area is estimated to be 1.42 feet per day, or 521 feet per year. Based on this rate, groundwater flowing beneath the Sheridan facility during the period from 1977 to 1982 could have traveled between 7,814 and 5,210 feet by 1992.

ABB	ABB Environmental Services
ASP	Analytical Services Protocols
bgs	below ground surface
BETX	benzene, ethylbenzene, toluene, and xylene
CLP	Contract Laboratory Program
cm/sec	centimeters per second
COD	chemical oxygen demand
CPCs	contaminants of potential concern
CRDLs	Contract Required Detection Limits
CRQLs	Contract Required Quantitation Limits
DCA	dichloroethane
DCE	dichloroethene
DO	dissolved oxygen
DQO	data quality objective
F	Fahrenheit
FS	Feasibility Study
ft/day	feet per day
ft/ft	feet per foot
GC	gas chromatograph(y)
HASP	Health and Safety Plan
HSA	hollow-stem auger
HWR	Hazardous Waste Remediation
ID	inside diameter
IDLs	Instrument Detection Limits
IR	infrared
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MSL	mean sea level
µg/kg	micrograms per kilogram
µg/L	micrograms per liter

NEI	Nytest Environmental, Inc.
ng/L	nanograms per liter
NSSC	New York Superfund Standby Contract
NYDOH	New York Department of Health
NYS	New York State
NYSDEC	New York Department of Environmental Conservation
OD	outside diameter
PARCC	precision, accuracy, representativeness, completeness, and comparability
PCE	perchloroethene (tetrachloroethene)
PID	photoionization detector
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
RI	Remedial Investigation
RLs	Reporting Limits
SCDHS	Suffolk County Department of Health Services
SCWA	Suffolk County Water Authority
Sheridan	Sheridan Waste Oil Co. Site
SOPs	Standard Operating Procedures
SQLs	Sample Quantitation Limits
SVOC	Semivolatile organic compound
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
TCA	trichloroethane
TCE	trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristics Leaching Procedure
TDS	total dissolved solids
TOC	total organic carbon
TPH	total petroleum hydrocarbons
TSS	total suspended solids
USEPA	U.S. Environmental Protection Agency

USGS	U.S. Geological Survey
VOC	volatile organic compound
WP	Remedial Investigation/Feasibility Study Work Plan

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FIGURE 2-1
SITE LOCATION MAP
SHERIDAN WASTE OIL CO. SITE

SOURCE: U.S.G.S. MAP BELLPORT, N.Y. DATED 1967

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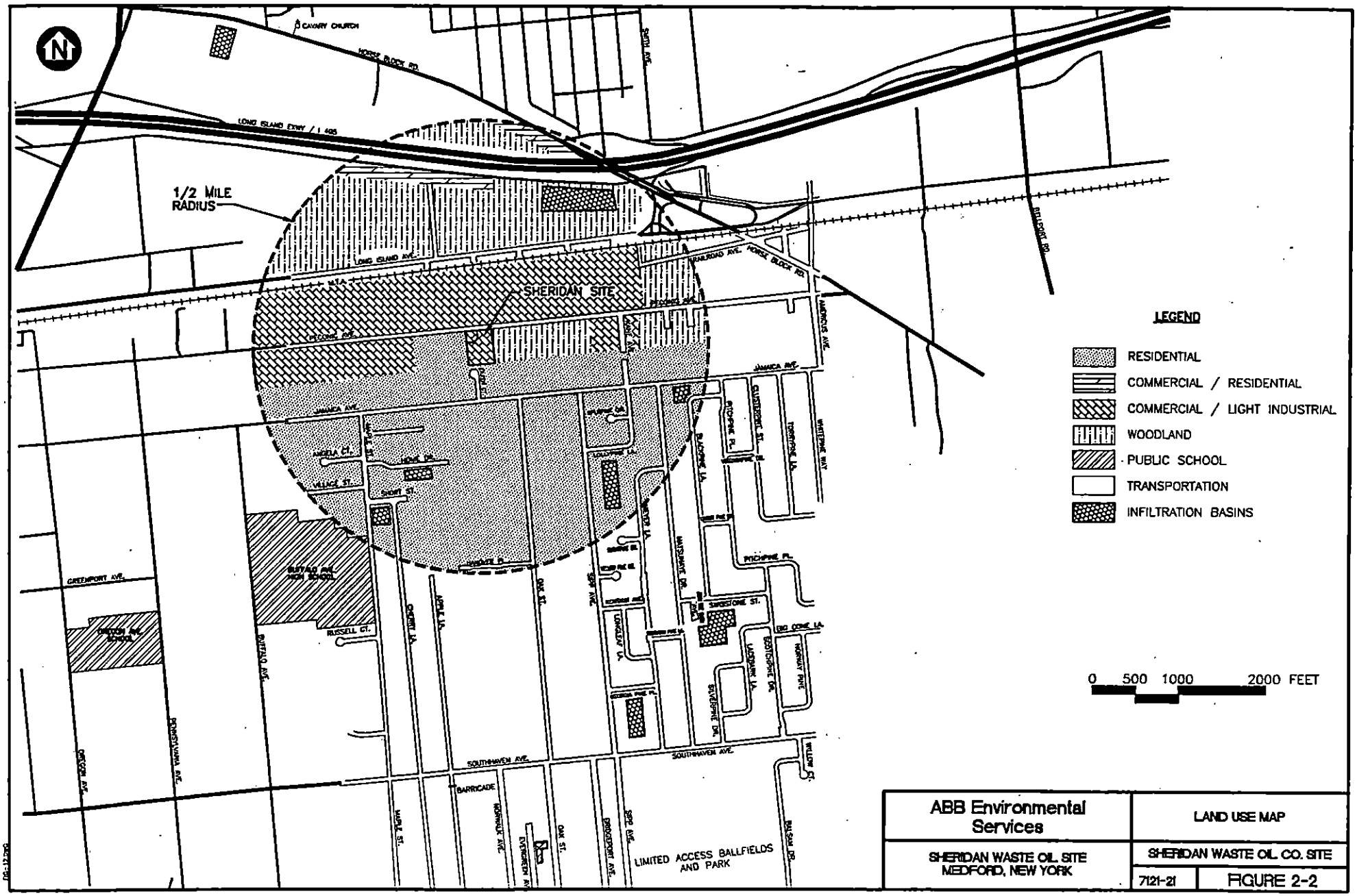

ABB Environmental Services	LAND USE MAP
SHERIDAN WASTE OIL SITE MEDFORD, NEW YORK	SHERIDAN WASTE OIL CO. SITE
	7121-21 FIGURE 2-2

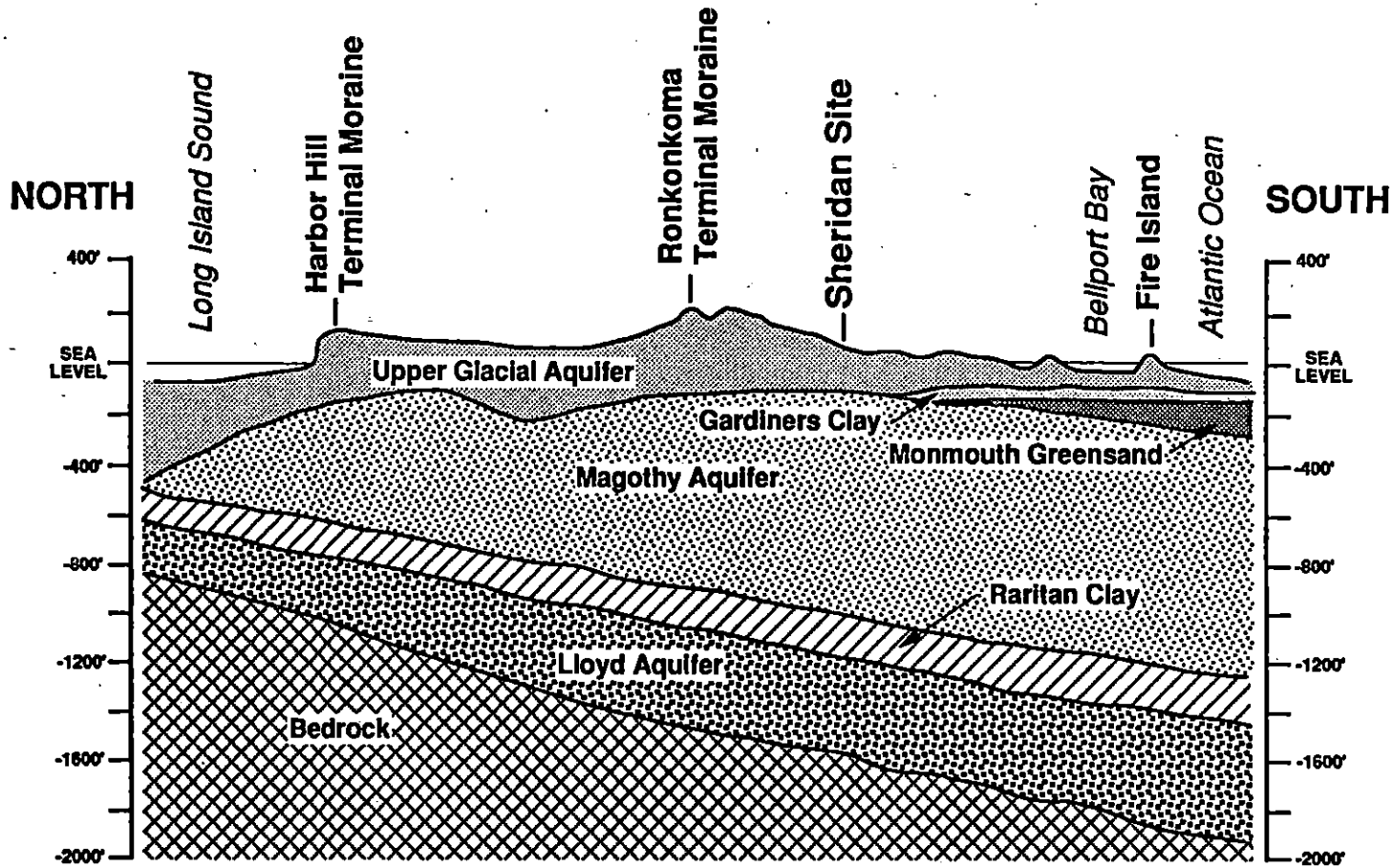

FIGURE 2-3
REGIONAL STRATIGRAPHY
SHERIDAN WASTE OIL CO. SITE

ABB Environmental Services

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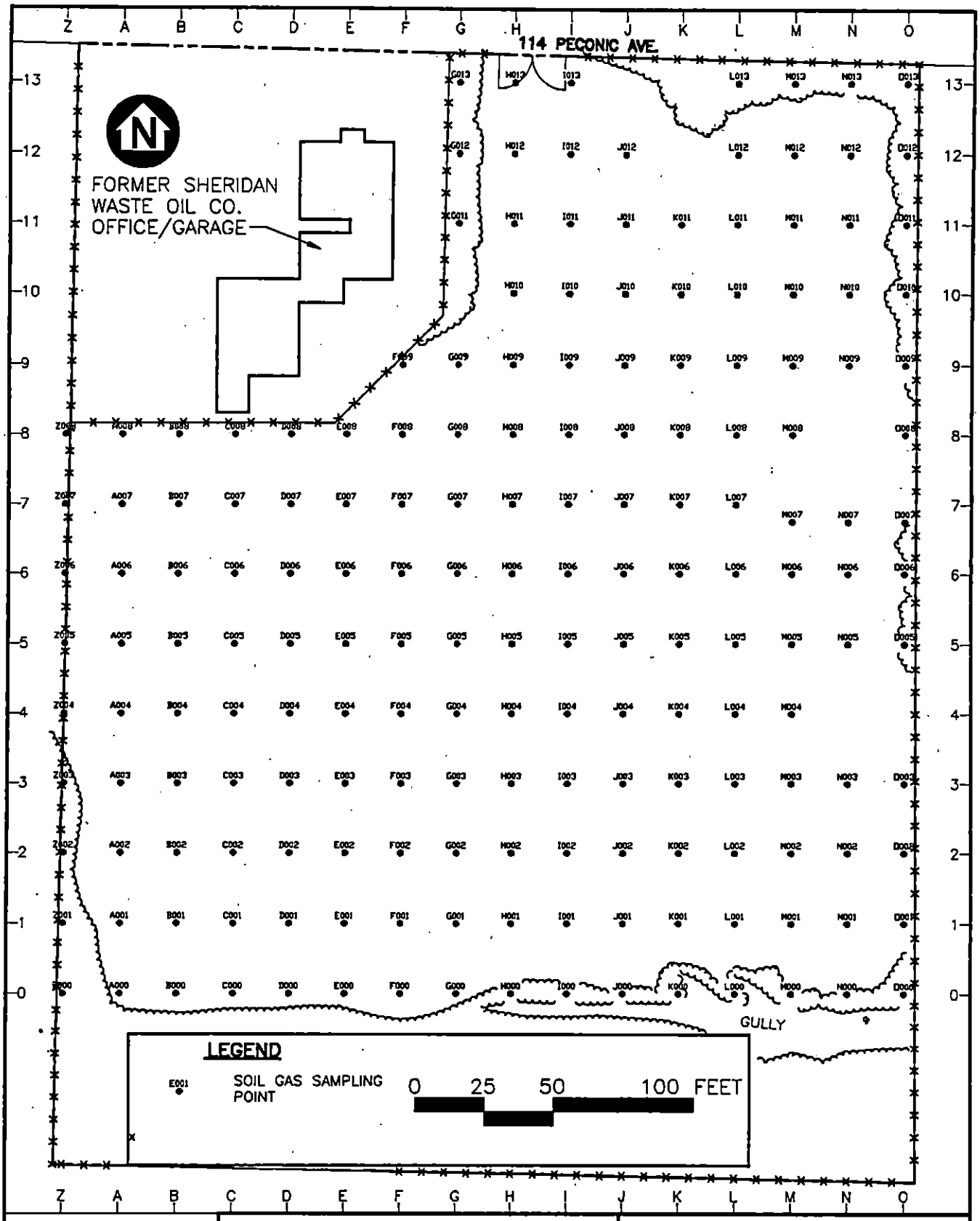


	ABB Environmental Services	SOIL GAS SURVEY AREA
	SHERIDAN WASTE OIL SITE MEDFORD, NEW YORK	SHERIDAN WASTE OIL CO. SITE
		7121-21 FIGURE 3-1

FIG3-1.DWG

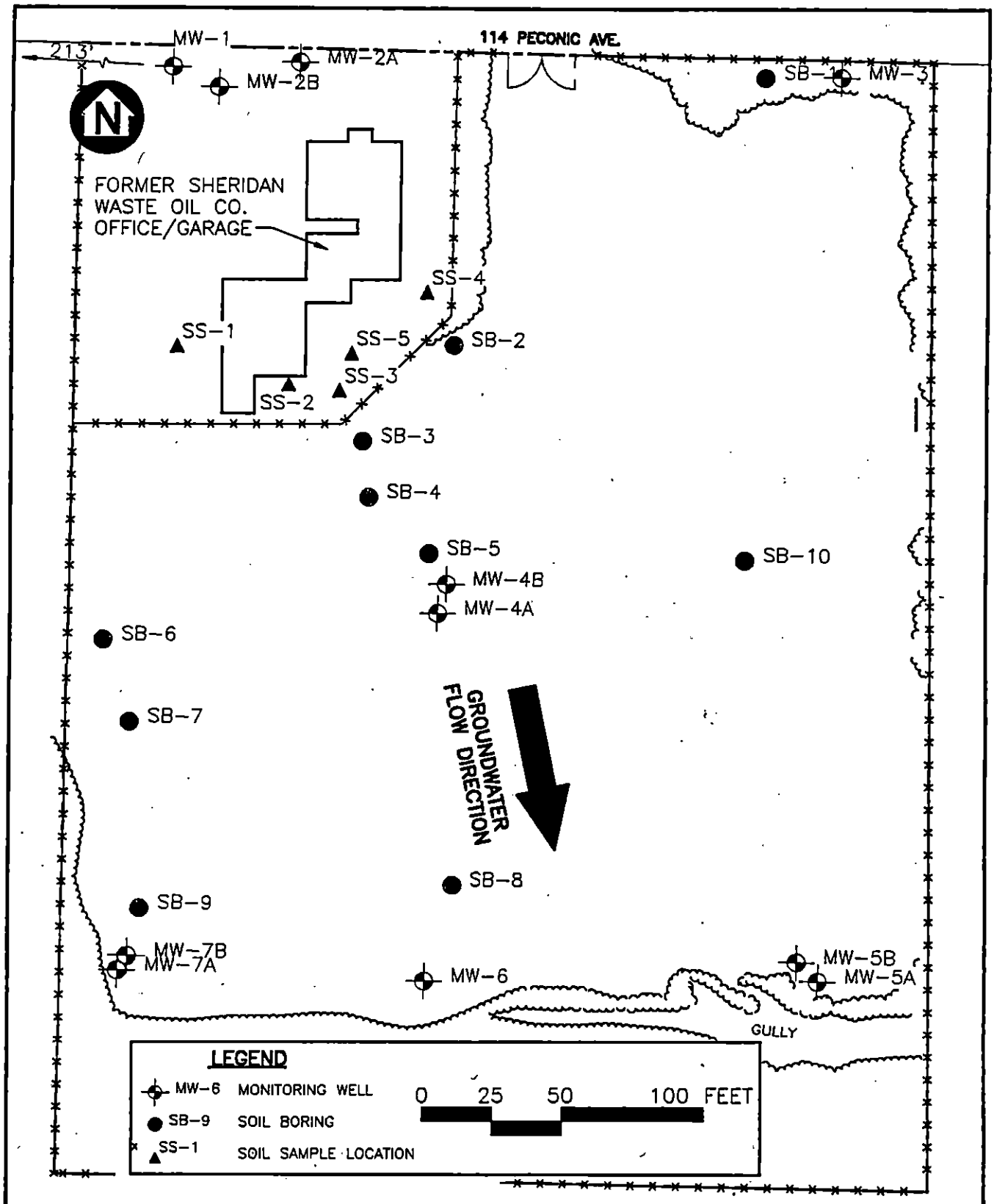
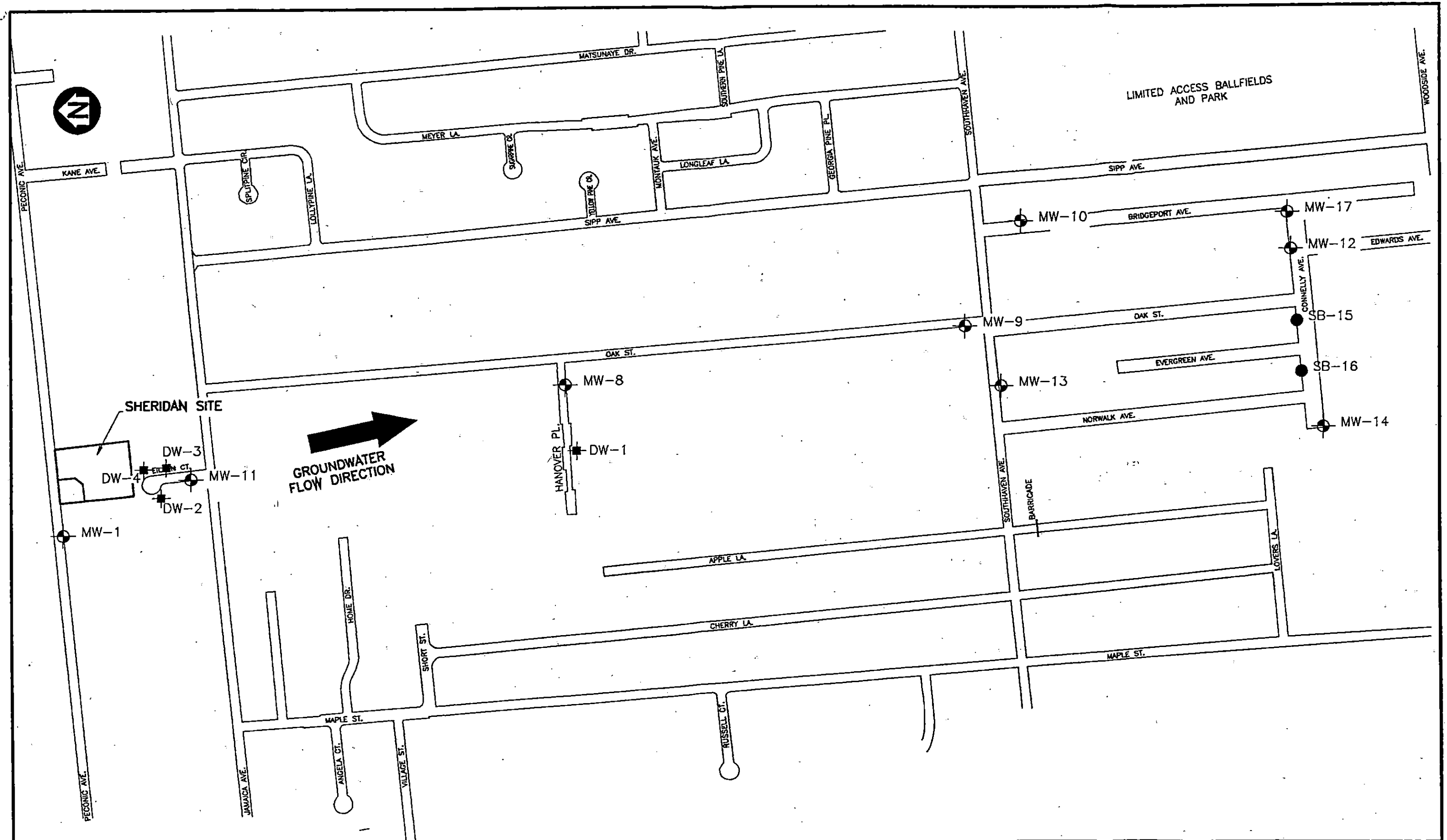


ABB Environmental Services	ON-SITE EXPLORATION LOCATION MAP
SHERIDAN WASTE OIL SITE MEDFORD, NEW YORK	SHERIDAN WASTE OIL CO. SITE
	7121-21 FIGURE 3-2

FIG3-2



0 250 500 1000 FEET

LEGEND

MONITORING WELL LOCATION AND NUMBER — MW-8

DOMESTIC WELL LOCATION AND NUMBER — DW-2

SOIL BORING LOCATION AND NUMBER — SB-16

ABB Environmental Services	STUDY AREA EXPLORATION LOCATION MAP
SHERIDAN WASTE OIL SITE MEDFORD, NEW YORK	SHERIDAN WASTE OIL CO. SITE
7121-21	FIGURE 3-3

TABLE 3–1
WATER QUALITY PARAMETERS

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

SAMPLE #	ROUND	TOTAL ALKALINITY mg/L	TEMP deg C	ACIDITY pH	SPECIFIC CONDUCTANCE umhos/cm	CHEMICAL OXYGEN DEMAND mg/L	TOTAL DISSOLVED SOLIDS mg/L	TOTAL SUSPENDED SOLIDS mg/L	TOTAL ORGANIC CARBON mg/L	DISSOLVED OXYGEN mg/L	CALCULATED HARDNESS (mg CaCO3/L)
GROUNDWATER											
MW–1	Round 1	5	12.5	5.2	101	--	65	5	NA	9.9	13.4
MW–1	Round 2	5	11	5.4	62	--	77	129	NA	10.6	15.0
MW–2A	Round 1	7	12.4	5.2	214	--	120	3	NA	8.9	30.4
MW–2A	Round 2	7	11.5	5.6	115	--	110	5	NA	9.3	27.1
MW–2B	Round 1	6	13.2	5.1	63	7	50	6	NA	7.1	16.9
MW–2B	Round 2	5	12	5.6	37	--	49	7	NA	7.7	--
MW–3	Round 1	7	12.9	5.4	220	16	144	18	NA	7.2	13.9
MW–3	Round 2	6	11.9	5.2	165	--	171	97	NA	7.5	47.9
MW–4A	Round 1	6	12.1	5.5	167	--	83	5	NA	8.5	38.6
MW–4A	Round 2	7	11.4	5.6	105	--	107	--	NA	8.5	32.5
MW–4B	Round 1	6	13	5.1	117	7	69	2	2.4	6.2	24.2
MW–4B	Round 2	8	12.1	5.3	73	--	88	4	1.1	6.3	27.7
MW–4B DUP	Round 1	6	13	5.1	117	7	66	--	1.5	6.2	23.6
MW–4B DUP	Round 2	7	12.1	5.3	73	--	87	3	2.7	6.3	25.3
MW–5A	Round 1	7	12	5.4	256	7	145	2	NA	9.4	22.9
MW–5A	Round 2	7	11.4	5.4	154	--	131	--	NA	9	21.2
MW–5B	Round 1	14	12.4	5.1	160	7	109	65	1.8	5.7	34.3
MW–5B	Round 2	8	11.9	5.3	104	--	116	34	1.8	5.8	30.8
MW–6	Round 1	6	11.6	5.6	180	21	89	2	NA	9.9	28.7
MW–6	Round 2	7	11.7	5.5	103	--	93	1	NA	9.5	25.9
MW–7A	Round 1	6	11.6	5.4	236	--	133	3	0.7	9.4	27.9
MW–7A	Round 2	8	11.4	5.5	148	--	128	1	NA	9	27.1
MW–7B	Round 1	34	11.8	5.6	312	16	211	14	NA	5	108.3
MW–7B	Round 2	30	12.2	5.6	163	--	167	26	NA	5.4	74.9
MW–8	Round 1	11	12.3	5.3	173	--	116	1	NA	7.7	35.0
MW–8	Round 2	11	11.8	5.3	102	--	99	--	NA	8.2	34.4
MW–9	Round 1	9	11.7	5.7	138	--	80	1	NA	9.8	33.4
MW–9	Round 2	9	11.3	5.8	87	--	87	3	NA	9.8	32.2
MW–10	Round 1	8	11.7	5.2	274	16	152	--	NA	9.3	42.6
MW–10	Round 2	9	11.5	5.4	170	--	148	--	NA	8.9	43.3
MW–11	Round 1	2	11.7	4.6	223	7	142	--	NA	7.2	35.7
MW–11	Round 2	1	11.4	4.8	141	--	142	--	NA	7.3	35.6
MW–12	Round 1	9	12.5	5.3	168	16	112	88	NA	9.9	32.2
MW–12	Round 2	3	12	5.8	110	--	106	69	NA	9.8	30.9
MW–13	Round 1	2	11.7	4.8	107	--	72	--	NA	10.6	25.8
MW–13	Round 2	3	11.6	5.3	67	--	68	118	NA	10.8	25.6
MW–14	Round 1	2	12.5	4.8	154	12	109	35	NA	10	33.6
MW–14	Round 2	3	12.1	5.2	108	--	103	38	NA	9.9	35.3

TABLE 3-1 (Cont.)
WATER QUALITY PARAMETERS

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

SAMPLE #	ROUND	TOTAL ALKALINITY mg/L	TEMP deg C	ACIDITY pH	SPECIFIC CONDUCTANCE umhos/cm	CHEMICAL OXYGEN DEMAND mg/L	TOTAL DISSOLVED SOLIDS mg/L	TOTAL SUSPENDED SOLIDS mg/L	TOTAL ORGANIC CARBON mg/L	DISSOLVED OXYGEN mg/L	CALCULATED HARDNESS (mg CaCO3/L)
GROUNDWATER											
MW-17	Round 1	2	13.3	5	154	7	100	35	NA	9.3	29.4
MW-17	Round 2	8	12.7	5.2	115	--	116	112	NA	8.7	30.7
DW-1	Round 1	7	14.0	6.1	18.8	7	99	3	NA	8.8	30.2
DW-1 DUP	Round 1	7	14.0	6.1	18.8	7	105	4	NA	8.8	30.7
DW-2	Round 1	10	12.8	6.0	16.3	--	96	1	NA	8.8	32.7
DW-3	Round 1	7	12.7	6.1	145	16	59	2	NA	9.9	14.3
DW-4	Round 1	13	19.0	5.8	298	7	193	--	NA	9.3	66.3

NOTES:

NA - Not Analyzed
-- - Not Detected

TABLE 3-2
SUMMARY OF ANALYTICAL PROGRAM

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

MEDIUM	METHOD	ANALYSIS	SAMPLING RATIONALE
Subsurface Soil	NYSDEC 91-1 NYSDEC 91-2 NYSDEC 91-3 ICP & AES Metals, CLP-M Total Organic Carbon, CE-81-1 TCLP Organics 8240/8270 TCLP Metals 6000/7000	TCL VOCs TCL SVOCs TCL Pest/PCB TCL Metals TOC TCLP VOCs/SVOCs TCLP Metals	Evaluate presence and distribution of contaminated soils in on-site subsurface soils.
Surface Soil	NYSDEC 91-1 NYSDEC 91-2 NYSDEC 91-3 ICP & AES Metals, CLP-M	TCL VOCs TCL SVOCs TCL Pest/PCB TCL Metals	Evaluate presence and distribution of contamination in the shallow soil interface between the on-site fill soils and the natural soil horizon in the area of the former office/garage.
Groundwater, Screened Augers	NYSDEC 91-1	TCL VOCs	Confirmational samples of VOCs in 5% of screened auger sampling.
Groundwater, Monitoring Wells	NYSDEC 91-1 NYSDEC 91-2 NYSDEC 91-3 ICP & AES Metals, CLP-M Chemical Oxygen Demand 410.2 Total Dissolved Solids 160.2 Total Suspended Solids 160.1 Total Organic Carbon 415.1 Total Alkalinity 310.1	TCL VOCs TCL SVOCs TCL Pest/PCBs TCL Metals COD TDS TSS TOC Total Alkanity	Evaluate presence and distribution of contamination in groundwater upgradient and downgradient of the site.
Groundwater, Domestic Wells	NYSDEC 91-1 NYSDEC 91-2 NYSDEC 91-3 ICP & AES Metals, CLP-M Chemical Oxygen Demand 410.2 Total Dissolved Solids 160.2 Total Suspended Solids 160.1 Total Alkalinity 310.1	TCL VOCs TCL SVOCs TCL Pest/PCBs TCL Metals COD TDS TSS Total Alkalinity	Evaluate presence and distribution of contamination in four (4) domestic wells downgradient of the site.
Potable (Drilling) water and DI water	NYSDEC 91-1 NYSDEC 91-2 NYSDEC 91-3 ICP & AES Metals, CLP-M	TCL VOCs TCL SVOCs TCL Pest/PCBs TCL Metals	Evaluate presence of contamination in potable water used for decontamination of drilling equipment and tools, and in DI water used for decontamination of sampling pumps and equipment.

TABLE 3–3
BACKGROUND SOIL CONCENTRATION RANGES

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	NEW YORK REGION* (mg/kg)
Aluminum	1,000 – 25,000
Arsenic	3 – 12
Barium	15 – 600
Beryllium	0 – 1.75
Cadmium	0.01 – 2
Calcium	130 – 35,000
Chromium	1.5 – 40
Cobalt	2.5 – 60
Copper	1 – 15
Iron	17,500 – 25,000
Lead	10 – 37
Magnesium	1,700 – 6,000
Manganese	50 – 5,000
Mercury	0.042 – 0.066
Nickel	0.5 – 25
Potassium	8,500 – 43,000
Selenium	<0.1 – 0.125
Silver	NA
Sodium	6,000 – 8,000
Vanadium	25 – 60
Zinc	37 – 60

NOTES:

* Concentrations obtained from "Background Concentrations of 20 Elements in Soils with Special Regard for New York State". (no date) Paper prepared by E.Carol McGovern, NYDEC Wildlife Resources Center.

NA – Not Available.

TABLE 3-4
GROUNDWATER STANDARDS AND GUIDANCE

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

Compound Type	NY STATE Groundwater Quality Class GA (ug/l)	NY STATE Drinking Water Supplies (ug/l)	FEDERAL MCL (ug/l)	FEDERAL MCLG (ug/l)	FEDERAL WQC Drink (ug/l)
VOLATILE ORGANIC COMPOUNDS					
1,1-Dichloroethane	5	5			
1,1,1-Trichloroethane	5	5	200	200	19000
1,1,2-Trichloroethane	5	5	(5)	(3)	0(0.6)
1,1,2,2-Tetrachloroethane	5	5			0(0.17)
1,2-Dichloroethene (total)	5	5	*	*	IND
1,2-Dichloroethane	5	5	5	0	0(0.94)
1,2-Dichloropropane	5	5	(5)	(0)	IND
2-Hexanone	50 G	50			
2-Butanone		50			
2-Chloroethylvinylether		5			
4-Methyl-2-Pentanone		50			
Acetone		50			
Benzene	ND	5	5	0	0(0.67)
Bromodichloromethane	50 GT	100 T	100 T		
Bromoform	50 GT	100 T	100 T		
Bromomethane		5			0(0.19)
Carbon Disulfide		50			
Carbon Tetrachloride	5	5	5	0	0(0.42 ng/l)
Chlorobenzene	5	5	(100)	(100)	488
Chloroethane		5			IND
Chloroform	100 T	100 T	100 T		0(0.19)
Chloromethane		5			0(0.19)
Cis-1,3-Dichloropropene	5	5			87
Dibromochloromethane	50 GT	100 T	100 T		0(0.19)
Ethylbenzene	5	5	(700)	(700)	2400
Methylene Chloride	5	5	(5)	(0)	0(0.19)
Styrene	5 $	50	(100)	(100)	
Tetrachloroethene	5	5	(5)	(0)	0(0.88)
Toluene	5	5	(1000)	(1000)	15000
Trans-1,3-Dichloropropene	5	5			87
Trichloroethene	5	5	5	0	0(2.8)
Vinyl Acetate		50			
Vinyl Chloride	2	2	2	0	0(2.0)
Xylenes (Total)	5	5	(10000)	(10000)	
SEMI-VOLATILE ORGANIC COMPOUNDS					
1,2,4-Trichlorobenzene	5	5	(9)	(9)	IND
1,3-Dichlorobenzene	5	5	(600)	(600)	470
1,4-Dichlorobenzene	4.7 P	5	75	75	470
2-Nitrophenol	+	50			
2-Chloronaphthalene	5	50			IND
2-Nitroaniline		5			
2-Methylnaphthalene		50			0(3.1 ng/l)
2-Chlorophenol	+	50			0.1(ol)

TABLE 3-4 (continued)
GROUNDWATER STANDARDS AND GUIDANCE

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

Compound Type	NY STATE Groundwater Quality Class GA (ug/l)	NY STATE Drinking Water Supplies (ug/l)	FEDERAL MCL (ug/l)	FEDERAL MCLG (ug/l)	FEDERAL WQC Drink (ug/l)
SEMI-VOLATILE ORGANIC COMPOUNDS (CONT.)					
2-Methylphenol	+	50			
2,4-Dimethylphenol	+	50			400(ol)
2,4-Dinitrophenol	+	50			70
2,4-Dichlorophenol	+	50			3090
2,4-Dinitrotoluene		5			0(0.11)
2,4,5-Trichlorophenol	+	50			2600
2,4,6-Trichlorophenol	+	50			0(1.8)
2,6-Dinitrotoluene	5	5			
3-Nitroaniline		5			
3,3-Dichlorobenzidine		50			470
4-Chlorophenyl-phenylether		5			
4-Bromophenyl-phenylether		5			
4-Nitrophenol	+	50			
4-Nitroaniline		5			
4-Methylphenol	+	50			
4-Chloro-3-Methylphenol	+	50			3000
4-Chloroaniline		5			
4,6-Dinitro-2-methylphenol	+	50			
Acenaphthene	20 G	50			0(3.1 ng/l)
Anthracene	50 G	50			0(3.1 ng/l)
Benzo(a)Anthracene	0.002 G	50			0(3.1 ng/l)
Benzo(a)Pyrene	ND	50	(0.2)	(0)	0(3.1 ng/l)
Benzo(b)Fluoranthene	0.002 G	50			0(3.1 ng/l)
Benzo(g,h,i,)perylene		50			0(3.1 ng/l)
Benzo(k)Fluoranthene	0.002 G	50			0(3.1 ng/l)
Benzoic acid		50			
Benzyl alcohol		50			
bis(2-Chloroethoxy)methane		50			
bis(2-Ethylhexyl)phthalate	50 $	50			
bis(2-Chloroisopropyl)ether		5			34.7
bis(2-Chloroethyl)ether	1	5			0(30 ng/l)
Butylbenzylphthalate	50 G	50			
Chrysene	0.002 G	50			0(3.1 ng/l)
Di-n-butylphthalate	50 $	50			44000
Di-n-octylphthalate	5	50			
Dibenz(a,h)anthracene		50			0(3.1 ng/l)
Dibenzofuran		50			
Diethylphthalate	50 G	50			434000
Dimethylphthalate	50 G	50			350000
Fluoranthene	50 G	50			188
Fluorene	50 G	50			0(2.8 ng/l)
Hexachlorobenzene	0.35	5	(1)	(0)	0(21 ng/l)
Hexachlorocyclopentadiene	5	5	(50)	(50)	206
Hexachloroethane		5			0(2.4)
Hexachlorobutadiene	5	5			0(0.45)
Indeno(1,2,3-cd)pyrene	0.002 G	50			0(3.1 ng/l)

TABLE 3-4 (continued)
GROUNDWATER STANDARDS AND GUIDANCE

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

Compound Type	NY STATE Groundwater Quality Class GA (ug/l)	NY STATE Drinking Water Supplies (ug/l)	FEDERAL MCL (ug/l)	FEDERAL MCLG (ug/l)	FEDERAL WQC Drink (ug/l)
SEMI-VOLATILE ORGANIC COMPOUNDS (CONT.)					
Isophorone	50 G	50			5200
N-Nitroso-di-n-propylamine		50			
N-Nitrosodiphenylamine	50 G	50			0(7.0)
Naphthalene	10 G	50			IND
Nitrobenzene	5	5			19800
Pentachlorophenol	+	50	(1)	(0)	200
Phenanthrene	50 G	50			0(3.1 ng/l)
Phenol	+	50			3500
Pyrene	50 G	50			0(3.1 ng/l)
PESTICIDE/PCB COMPOUNDS					
4,4'-DDE	ND				
4,4'-DDD	ND				
4,4'-DDT	ND				0(1.2 ng/l)
Aldrin ***	ND				
alpha-Chlordane	0.1		(2)	(0)	0(22 ng/l)
alpha-BHC	ND				0(73 ng/l)
Aroclor-1248	0.1				0(>12.6 ng/l)
Aroclor-1254	0.1				0(>12.6 ng/l)
Aroclor-1242	0.1				0(>12.6 ng/l)
Aroclor-1221	0.1				0(>12.6 ng/l)
Aroclor-1016	0.1				0(>12.6 ng/l)
Aroclor-1232	0.1				0(>12.6 ng/l)
Aroclor-1260	0.1				0(>12.6 ng/l)
beta-BHC	ND				0(23.3 ng/l)
delta-BHC	ND				IND
Dieldrin ***	ND				0(1.1 ng/l)
Endosulfan I					138
Endosulfan II					
Endosulfan sulfate					
Endrin Aldehyde					
Endrin ketone					
Endrin	ND	0.0002	0.2		1
gamma-Chlordane	0.1		(2)	(0)	0(22 ng/l)
gamma-BHC (Lindane)	ND	4	4	(0.2)	0(17.4 ng/l)
Heptachlor	ND		(0.4)	(0)	0(11 ng/l)
Heptachlor epoxide	ND		(0.2)	(0)	
Methoxychlor	35	50	0.04	0.04	
Toxaphene	ND	50	0	(0.005)	0(26 ng.l)
INORGANIC COMPOUNDS					
Aluminum					
Antimony	3 G		(10/5)	(3)	
Arsenic	25	50	50		0.0022

TABLE 3-4 (continued)
GROUNDWATER STANDARDS AND GUIDANCE

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

Compound Type	NY STATE Groundwater Quality Class GA (ug/l)	NY STATE Drinking Water Supplies (ug/l)	FEDERAL MCL (ug/l)	FEDERAL MCLG (ug/l)	FEDERAL WQC Drink (ug/l)
INORGANIC COMPOUNDS (CONT.)					
Barium	1000	1000	1000	(5000)	
Beryllium	3 G		(1)	(0)	
Cadmium	10	10	5	5	10
Calcium					
Chromium III					179000
Chromium VI	50				50
Chromium	50	50	100	100	
Cobalt					
Copper	200	1000		(1300)	1000(ol)
Cyanide	100		(200)	(200)	
Iron	300	300			
Lead	25	50	50	(0)	50
Magnesium	35000 G				
Manganese	300	300			
Mercury	2	2	2	(2)	10
Nickel			(100)	(100)	15.4
Potassium					
Selenium	10	10	50	50	10
Silver	50	50	50		50
Sodium	20000				
Thallium	4 G		(2/1)	(0.5)	17.8
Vanadium					
Zinc	300	5000			5000(ol)

NOTES:

Federal MCLs and MCLGs from 40 CFR 141.
Federal MCLs and MCLGs in parentheses are proposed (from 54FR22062, 55FR30370, and 56FR3521)
Federal WQCs taken from EPA's Superfund Public Health Evaluation Manual, October 1987, Table 4-7 and Exhibits C-4 and C-6.

New York State Groundwater Quality standards taken from 6NYCRR 703 (March 31, 1986) and Division of Water Technical and Operational Guidance Series (1.1.1) Ambient Water Quality Standards and Guidance Values (September 25, 1990). New York State Public Water Supply MCLs taken from 10 NYCRR 5-1 (January 19, 1990).

MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
WQC	Water Quality Criteria (for the protection of human health).
G	Guidance values taken from New York State Division of Water Technical and Operational Guidance Series (Ambient Water Quality Standards and Guidance Values, September 25, 1990).
IND	Insufficient data.
ND	Not detectable.
ol	Organoleptic, criteria based on odor and taste, not health. No health-based criteria available.
P	Total para and ortho.
T	Total trihalomethanes = 100 μg/L.
*	Cis-1,2-Dichloroethene = 70 μg/L; Trans-1,2-dichloroethene = 100 μg/L.
***	Combined Aldrin/Dieldrin <.001 Aquatic.
****	Chlordane = (2μg/L).
+	Total phenols limit of 1.0 ug/l.
$	Not included in 100 ug/l organic total.

TABLE 3–5
SUMMARY OF FIELD LABORATORY SUBSURFACE SOIL DATA

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	FREQUENCY OF DETECTION	RANGE OF DETECTION
VOLATILE ORGANICS (ug/kg) [1]		
1,1,1–Trichloroethane	46/97	1 – 11
1,1–Dichloroethane	5/97	2.1 – 33
1,2–Dichloroethane	2/97	11 – 18
Benzene	2/97	6.6 – 17
cis–1,2–Dichloroethene	5/97	2.1 – 380
Ethylbenzene	13/97	5.7 – 610 E
Tetrachloroethene	24/97	0.5 – 2000
Toluene	11/97	1.7 – 2900 E
trans–1,2–Dichloroethene	3/97	0.5 – 13
Trichloroethene	4/97	1.8 – 15
Xylene (total)	17/97	18 – 3000 E
TOTAL PETROLEUM HYDROCARBONS (mg/kg) [2]		
	14/97	455 – 12600

NOTES:

[1] – volatile organic data from gas chromatograph

[2] – TPH data from infrared unit

ug/kg – micrograms per kilogram

E – exceeds calibration range

The subsurface soil samples were obtained from SB–1 through SB–10.

Samples were obtained by split spoon sampling.

TABLE 3-6
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SURFACE SOIL

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	SS-1	SS-2	SS-3	SS-4
VOLATILE ORGANICS ug/kg				
Tetrachloroethene	--	--	2 JJ	--
SEMIVOLATILE ORGANICS ug/kg				
Benzo(a)Anthracene	--	79 JJ	--	--
Benzo(b)Fluoranthene	--	--	--	--
Butylbenzylphthalate	81 JJ	--	--	--
Chrysene	--	200 JJ	--	--
Di-n-butylphthalate	230 JJ	210 JJ	280 JJ	220 JJ
Di-n-octylphthalate	19 JJ	41 JJ	--	--
Fluoranthene	--	97 JJ	--	--
Phenanthrene	20 JJ	53 JJ	--	--
Pyrene	35 JJ	130 JJ	--	--
PESTICIDES and PCBs ug/kg				
4,4'-DDD	--	--	--	--
4,4'-DDE	5.9 J	7.1 JJ	--	11
4,4'-DDT	7.9 J	--	--	13
Aroclor-1242	--	--	--	--
Methoxychlor	--	--	--	--
alpha-Chlordane	5.4 J	36 J	--	2.6 J
gamma-Chlordane	4 J	28 J	--	2.7
METALS ug/kg				
Aluminum	5580	5850	8940	6810
Arsenic	2.1 []	2.4	1.9 []	2.3
Barium	14.5 []	20.3 []	21.4 []	36.3 []
Calcium	1300	4020	248 []	2020
Chromium	7.8 J	9 J	8.9 J	6.7 J
Cobalt	--	2.2 []	2.6 []	2.3 []
Copper	4.8 []	8.9	--	5.8
Iron	6420	6840	8530	6180
Lead	34.8	72.4	5.8	55
Magnesium	640 []	781 []	751 []	722 []
Manganese	57.5	66.2	54.5	155
Nickel	--	--	--	10.4 J
Vanadium	11.1 []	13.2	14.6	14.5
Zinc	38.6 J	67.3 J	15.9 J	54.3 J

NOTES:

JJ Estimated value below the Contract Required Quantitation Limit.
J Estimated value.
[] Estimated value below the Contract Required Detection Limit.
-- Not detected.
ug/kg microgram per kilogram

TABLE 3-7
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SUBSURFACE SOIL

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	SB-1 2-4'	SB-1 14-16'	SB-1 36-38'	SB-2 0-2'	SB-2 16-18'	SB-2 34-36'	SB-3 2-4'	SB-3 6-8'	SB-3 34-36'
VOLATILE ORGANICS (ug/kg)									
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	--	--	--	--	--	6 JJ	1200 JJ	--
2-Butanone	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	--	--	--	--	--	--	--
Acetone	--	--	--	--	--	--	490 EJ	--	--
Benzene	--	--	--	--	--	--	1 JJ	--	--
Ethylbenzene	--	--	--	--	--	--	6 JJ	2100	--
Styrene	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	5 JJ	--	--
Toluene	1 JJ	1 JJ	1 JJ	--	--	--	13	13000	--
Total Xylenes	--	--	--	--	--	--	39	14000	--
SEMIVOLATILE ORGANICS (ug/kg)									
2-Methylnaphthalene	--	--	--	180 JJ	--	14 JJ	45 JJ	41 JJ	--
Acenaphthene	--	--	--	11 JJ	--	--	24 JJ	27 JJ	--
Anthracene	--	--	--	--	--	--	--	20 JJ	--
Butylbenzylphthalate	--	--	--	78 JJ	460 J	170 JJ	--	1300 J	640 J
Carbazole	--	--	--	4 JJ	--	--	--	15 JJ	--
Chrysene	--	--	--	--	--	--	--	110 JJ	--
Di-n-butylphthalate	620	370	650	2600	5300 DJ	7600 DJ	4300 DJ	1900 J	2500 J
Di-n-octylphthalate	--	--	--	--	--	--	36 JJ	53 JJ	--
Diethylphthalate	--	--	--	54 JJ	--	--	58 JJ	140 JJ	--
Fluoranthene	--	--	--	--	--	--	80 JJ	32 JJ	--
Fluorene	--	--	--	--	--	--	41 JJ	--	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--
Isophorone	--	--	--	--	--	--	--	240 JJ	--
Naphthalene	--	--	--	28 JJ	--	--	19 JJ	37 JJ	--
Pentachlorophenol	--	--	--	--	38 JJ	--	--	--	--
Phenanthrene	--	--	--	35 JJ	--	--	70 JJ	56 JJ	--
Phenol	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	29 JJ	--	--	89 JJ	77 JJ	--
bis(2-Ethylhexyl)phthalate	1500	--	510	--	--	--	--	--	--

NOTES:

ug/kg microgram per kilogram
mg/L milligrams per liter
-- Not detected.
J Estimated value
D Diluted result
JJ Estimated value below the Contract Required Quantitation Limit
[] Estimated value below the Contract Required Detection Limit
E Exceeds calibration range
NA Not analyzed

TABLE 3-7 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SUBSURFACE SOIL

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	SB-1 2-4'	SB-1 14-16'	SB-1 36-38'	SB-2 0-2'	SB-2 16-18'	SB-2 34-36'	SB-3 2-4'	SB-3 6-8'	SB-3 34-36'
PESTICIDES and PCBs (ug/kg)									
4,4'-DDD	--	--	--	0.98 JJ	--	--	--	--	--
4,4'-DDE	--	--	--	1 JJ	--	--	--	--	--
4,4'-DDT	--	--	--	1.8 JJ	--	--	--	--	--
alpha-Chlordane	--	--	--	0.33 JJ	--	--	--	--	--
gamma-Chlordane	--	--	--	0.81 JJ	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	120 JJ	92 JJ
Methoxychlor	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide	--	--	--	0.64 JJ	--	--	--	--	--
METALS (ug/kg)									
Aluminum	5860	572	390	7240	581	416	3580	3000	365
Arsenic	--	--	--	2.2	--	--	--	--	--
Barium	13.8 []	4 []	--	33.1 []	--	--	13.6 []	21.9 []	--
Calcium	--	--	--	1280	--	--	470 []	11800	--
Chromium	5.7 J	2.2 J	1.7 []J	9.6 J	2.5 J	2.3 J	8 J	8.2 J	2.8 J
Cobalt	2.7 []	--	--	2.5 []	--	1.8 []	2.6 []	2.9 []	--
Copper	--	--	--	4.5 []	6.1	--	3.3 []	9.1	--
Iron	5180	972	842	6740	1700	1140	3780	4350	1140
Lead	3.5	0.77	1.3	123	1.8 J	1.1 J	45.9 J	78.2 J	1.5 J
Magnesium	732 []	--	--	756 []	--	--	445 []	839 []	--
Manganese	36.7	20.9	16.7	46	27.2	62.8	31.7	48.6	35.7
Nickel	--	--	--	5.2 []J	--	--	--	--	--
Potassium	--	--	--	374 []	--	--	382 []	--	387 []
Thallium	--	--	--	--	--	--	--	--	--
Vanadium	9.7 []	--	--	12.6	--	2.4 []	6.9 []	7 []	1.9 []
Zinc	8.1	1.6 []	1.2 []	39.5	3.2 []J	2.3 []J	25.3 J	39 J	1.2 []J
TCLP METALS (mg/L)									
Barium	--	--	--	496	--	--	--	--	--
Lead	--	--	--	77.9	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--

NOTES:

ug/kg microgram per kilogram
mg/L milligrams per liter
-- Not detected.
J Estimated value
D Diluted result
JJ Estimated value below the Contract Required Quantitation Limit
[] Estimated value below the Contract Required Detection Limit
E Exceeds calibration range
NA Not analyzed

TABLE 3-7 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SUBSURFACE SOIL

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	SB-4 2-4'	SB-4 12-14'	SB-4D 34-36'	SB-4 34-36'	SB-5 6-8'	SB-5 24-26'	SB-5 34-36'	SB-6 4-6'	SB-6 16-18'	SB-6 34-36'	SB-7D 2-4'	SB-7 2-4'
VOLATILE ORGANICS (ug/kg)												
1,1,1-Trichloroethane	2 JJ	--	--	--	--	--	--	--	--	--	NA	--
1,1-Dichloroethane	3 JJ	--	--	--	--	--	--	--	--	--	NA	--
1,2-Dichloroethene (total)	--	--	--	--	--	--	--	--	--	--	NA	--
2-Butanone	10 JJ	7 JJ	--	--	--	--	--	--	--	--	NA	--
4-Methyl-2-Pentanone	10 JJ	--	--	--	--	--	--	--	--	--	NA	--
Acetone	--	--	--	--	--	--	--	--	--	--	NA	--
Benzene	--	--	--	--	--	--	--	--	--	--	NA	--
Ethylbenzene	53 J	--	--	--	--	--	--	--	--	--	NA	--
Styrene	25 J	--	--	--	--	--	--	--	--	--	NA	--
Tetrachloroethene	9 JJ	--	--	--	--	--	--	--	--	--	NA	1 JJ
Toluene	340 EJ	--	--	--	--	--	--	--	--	--	NA	--
Total Xylenes	1300 DJ	--	--	--	--	--	--	--	--	--	NA	--
SEMIVOLATILE ORGANICS (ug/kg)												
2-Methylnaphthalene	160 JJ	--	14 JJ	140 JJ	--	--	--	--	--	--	NA	--
Acenaphthene	32 JJ	--	--	--	--	--	--	--	--	--	NA	--
Anthracene	--	--	--	--	--	--	--	--	--	--	NA	--
Butylbenzylphthalate	110 JJ	2200 J	--	--	--	--	--	--	--	--	NA	--
Carbazole	21 JJ	--	--	--	--	--	--	--	--	--	NA	--
Chrysene	110 JJ	--	--	--	--	--	--	--	--	--	NA	--
Di-n-butylphthalate	2500 J	5400 DJ	130 JJ	85 JJ	270 JJ	130 JJ	95 JJ	1100	160 JJ	160 JJ	NA	670
Di-n-octylphthalate	28 JJ	--	--	--	--	--	--	--	--	--	NA	38 JJ
Diethylphthalate	84 JJ	--	--	34 JJ	74 JJ	--	--	--	14 JJ	--	NA	57 JJ
Fluoranthene	31 JJ	--	--	43 JJ	--	--	--	--	--	--	NA	--
Fluorene	24 JJ	--	--	--	--	--	--	--	--	--	NA	--
Hexachlorobenzene	--	--	--	--	--	--	--	--	--	--	NA	--
Isophorone	--	--	--	--	--	--	--	--	--	--	NA	--
Naphthalene	150 JJ	--	--	44 JJ	--	--	--	--	--	--	NA	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	NA	--
Phenanthrene	46 JJ	--	--	70 JJ	--	--	--	--	--	--	NA	--
Phenol	41 JJ	--	--	--	--	--	--	--	--	--	NA	--
Pyrene	68 JJ	--	--	54 JJ	--	--	--	--	--	--	NA	--
bis(2-Ethylhexyl)phthalate	--	--	170 JJ	370 J	150 JJ	180 JJ	260 JJ	31 JJ	--	69 JJ	NA	280 JJ

NOTES:

ug/kg microgram per kilogram
mg/L milligrams per liter
-- Not detected.
J Estimated value
D Diluted result
JJ Estimated value below the Contract Required Quantitation Limit
[] Estimated value below the Contract Required Detection Limit
E Exceeds calibration range
NA Not analyzed

TABLE 3-7 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SUBSURFACE SOIL

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	SB-4 2-4'	SB-4 12-14'	SB-4D 34-36'	SB-4 34-36'	SB-5 6-8'	SB-5 24-26'	SB-5 34-36'	SB-6 4-6'	SB-6 16-18'	SB-6 34-36'	SB-7D 2-4'	SB-7 2-4'
PESTICIDES and PCBs (ug/kg)												
4,4'-DDD	9.4 JJ	--	--	--	--	--	--	--	--	--	NA	3 JJ
4,4'-DDE	--	--	--	--	--	--	--	--	--	--	NA	1.9 JJ
4,4'-DDT	--	--	--	--	--	--	--	--	--	--	NA	4.1
alpha-Chlordane	--	--	--	--	--	--	--	--	--	--	NA	--
gamma-Chlordane	--	--	--	--	--	--	--	--	--	--	NA	--
Aroclor-1242	160 JJ	--	--	--	--	--	--	--	--	--	NA	--
Methoxychlor	--	--	--	--	--	--	310	--	--	--	NA	--
Heptachlor Epoxide	--											
METALS (ug/kg)												
Aluminum	2470	387	1300	917	472	424	900	114	228	530	NA	231
Arsenic	1.3 []	--	--	--	--	--	1.3 []	--	--	3	NA	--
Barium	32 []	--	5.4 []	5.1 []	--	--	--	--	--	--	NA	9.1 []
Calcium	1270	--	1210	272 []	--	--	--	--	--	--	NA	428 []
Chromium	12.1 J	4.4 J	9.8 J	3.2 J	3.5 J	5.6 J	3.9 J	2.1 J	5.5 J	5.7 J	NA	--
Cobalt	3.2 []	--	--	1.6 []	1.5 []	--	3 []	1.9 []	--	2 []	NA	--
Copper	17.2	--	9.4	4.5 []	--	--	4 []	--	--	--	NA	--
Iron	3400	995	3920	1570	702	1200	2490	627	1120	1690	NA	292
Lead	195 J	2.1 J	19.6 J	6.5 J	1.4 J	0.73 J	2.1 J	3.9 J	1.2 J	2.6 J	NA	8.3 J
Magnesium	342 []	--	304 []	--	--	--	280 []	--	--	--	NA	--
Manganese	25.4	9.1	59.8	83.5	9.8	23	79.1	2 []	6.1	20.9	NA	3 []
Nickel	--	--	--	--	--	--	--	--	--	--	NA	--
Potassium	412 []	--	--	--	669 []	--	554 []	--	--	632 []	NA	--
Thallium	--	--	--	--	--	3.9 J	--	--	--	--	NA	--
Vanadium	6.4 []	3.3 []	4.2 []	2.8 []	3 []	2.4 []	4.9 []	--	3.2 []	4.8 []	NA	--
Zinc	69.3 J	1.6 []J	24.7 J	6 J	1.8 []J	2.1 []J	3.8 []J	--	1.5 []J	3.5 []J	NA	--
TCLP METALS (mg/L)												
Barium	603	--	--	--	347	--	--	273	--	--	541	892
Lead	427	--	--	--	--	--	--	57	--	--	--	--
Selenium	95.8	--	--	--	90.4	--	--	--	--	--	--	--

NOTES:

ug/kg microgram per kilogram
mg/L milligrams per liter
-- Not detected.
J Estimated value
D Diluted result
JJ Estimated value below the Contract Required Quantitation Limit
[] Estimated value below the Contract Required Detection Limit
E Exceeds calibration range
NA Not analyzed

TABLE 3-7 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SUBSURFACE SOIL

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	SB-7 24-26'	SB-7 32-34'	SB-8 2-4'	SB-8 20-22'	SB-8 30-32'	SB-9 2-4'	SB-9 14-16'	SB-9 30-32'	SB-10 4-6'	SB-10 16-18'	SB-10 32-34'
VOLATILE ORGANICS (ug/kg)											
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	--	--	--	--	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	--	--	--	--	--	--	--	--	--
Acetone	--	--	--	17 J	--	--	--	--	--	16 J	--
Benzene	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--	--	--	--	--	--
Styrene	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--	--
Total Xylenes	--	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILE ORGANICS (ug/kg)											
2-Methylnaphthalene	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	--	--	--	--	--	--	--	--	--	--	--
Anthracene	--	--	--	--	--	--	--	--	--	--	--
Butylbenzylphthalate	--	--	1100 J	470 J	260 JJ	--	--	--	180 JJ	--	--
Carbazole	--	--	--	--	--	--	--	--	--	--	--
Chrysene	--	--	--	--	--	--	--	--	--	--	--
Di-n-butylphthalate	170 JJ	380	2300 DJ	2900 EJ	3100 J	710	260 JJ	240 JJ	2000 J	1300 J	3800 DJ
Di-n-octylphthalate	--	--	--	--	--	--	--	--	--	--	--
Diethylphthalate	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	--	--	--	--	--	--	--	--	--	--	--
Fluorene	--	--	--	--	--	--	--	--	--	--	--
Hexachlorobenzene	--	--	--	--	--	30 JJ	--	--	--	--	--
Isophorone	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	--	--	--	--	--	--	--	--	--	--	--
Pentachlorophenol	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	--	--	--	--	--	--	--	--	--	--	--
Phenol	--	--	--	--	--	--	--	--	--	--	--
Pyrene	--	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	69 JJ	120 JJ	--	-- DJ	--	960 J	500 JJ	95 JJ	--	--	--

NOTES:

ug/kg microgram per kilogram
mg/L milligrams per liter
-- Not detected.
J Estimated value
D Diluted result
JJ Estimated value below the Contract Required Quantitation Limit
[] Estimated value below the Contract Required Detection Limit
E Exceeds calibration range
NA Not analyzed

TABLE 3-7 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
SUBSURFACE SOIL

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	SB-7 24-26'	SB-7 32-34'	SB-8 2-4'	SB-8 20-22'	SB-8 30-32'	SB-9 2-4'	SB-9 14-16'	SB-9 30-32'	SB-10 4-6'	SB-10 16-18'	SB-10 32-34'
PESTICIDES and PCBs (ug/kg)											
4,4'-DDD	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDE	--	--	--	--	--	--	--	--	--	--	--
4,4'-DDT	--	--	--	--	--	--	--	--	--	--	--
alpha-Chlordane	--	--	--	--	--	--	--	--	--	--	--
gamma-Chlordane	--	--	--	--	--	--	--	--	--	--	--
Aroclor-1242	--	--	--	--	--	--	--	--	--	--	--
Methoxychlor	--	--	--	--	--	--	--	--	--	--	--
Heptachlor Epoxide											
METALS (ug/kg)											
Aluminum	340	624	370	886	544	2990	132	169	371	519	551
Arsenic	--	--	--	--	--	--	--	--	--	--	--
Barium	--	--	--	--	--	18.5 []	--	4.8 []	--	--	--
Calcium	--	--	--	--	--	358 []	--	--	--	--	--
Chromium	5.6 J	10.1 J	1.8 []J	5 J	3.8 J	4.6 J	4.7 J	2.6 J	1.6 []J	2 []J	3 J
Cobalt	1.9 []	2.9 []	--	2.7 []	1.9 []	2.5 []	--	--	--	--	--
Copper	--	--	--	1.5 []	--	2.6 []	--	--	--	--	2 []
Iron	1390	4980	1450	1550	1410	3140	721	716	585	921	1430
Lead	2.1 J	0.61 []J	1.1	1.1	1.1	9.3 J	0.95 J	1 J	0.68	1.3	1.4
Magnesium	--	--	--	--	--	350 []	--	--	--	--	--
Manganese	11.1	16.2	13.3	33.2	23.5	15.7	3 []	5	25	27.2	18.7
Nickel	--	--	--	--	--	--	--	--	--	--	--
Potassium	686 []	--	--	341 []	--	517 []	--	--	486 []	--	--
Thallium	--	--	--	--	--	--	--	--	--	--	--
Vanadium	4.8 []	9.4 []	2.2 []	4.2 []	2.7 []	7.3 []	2.6 []	--	2.1 []	1.6 []	3 []
Zinc	--	3.4 []J	2.3 []	3.2 []	2.1 []	6.4 J	--	--	--	3.1 []	2.3 []
TCLP METALS (mg/L)											
Barium	--	--	--	--	--	--	--	--	--	--	--
Lead	--	--	--	--	--	--	--	--	--	--	--
Selenium	--	--	--	--	--	--	--	--	--	--	--

NOTES:

ug/kg microgram per kilogram
mg/L milligrams per liter
-- Not detected.
J Estimated value
D Diluted result
JJ Estimated value below the Contract Required Quantitation Limit
[] Estimated value below the Contract Required Detection Limit
E Exceeds calibration range
NA Not analyzed

TABLE 3-8
EXPLORATION SURVEY SUMMARY

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

TYPE OF EXPLORATION	BORING NUMBER	BORING LOCATION (NY State Plane Coordinate System)		GROUND SURFACE ELEVATION (FT above MSL)	BOTTOM OF EXPLORATION		WELL CASING ELEVATION (FT above MSL)	WELL RISER ELEVATION (FT above MSL)	WELL DEPTH (FT BGS)	WELL SCREEN DEPTH (FT BGS)
					DEPTH (FT BGS)	ELEVATION (FT above MSL)				
MONITORING WELLS	MW-1	N 217014.79	E 2281806.37	84.60	130	-45.4	84.65	84.23	47.52	37.52 - 47.52
	MW-2A	N 217033.18	E 2282034.90	81.38	124	-42.62	81.38	80.90	72.04	62.04 - 72.04
	MW-2B	N 217021.28	E 2282035.83	81.32	45	36.32	81.31	80.77	45.21	35.21 - 45.21
	MW-03	N 217049.42	E 2282254.12	79.22	140	-60.78	79.23	78.84	41.67	31.67 - 41.67
	MW-4A	N 216845.51	E 2282134.32	76.17	150	-73.83	76.17	75.66	80.20	70.20 - 80.20
	MW-4B	N 216856.14	E 2282136.24	76.40	39	37.4	76.38	75.98	39.09	29.09 - 39.09
	MW-5A	N 216730.75	E 2282282.85	71.54	94	-22.46	71.81	71.35	66.95	56.95 - 66.95
	MW-5B	N 216736.72	E 2282274.73	71.57	36	35.57	71.67	71.22	35.70	25.70 - 35.70
	MW-06	N 216715.50	E 2282144.51	72.81	120	-47.19	72.94	72.38	66.58	56.58 - 66.58
	MW-7A	N 216707.44	E 2282037.06	73.23	108	-34.77	73.56	73.14	68.64	58.64 - 68.64
	MW-7B	N 216712.80	E 2282039.83	73.64	38.5	35.14	73.80	73.32	38.70	28.70 - 38.70
	MW-08	N 214320.44	E 2282622.36	79.71	110	-30.29	79.65	79.25	74.70	64.70 - 74.70
	MW-09	N 212132.50	E 2282963.45	76.55	140	-63.45	76.53	76.15	124.05	114.05 - 124.05
	MW-10	N 211832.39	E 2283495.11	70.43	134	-63.57	70.36	69.82	96.38	86.38 - 96.38
	MW-11	N 216323.45	E 2282105.07	65.12	114	-48.88	65.07	64.41	105.90	95.90 - 105.90
	MW-12	N 210355.96	E 2283353.12	71.39	160	-88.61	71.40	70.89	45.85	35.85 - 45.85
	MW-13	N 211982.13	E 2282608.56	75.05	104	-28.95	75.17	74.71	55.40	45.40 - 55.40
	MW-14	N 210233.56	E 2282329.74	68.04	150	-81.96	68.07	67.62	43.38	33.38 - 43.38
	MW-17	N 210378.99	E 2283575.34	71.46	150	-78.54	71.47	71.04	45.65	35.65 - 45.65
SOIL BORINGS	SB-1	N 217046.33	E 2282227.65	79.13	38	41.13	NA	NA	NA	NA
	SB-2	N 216940.05	E 2282129.01	78.33	36	42.33	NA	NA	NA	NA
	SB-3	N 216903.01	E 2282100.81	77.49	36	41.49	NA	NA	NA	NA
	SB-4	N 216883.42	E 2282105.29	76.96	36	40.96	NA	NA	NA	NA
	SB-5	N 216866.20	E 2282128.81	76.63	36	40.63	NA	NA	NA	NA
	SB-6	N 216823.80	E 2282018.50	76.69	36	40.69	NA	NA	NA	NA
	SB-7	N 216796.03	E 2282031.04	75.81	34	41.81	NA	NA	NA	NA
	SB-8	N 216750.34	E 2282150.54	73.60	32	41.60	NA	NA	NA	NA
	SB-9	N 216730.02	E 2282023.41	74.16	32	42.16	NA	NA	NA	NA
	SB-10	N 216876.26	E 2282240.44	75.37	34	41.37	NA	NA	NA	NA
	SB-15	N 210322.09	E 2282961.88	67.30	155	-87.7	NA	NA	NA	NA
	SB-16	N 210296.51	E 2282684.36	61.41	150	-88.59	NA	NA	NA	NA

NOTES: NA - not applicable FT - feet BGS - below ground surface MSL - mean sea level

TABLE 3–9
SUMMARY OF GC GROUNDWATER DATA

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	FREQUENCY OF DETECTION	RANGE OF DETECTION
VOLATILE ORGANICS (ug/L)		
1,1,1–Trichloroethane	22/167	0.6 – 4.3
1,1–Dichloroethane	8/167	0.8 – 3.7
cis–1,2–Dichloroethene	6/167	0.8 – 7.5
m/p Xylene	1/167	1.9
Tetrachloroethene	8/167	0.5 – 2.0
Toluene	48/167	1.0 – 29
Trichloroethene	4/167	0.5 – 5.0

NOTES:

ug/L – microgram per liter

The groundwater samples were obtained from borings SB–15 and SB–16, and wells MW–1 through MW–17.

The groundwater samples were obtained by screened auger sampling.

TABLE 3-10
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	MW-1 37-47'		MW-2A 62-72'		MW-2B 35-45'		MW-3 31-41'		MW-4A 70-80'	
	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2	Round 1	Round 2
VOLATILE ORGANICS ug/L										
1,1,1-Trichloroethane	--	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILE ORGANICS ug/L										
Diethylphthalate	--	--	--	--	--	--	1 JJ	--	--	--
bis(2-Ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--
PESTICIDES and PCBs ug/L										
	NA	NA	--	--	--	--	NA	NA	--	--
METALS ug/L										
Aluminum	47.6 []	1250	--	--	146 []	193 []	580	1950	--	--
Antimony	--	--	42.2 []	--	--	--	--	--	--	--
Barium	31.3 []	39.1 []	59.4 []	49.2 []	53.2 []	45.4 []	108 []	163 []	31.3 []	25.2 []
Cadmium	--	--	--	--	5.6	--	--	--	--	--
Calcium	3060 []	3190 []	7480	6720	4650 []	3960 []	12600	14200	5580	4880 []
Chromium	--	--	--	--	--	--	8.2 []	11.2 J	5.6 []	--
Cobalt	--	--	--	--	--	--	--	--	--	--
Copper	--	4.9 []J	--	--	--	--	7.6 []	10.8 []J	--	--
Iron	185	2390	--	--	89.8 []	68.5 []	905	3790	--	--
Lead	--	3.1	--	--	--	--	--	5.6	--	--
Magnesium	1400 []	1700 []	2850 []	2510 []	1210 []	--	2600 []	3020 []	5500	4930 []
Manganese	--	266 J	--	13.6 []J	--	91.2 J	607	841 J	--	8.6 []J
Nickel	--	--	--	21.7 []J	--	21.7 []J	--	--	--	--
Potassium	--	891 []	1870 []	891 []	1650 []	1030 []	2520 []	2580 []	1220 []	1170 []
Silver	--	--	4.4 []J	--	--	--	--	--	10.6 J	--
Sodium	8240	7750	22300	17200	2460 []	1770 []	15200	18400	11900	9400
Thallium	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	8.9 []	--	--
Zinc	--	6.3 []	--	--	--	86.7	--	20.1	--	--

NOTES:

ug/L micrograms per liter

-- Not detected.

JJ Estimated value below the Contract Required Quantitation Limit

[] Estimated value below the Contract Required Detection Limit

NA Not analyzed

J Estimated value

TABLE 3–10 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	MW–4BD 29–39' Round 1	MW–4BD 29–39' Round 2	MW–4B 29–39' Round 1	MW–4B 29–39' Round 2	MW–5A 57–67' Round 1	MW–5A 57–67' Round 2	MW–5B 25–35' Round 1	MW–5B 25–35' Round 2	MW–6 56–66' Round 1	MW–6 56–66' Round 2
VOLATILE ORGANICS ug/L										
1,1,1–Trichloroethane	--	--	--	--	--	--	--	--	--	--
1,1–Dichloroethane	0.7	--	--	--	--	--	--	--	--	--
1,2–Dichloroethene (total)	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILE ORGANICS ug/L										
Diethylphthalate	--	--	--	--	--	--	--	--	--	--
bis(2–Ethylhexyl)phthalate	--	--	--	--	--	--	--	--	--	--
PESTICIDES and PCBs ug/L										
	--	--	--	--	NA	NA	NA	NA	--	--
METALS ug/L										
Aluminum	320	292	288	274	--	--	1970	1320	--	65.1 []
Antimony	--	--	--	--	--	--	--	--	--	--
Barium	63.6 []	61.8 []	60.5 []	70.7 []	77.2 []	75.2 []	169 []	186 []	48.0 []	46.8 []
Cadmium	--	--	--	--	--	--	--	--	--	--
Calcium	5830	6120	5930	6450	5340	4910 []	8610	7450	6750	6010
Chromium	6.8 []	--	7.1 []	--	--	--	12.8	9.8 []J	--	43.2 []
Cobalt	--	--	--	--	--	--	7.7 []	6.0 []	--	--
Copper	11.4 []	--	4.6 []	--	--	--	12.2 []	8.1 []J	--	--
Iron	302 J	--	103 J	--	--	--	3080	1920	--	--
Lead	--	--	--	--	--	--	3.9	3.2	--	--
Magnesium	2200 []	2440 []	2290 []	2820 []	2310 []	2180 []	3100 []	2950 []	2870 []	2650 []
Manganese	442	463 J	448	531 J	--	42.4 J	659	602 J	--	45.7 J
Nickel	--	--	--	--	--	--	--	28.5 []J	--	--
Potassium	1500 []	1420 []	1950 []	2040 []	1830 []	1150 []	2110 []	1920 []	1260 []	1710 []
Silver	--	4.5 []J	--	--	--	--	--	--	--	--
Sodium	5490	5530	5680	5480	33600	32800	8910	10200	18800	15700
Thallium	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	--	--	--	--	--	--	--	6.2 []
Zinc	--	--	--	--	--	--	--	31.4	--	--

NOTES:

ug/L micrograms per liter

-- Not detected.

JJ Estimated value below the Contract Required Quantitation Limit

[] Estimated value below the Contract Required Detection Limit

NA Not analyzed

J Estimated value

TABLE 3-10 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	MW-7A 58-68' Round 1	MW-7A 58-68' Round 2	MW-7B 28-38' Round 1	MW-7B 28-38' Round 2	MW-8 64-74' Round 1	MW-8 64-74' Round 2	MW-9 114-124' Round 1	MW-9 114-124' Round 2	MW-10 86-96' Round 1	MW-10 86-96' Round 2
VOLATILE ORGANICS ug/L										
1,1,1-Trichloroethane	--	--	2.4	1.4	--	--	--	--	--	--
1,1-Dichloroethane	--	--	1.4	--	0.9	--	--	--	--	--
1,2-Dichloroethene (total)	--	--	0.6	--	4.6	4.7	--	--	--	--
Chloroform	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene	--	--	7.6	4.2	--	--	--	--	--	--
Toluene	--	--	--	--	1.3	1.3	--	--	--	--
SEMIVOLATILE ORGANICS ug/L										
Diethylphthalate	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	--	--	--	--	11	--	22	--	--	--
PESTICIDES and PCBs ug/L										
	NA	NA	--	--	NA	NA	NA	NA	NA	NA
METALS ug/L										
Aluminum	47.7 []	119 []	105 []	325	--	--	--	--	--	--
Antimony	--	--	--	--	--	--	--	--	--	--
Barium	65.7 []	58.6 []	--	--	64.7 []	68.6 []	73 []	81.8 []	102 []	104 []
Cadmium	--	--	--	--	--	--	--	--	--	--
Calcium	6520	6340	34700	24600	8320	8090	5320	4510 []	11900	11800
Chromium	--	--	7.5 []	--	7.5 []	--	--	--	5.6 []	--
Cobalt	--	--	--	--	--	--	--	--	--	--
Copper	--	--	6.1 []	7.2 []J	--	--	--	--	--	--
Iron	52.6 []	87.4 []	372	1060	--	--	--	--	--	--
Lead	--	--	--	--	--	--	--	--	--	--
Magnesium	2820 []	2730 []	5250	3270 []	3440 []	3440 []	4880 []	5090	3140 []	3350 []
Manganese	--	11.8 []J	396	255 J	--	53.5 J	--	6.5 []J	--	19.6 J
Nickel	--	--	--	--	--	--	--	--	--	--
Potassium	1710 []	1970 []	6120	5280	2540 []	1670 []	1710 []	1230 []	2660 []	3330 []
Silver	--	--	--	--	--	--	--	--	--	--
Sodium	29000	31300	9250	8520	13900	12500	9120	9270	28100	27500
Thallium	--	--	--	--	--	--	--	--	--	5.4 []J
Vanadium	--	--	--	5.4 []	--	--	--	--	--	--
Zinc	--	--	--	12.3 []	--	--	--	--	--	--

NOTES:

ug/L micrograms per liter

-- Not detected.

JJ Estimated value below the Contract Required Quantitation Limit

[] Estimated value below the Contract Required Detection Limit

NA Not analyzed

J Estimated value

TABLE 3-10 (Cont.)
SUMMARY OF LABORATORY ANALYTICAL RESULTS
GROUNDWATER

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

COMPOUND	MW-11 96-106' Round 1	MW-11 96-106' Round 2	MW-12 36-46' Round 1	MW-12 36-46' Round 2	MW-13 45-55' Round 1	MW-13 45-55' Round 2	MW-14 33-43' Round 1	MW-14 33-43' Round 2	MW-17 35-45' Round 1	MW-17 35-45' Round 2
VOLATILE ORGANICS ug/L										
1,1,1-Trichloroethane	1.5	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	0.7	--	--	--	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	--	--	--	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--	--	1.2	--	--
Tetrachloroethene	0.6	--	--	--	--	--	--	--	--	--
Toluene	--	--	--	--	--	--	--	--	--	--
SEMIVOLATILE ORGANICS ug/L										
Diethylphthalate	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	--	--	--	--	15	--	--	--	--	--
PESTICIDES and PCBs ug/L										
	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
METALS ug/L										
Aluminum	418	435	3600	2590	186 []	2960	1090	1260	1390	2740
Antimony	--	--	47.1 []	--	--	--	--	--	--	--
Barium	111 []	115 []	178 []	180 []	41.7 []	44.2 []	158 []	173 []	234	258
Cadmium	--	--	--	--	--	--	--	--	--	--
Calcium	8470	8320	7150	6980	6620	6290	9260	9550	7620	7570
Chromium	7.9 []	--	28.4	14.8 J	5.2 []	14 J	13.4	9.8 []J	13.4	10.5 J
Cobalt	--	--	--	--	--	--	--	--	--	--
Copper	--	--	16.1 []	14.4 []J	--	18.8 []J	7.7 []	13.5 []J	--	9.0 []J
Iron	--	--	7260	4240	--	4740	1810	2020	1410	2770
Lead	--	--	4.9	3.6	--	4.0	--	--	--	--
Magnesium	3540 []	3590 []	3490 []	3270 []	2240 []	2400 []	2550 []	2780 []	2520 []	2870 []
Manganese	436	437 J	713	526 J	--	341 J	443	447 J	450	517 J
Nickel	--	24.4 []	--	--	--	--	--	--	--	23.1 []J
Potassium	1890 []	--	7330	6060	2850 []	2050 []	5350	6230	4540 []	4460 []
Silver	--	--	--	--	--	--	--	--	--	--
Sodium	20000	21200	11900	11200	5230	4790 []	6520	7710	9960	11600
Thallium	--	--	--	--	--	--	--	--	--	--
Vanadium	--	--	12.6 []	8.7 []	--	--	5.7 []	--	--	--
Zinc	--	--	--	18.6 []	--	56.4	--	--	--	47.7

NOTES:

ug/L micrograms per liter

-- Not detected.

JJ Estimated value below the Contract Required Quantitation Limit

[] Estimated value below the Contract Required Detection Limit

NA Not analyzed

J Estimated value

TABLE 3–11
WATER LEVEL OBSERVATIONS

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

WELL ID NUMBER	GROUND SURFACE ELEVATION (FT above MSL)	ELEVATION OF RISER (FT above MSL)	WATER LEVEL ELEVATION (FT above MSL)				
			9/12/92	9/14/92	10/1/92	10/12/92	11/9/92
MW–1	84.60	84.23	43.51	43.51	43.36	43.27	43.12
MW–2A	81.38	80.90	43.46	43.45	43.3	43.21	42.94
MW–2B	81.32	80.77	43.44	43.42	43.27	43.19	42.91
MW–3	79.22	78.84	43.4	43.39	43.25	43.16	42.92
MW–4A	76.17	75.66	43.16	43.12	(C)	42.90	42.70
MW–4B	76.40	75.98	43.17	43.15	43.01	42.92	42.70
MW–5A	71.54	71.35	42.9	42.89	42.75	42.65	42.41
MW–5B	71.57	71.22	42.94	42.92	42.78	42.70	42.45
MW–6	72.81	72.38	42.96	42.94	42.8	42.71	42.43
MW–7A	73.23	73.14	43.01	43.26	42.85	42.75	42.46
MW–7B	73.64	73.32	43.01	43.43	42.86	42.76	42.38
MW–8	79.71	79.25	38.8	(B)	38.71	38.62	38.35
MW–9	76.55	76.15	35.13	(B)	35.06	34.98	34.78
MW–10	70.43	69.82	34.66	(B)	34.59	34.51	34.24
MW–11	65.12	64.41	42.41	(B)	42.25	42.20	41.72
MW–12	71.39	70.89	32.78	(B)	32.69	32.62	32.68
MW–13	75.05	74.71	(A)	(B)	34.97	34.87	34.74
MW–14	68.04	67.62	(A)	(B)	32.55	32.46	32.28
MW–17	71.46	71.04	(A)	(B)	32.75	32.68	32.46

NOTES:
(A) – Wells were not completed.
(B) – Offsite wells were not measured on this date.
(C) – Well not measured on this date.

TABLE 4–1
CALCULATED HYDRAULIC CONDUCTIVITY VALUES

SHERIDAN WASTE OIL CO. SITE
MEDFORD, NEW YORK

PHYSICAL DISPLACEMENT RISING HEAD TESTS (Calculated Hydraulic Conductivity in cm/sec)		
MONITORING WELL	TEST NUMBER 1	2
MW–1	6.7×10^{-2}	--
MW–2B	1.1×10^{-1}	--
MW–3	6.9×10^{-2}	5.6×10^{-2}
MW–4B	1.4×10^{-1}	--
MW–12	8.7×10^{-2}	--
MW–14	8.8×10^{-2}	6.3×10^{-2}
	Arithmetic Average for Physical Disp	8.4×10^{-2}

NOTES:

K – calculated hydraulic conductivity

cm/sec – centimeters per second

APPENDIX A-1

SHERIDAN WASTE OIL CO. SITE FIELD LOGS

SHERIDAN WASTE OIL SITE FIELD LOG

SHIFT 1 *SOIL SAMPLING and MONITORING WELL INSTALLATION*

AUGUST 12, 1992
Wednesday

PERSONNEL:

ABB

L. Healey, FOL(LH)
C. Burchill (CB)
S. Sneed (SS)
D. Twomey (DT)
P. Kunkel (PK)
T. Longley (TL)
L. Sears (LS)

NEW HAMPSHIRE BORING

T. Garside (TG)
D. Morency (DM)
J. Reed (JR)

NYSDEC

E. Blackmer (EB)

VISITORS:

NYTEST dropped off sample bottles.

ASSIGNMENTS:

LH - Field Operations Leader, CB - Project Assistant; DT - GC Operator, SS - Asst GC Operator; PK - training/operator Infrared Spectrometromy (IR unit), TL and LS - drill rig monitors; LS - Health and Safety Officer (HSO). New Hampshire Boring (NHB) owner, TG, and crew, DM and JR, will be operating the NHB Mobile B-57 drill rig.
EB is the NYSDEC Project Manager. He will be providing oversight at the site.

WEATHER:

Sunny, breezy, about 80-85 degrees F.

CALIBRATION:

No invasive work done; no drill rig support instrument calibrations were required.

EQUIPMENT:

NHB brought one Mobile B-57 rig, one water truck, one supply truck, one steam cleaner, one grout-mixing machine, and two submersible pump/packer systems.

ABB H&S support equipment includes 2 MX-241 LEL/O2 meters (#ECJ10623 and 8811086-004), 2 LEL/O2 chargers (#8912060-190 and #9008053), 2 radiation detectors (#ECJ10785 and CE-10), 2 Thermoelectric (TE) photoionization meters TE-2 (#580423386210) and TE-11 (#580236878227), 1 NYSDEC photoionization meter (Photovac TIP) TIP (#FA900025), and 2 Draeger pumps # 4 and #___ (no number).

OTHER EQUIPMENT:

Analytical field laboratory, including two HP gas chromatograph (GC) units, one computer with ChemStation hardware, and one infrared spectrometer

(IR) unit (see field lab notebook for details).

ACTIVITIES:

ECJ personnel arrived on site 0815. Unpacked supplies and organized the office trailer.

HYDRANT PERMIT

LH went to the Medford Fire Station to meet with Victor Digillio, Council Secretary, to determine which hydrant we are to use for the potable water supply. Victor gave LH her original letter with a note indicating that the request had been granted, and that a hydrant on Peconic Avenue near Amsterdam St. may be used. A permit is required from Suffolk County Water Authority in Patchogue, which will be obtained on Thursday.

EB gave LH a letter from Lloyd Wilson, NYDOH, which mentioned a requirement to characterize the surface soils onsite near the former Sheridan residence/office. LH and EB agreed to use four to six of the hand auger boring samples that are already budgeted to accomplish this (See Change Notification Memorandum #1).

NHB arrived approximately 1530. The NHB crew staged the rig supplies and attended a Health and Safety briefing led by the HSO, LS. The start of initial decon and drilling was delayed because the water use permit can not be obtained until Thursday.

AUGUST 13, 1992
Thursday

PERSONNEL:

ABB

L. Healey, FOL (LH)
C. Burchill (CB)
S. Sneed (SS)
D. Twomey (DT)
P. Kunkel (PK)
T. Longley (TL)
L. Sears (LS)

NEW HAMPSHIRE BORING

T. Garside (TG)
J. Reed (JR)
D. Morency (DM)

NYSDEC

E. Blackmer (EB)

VISITORS:

NYTEST delivered 6 coolers.

WEATHER:

Cloudy, breezy, about 75 degrees F.

EQUIPMENT:

See the record for 8/12/92 for list of ABB and NHB equipment.

CALIBRATION:

Calibration was performed on the TE-2 PID and recorded in the calibration notebook.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

LH and TG went to Patchogue SCWA to get water hydrant use permit at 0800. NHB purchased a RPZ valve, SCWA issued the water use permit and TG delivered a copy to Victor Digillio at the Medford Fire Station on Peconic Ave.

BS-1

The B-57 rig drilled BS-1 with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from the ground surface to the top of the water table. BS-1 laboratory analytical soil samples were obtained at 2-4, 14-16, 16-18 and 36-38 ft bgs (see Sampling section below). The 16-18 ft soil sample was later discarded. Every other soil sample was analyzed by IR for total petroleum hydrocarbons (TPH) and the onsite GC for the target compounds. BS-1 was terminated at 38 ft. below ground surface (bgs). The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-2 location.

BS-2

Drilling at BS-2 was started using the B-57 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from the ground surface to 12 ft bgs. One laboratory analytical soil sample was taken at 0-2 ft (see Sampling section below). Every other soil sample was analyzed by IR for TPH and the onsite GC for the target compounds.

SAMPLING:

A total of 15 GC soil samples were obtained and screened for the target compounds: eleven from BS-1 and four from BS-2. Three laboratory samples from BS-1 and one from BS-2 were shipped to NYTEST on Fed-X

Airbill #4738026591 dated 8/13/92.

SAMPLE NO.	***NO. OF CONTAINERS***
SHBS00100201XX	*3*
SHBS00101401XX	*3*
SHBS00103601XX	*4*
SHBS00200001XX	*4*

The Analytical Request Form (ARF) was completed requesting all samples be analyzed for TCL-VOA, TCL-SVOA/PEST/PCB, TCL Metals (no cyanide). In addition, TOC was requested for SHBS00103601XX and TCLP VOA, SVOA and Metals were requested for SHBS00200001XX.

AUGUST 14, 1992
Friday

PERSONNEL:

ABB

L. Healey, FOL (LH)
C. Burchill (CB)
S. Sneed (SS)
D. Twomey (DT)
P. Kunkel (PK)
T. Longley (TL)
L. Sears (LS)

NEW HAMPSHIRE BORING

T. Garside (TG)
J. Reed (JR)

NYSDEC

E. Blackmer (EB)

Robert Doherty and John Michaud (NHB crew) arrived onsite approximately 1500 with another drill rig, a Mobile B-61.

EB left for the site for Albany at 1000.

VISITORS:

AZCO was called to fix the light fixture in right side office of trailer and the air conditioning in the same office.

WEATHER:

Cloudy, off/on rain, cool, approximately 60-65 degrees F.

EQUIPMENT:

See the record for 8/12/92 for list of ABB and NHB equipment.

LH purchased a cellular phone for NYSDEC for use in the office trailer.

CALIBRATION:

Calibration was performed on the TE-2 and the NYSDEC TIP II PIDs and recorded in the calibration notebook.

OTHER EQUIPMENT:

Analytical field laboratory (see field laboratory notebook).

ACTIVITIES:

BS-2

B-57 was used at BS-2 with 4.25 HSA to drill from 12 ft bgs to termination at 36 ft bgs. Split spoon soil samples were obtained at continuous (2 foot) intervals. Two laboratory analytical soil samples were taken at 16-18 and 34-36 ft bgs (see Sampling section below). Every other soil sample was analyzed by (IR) for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-3 location.

BS-3

The B-57 was used at BS-3 with 4.25 HSA to drill from ground surface to termination at 36 ft bgs. Split spoon soil samples were obtained at continuous (2 foot) intervals. Three laboratory analytical soil samples were taken at 2-4, 6-8, and 34-36 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-4 location.

BS-4

Drilling at BS-4 was started using the B-57 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from the ground surface to 14 ft bgs. Laboratory analytical soil samples were taken at 2-4 and 12-14 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds.

SAMPLING:

Six soil samples from BS-2 and nine soil samples from BS-3 were obtained and screened with the site GC for the target compounds. A total of seven laboratory analytical soil samples were obtained at BS-2, BS-3, and BS-4. The samples were shipped to NYTEST on Fed-X Airbill #4738026683 dated 8/14/92.

SAMPLE NO.	***NO. OF CONTAINERS***
SHBS00201601XX	*3*
SHBS00203401XX	*3*
SHBS00300201XX	*3*
SHBS00300601XX	*3*
SHBS00303401XX	*4*
SHBS00400201XX	*4*
SHBS00401201XX	*3*

The ARF was completed requesting all samples be analyzed for TCL-VOA, TCL-SVOA/PEST/PCB, TCL Metals (no cyanide). In addition, TOC analysis was requested for SHBS00303401XX, and TCLP VOA, SVOA, and Metals for SHBS00400201XX.

AUGUST 15, 1992
Saturday

PERSONNEL:

ABB	NEW HAMPSHIRE BORING
L. Healey, FOL (LH)	*T. Garside (TG)*
C. Burchill (CB)	*J. Reed (JR)*
S. Sneed (SS)	*R. Doherty (RD)*
D. Twomey (DT)	*J. Michaud (JM)*
P. Kunkel (PK)	*B. Mallardo (BM)*
T. Longley (TL)	*E. Reed (ER)*
L. Sears (LS)	*J. Garside (JG)*

Bob Mallardo and Eric Reed from NHB arrived onsite.

VISITORS: *One visitor inquired about buying swimming pool acid.*

WEATHER: *Cloudy, rain, approximately 60-65 degrees F.*

EQUIPMENT: *See the record for 8/12/92 for list of ABB and NHB equipment.*

CALIBRATION: *Calibration was performed on the TE-2, TE-11, and TIP II PIDs and recorded in the calibration notebook.*

OTHER EQUIPMENT: *Analytical field laboratory (see field laboratory notebook).*

ACTIVITIES:

BS-4 *Sampling at BS-4 was completed using the B-57 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from 14 ft bgs to the termination depth at 36 ft bgs. One laboratory analytical soil sample and a duplicate sample were taken at 34-36 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-5 location.*

BS-5 *Drilling at BS-5 was completed using the B-57 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from ground surface to the termination depth at 36 ft bgs. Laboratory analytical soil samples were obtained at 6-8, 24-26, and 34-36 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-6 location.*

BS-6 *Drilling at BS-6 was completed using the B-57 rig with 4.25-inch HSA. Split-*

spoon soil samples were obtained at continuous (2-foot) intervals from ground surface to the termination depth at 36 ft bgs. Laboratory analytical soil samples were obtained at 4-6, 16-18, and 34-36 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-7 location.

SAMPLING:

Six soil samples from BS-4, twelve soil samples from BS-5, and nine samples from BS-6 were obtained and screened with the site GC for the target compounds. A total of eight soil samples were taken at BS-4, BS-5, and BS-6 and are being held for pickup by NYTEST on Monday (8/17/92) AM.

SAMPLE NO.	***NO. OF CONTAINERS***
SHBS00403401XX	*3*
SHBS00403401XD	*3*
SHBS00500601XX	*4*
SHBS00502401XX	*3*
SHBS00503401XX	*3*
SHBS00600401XX	*4*
SHBS00601601XX	*3*
SHBS00603401XX	*3*

The ARF was completed requesting all samples be analyzed for TCL-VOA, TCL-SVOA/PEST/PCB, TCL Metals (no cyanide). In addition, TCLP VOA, SVOA, and Metals analysis are requested for SHBS00500601XX and SHBS00600401XX.

All laboratory samples obtained today will be held for pickup on Monday AM (August 17, 1992) by NYTEST.

AUGUST 16, 1992
Sunday

PERSONNEL:	***ABB***		***NEW HAMPSHIRE BORING***
		L. Healey, FOL (LH)	*T. Garside (TG)*
		C. Burchill (CB)	*J. Reed (JR)*
		S. Sneed (SS)	*R. Doherty (RD)*
		D. Twomey (DT)	*J. Michaud (JM)*
		P. Kunkel (PK)	*B. Mallardo (BM)*
		T. Longley (TL)	*E. Reed (ER)*
		L. Sears (LS)	*J. Garside (JG)*

WEATHER: *Cloudy, rain, approximately 60-65 degrees F.*

EQUIPMENT: *See the record for 8/12/92 for list of ABB and NHB equipment.*

CALIBRATION: *Calibration was performed on the TE-2 and TE-11 PIDs and recorded in the calibration notebook.*

OTHER EQUIPMENT: *Analytical field laboratory (see field laboratory notebook).*

ACTIVITIES: *The B-61 drill rig and downhole tools were deconned and the rig was set up at the BS-8 location. No drilling was done, as the crew was fixing equipment and setting up pumps.*

BS-7 *Drilling at BS-7 was completed using the B-57 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from ground surface to the termination depth at 34 ft bgs. Laboratory analytical soil samples were obtained at 2-4, 24-26, and 32-34 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-9 location.*

BS-9 *Drilling at BS-9 was completed using the B-57 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from ground surface to the termination depth at 32 ft bgs. Laboratory analytical soil samples were obtained at 2-4, 14-16, and 30-32 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned.*

SAMPLING: *Ten soil samples from BS-7 and eight soil samples from BS-9 were obtained*

and screened with the GC for the target compounds. Seven laboratory analytical soil samples were taken for analysis from BS-7 and BS-9, (including a TCLP duplicate from the 2-4 ft interval in BS-7).

SAMPLE NO.	***NO OF CONTAINERS***
SHBS00700201XX	*4*
SHBS00702401XX	*3*
SHBS00703201XX	*4*
SHBS00900201XX	*4*
SHBS00901401XX	*3*
SHBS00903001XX	*3*
SHBS00700201XD	*1*

The ARF was completed requesting all samples (except the TCLP duplicate sample SHBS00700201XD) to be analyzed for TCL-VOA; TCL, SVOA/PEST/PCB, TCL Metals (no cyanide). In addition, TOC was requested for SHBS00703201XX and TCLP VOA, SVOA, and Metals was requested for SHBS00700201XX, SHBS00700201XD (duplicate), and SHBS00900201XX.

AUGUST 17, 1992
Monday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*T. Garside (TG)*
C. Burchill (CB)	*J. Reed (JR)*
S. Sneed (SS)	*R. Doherty (RD)*
D. Twomey (DT)	*J. Michaud (JM)*
P. Kunkel (PK)	*B. Mallardo (BM)*
T. Longley (TL)	*E. Reed (ER)*
L. Sears (LS)	*J. Garside (JG)*

TG from NHB and TL from ABB left the site at the end of the day. Eric Sandin from ABB arrived late in the evening.

VISITORS:

M. Seelen and S. Turner from ABB arrived at midmorning for a PM visit and QC/QC audit, respectively.

NYTEST courier picked up samples from 8/15 and 8/16 at 0930. The courier also dropped off two coolers of bottles by mistake that belonged to another NYTEST client, and later retrieved them.

WEATHER:

Cloudy, rain, approximately 60-65 degrees F.

EQUIPMENT:

See the record for 8/12/92 for list of ABB and NHB equipment.

CALIBRATION:

Calibration was performed on the TE-2 and TE-11 PIDs and recorded in the calibration notebook.

OTHER EQUIPMENT:

Analytical field laboratory (see field laboratory notebook).

ACTIVITIES:

BS-8

Drilling at BS-8 was completed using the B-61 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from ground surface to the termination depth at 32 ft bgs. Laboratory analytical soil samples were obtained at 2-4, 20-22, and 30-32 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned and moved to the BS-10 location.

BS-10

Drilling at BS-10 was completed using the B-61 rig with 4.25-inch HSA. Split-spoon soil samples were obtained at continuous (2-foot) intervals from ground surface to the termination depth at 34 ft bgs. Laboratory analytical soil samples were obtained at 4-6, 16-18 and 32-34 ft bgs (see Sampling section below). Every other soil sample was analyzed by the IR for TPH and the onsite GC for the target compounds. The borehole was backfilled with cement/bentonite grout. The rig and downhole equipment were deconned.

SAMPLING:

Nine soil samples from BS-10 and eleven soil samples from BS-8 were obtained and screened with the GC for the target compounds. A total of six samples were obtained from BS-8 and BS-10 for laboratory analysis.

SAMPLE NO.	***NO. OF CONTAINERS***
SHBS00800201XX	*3*
SHBS00802001XX	*3*
SHBS00803001XX	*3*
SHBS01000401XX	*3*
SHBS01001601XX	*3*
SHBS01003201XX	*3*

The ARF was completed requesting analysis for TCL VOA, TCL SVOA/PEST/PCB, and TCL metals.

AUGUST 18, 1992
Tuesday

PERSONNEL:	***ABB***		***NEW HAMPSHIRE BORING***
		L. Healey, FOL (LH)	*R. Mallardo (RM)*
		C. Burchill (CB)	*J. Reed (JR)*
		S. Sneed (SS)	*R. Doherty (RD)*
		D. Twomey (DT)	*J. Michaud (JM)*
		P. Kunkel (PK)	*E. Reed (ER)*
		E. Sandin (ES)	*J. Garside (JG)*
		L. Sears (LS)	

VISITORS: *M. Seelen and S. Turner depart at midday.*

Scott Flood, co-owner of the property with his brother Adam, dropped by to see what was going on and talked with the FOL.

WEATHER: *Cloudy, rain, approximately 60-65 degrees F. in AM, changing to sunny, approximately 75-78 degrees F.*

EQUIPMENT: *See the record for 8/12/92 for list of ABB and NHB equipment.*

CALIBRATION: *Calibration was performed on the TE-2 and TE-11 PIDs and recorded in the calibration notebook.*

OTHER EQUIPMENT: *Analytical field laboratory (see field laboratory notebook).*

ACTIVITIES: *Today is the start of the second drilling phase, the monitoring well borings with screened auger sampling. The hand auger samples will be taken today. Other soil samples still to be taken are screen formation samples from the shallow well pair borings at MW-2, 4, 5, and 7. These will be taken from the shallow borings prior to setting the water table wells.*

SURFACE SOIL SAMPLING *LH, EB, and PK took five surface/near surface samples, using a deconned hand auger and spade, from the backyard at 114 Peconic Avenue. The samples were analyzed with the onsite GC and four of them were selected for laboratory analysis and sent to NYTEST (see Sampling section below).*

RINSATE/POTABLE WATER BLANKS *LS and LH took rinsate blank sample SHQS001XXX01XX by collecting DI water that had been poured over clean, deconned split spoon and hand auger tools. LH also collected a potable water sample, SHWY001XXX01XX from the NHB water tank truck (see the Sampling section below).*

MW-6 *NHB drilled MW-6 from ground surface to 69 ft bgs using the B-61 rig with*

4.25-inch screened augers. The augers were advanced 34 ft with no sampling. The 34-39 ft interval was the first GC screened auger sample and collection of screened auger samples continued at 10 foot intervals to 69 ft bgs. A total of four screened auger samples were collected and analyzed with the onsite GC for the target compounds.

NHB drilled MW-5A from ground surface to 64 ft bgs using the B-57 rig with 4.25-inch screened augers. The augers were advanced 39 ft with no sampling. The 39-44 ft interval was the first GC screened auger sample, collection of screened auger samples continued at 10 foot intervals. Three screened auger samples were analyzed with the onsite GC for the target compounds.

SAMPLING:

Seven groundwater samples, four from MW-6 and three from MW-5A, and five surface soil samples from the yard at 114 Peconic Ave. were obtained for GC screening. Four surface near/surface soil samples, and three aqueous samples: a split spoon/hand auger rinsate blank, a potable water tank sample, and a trip blank, were packed for shipment to NYTEST and were held for pickup by NYTEST in the morning tomorrow (8/19/92).

SAMPLE NO.	***NO. OF CONTAINERS***
SHQS001XXX01XX	*5*
SHWY001XXX01XX	*5*
SHQT001XXX01XX	*2*
SHSS00100001XX	*3*
SHSS00200001XX	*3*
SHSS00300101XX	*3*
SHSS00400001XX	*3*

The ARF was completed requesting the SS, QS, and WY samples to be analyzed for TCL VOA, TCL SVOA/PEST/PCB, and TCL metals. SHQT001XXX01XX is being analyzed for TCL VOA only.

AUGUST 19, 1992
Wednesday

PERSONNEL:

ABB	NEW HAMPSHIRE BORING
L. Healey, FOL (LH)	*R. Mallardo (RM)*
C. Burchill (CB)	*J. Reed (JR)*
S. Sneed (SS)	*R. Doherty (RD)*
D. Twomey (DT)	*J. Michaud (JM)*
P. Kunkel (PK)	*E. Reed (ER)*
E. Sandin (ES)	*J. Garside (JG)*
L. Sears (LS)	

PK left the site to return to Portland at noon

WEATHER: *Sunny, approximately 75-78 degrees F.*

EQUIPMENT: *See the record for 8/12/92 for list of ABB and NHB equipment.*

CALIBRATION: *Calibration was performed on the TIP II and TE-11 PIDs and recorded in the calibration notebook.*

OTHER EQUIPMENT: *Analytical field laboratory (see field laboratory notebook).*

ACTIVITIES:

MW-6

Drilled MW-6 using the B-61 rig from 70 ft to BOB at 120 ft bgs with 4.25-inch screened augers, collecting samples at 10 foot intervals. Five screened auger samples were analyzed with the onsite GC for the target compounds.

To install the MW-6 well, NHB pulled augers up to 67 ft bgs and knocked out the bottom plug. The well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 67 to 57 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 55 ft bgs is coarse filter sand. The grout backfill in the annulus above the filter sand is bentonite slurry to the water table, then cement/bentonite slurry to the ground surface. The grout level was topped off and allowed to equilibrate overnight. The B-61 rig was deconned following well installation.

MW-5A

Drilled MW-5A using the B-57 rig from 64 ft to termination at 94 ft bgs with 4.25-inch screened augers, collecting samples at 10 foot intervals. Three screened auger samples were analyzed with the onsite GC for the target compounds.

SAMPLING: *Eight screened auger samples were taken, three from MW-5A and five from MW-6 for GC screening only. No shipment to NYTEST.*

AUGUST 20, 1992

Thursday

PERSONNEL:	***ABB***		***NEW HAMPSHIRE BORING***
		L. Healey, FOL (LH)	*R. Mallardo (RM)*
		C. Burchill (CB)	*J. Reed (JR)*
		S. Sneed (SS)	*R. Doherty (RD)*
		D. Twomey (DT)	*J. Michaud (JM)*
		L. Sears (LS)	*E. Reed (ER)*
		E. Sandin (ES)	*J. Garside (JG)*

WEATHER: *Sunny, approximately 70 degrees F.*

EQUIPMENT: *See the record for 8/12/92 for list of ABB and NHB equipment.*

CALIBRATION: *Calibration was performed on the TIP II and TE-11 PIDs and recorded in the calibration notebook.*

OTHER EQUIPMENT: *Analytical field laboratory (see field laboratory notebook).*

ACTIVITIES:

MW-4A *The B-61 rig was moved to the MW-4A location. MW-4A was advanced from ground surface to 89 ft bgs with 4.25-inch screened augers, drilling without sampling to 35 ft bgs and collecting screened auger samples at 10 foot intervals from 35 ft to 89 ft bgs. Five samples were analyzed with the onsite GC for the target compounds. A split sample from the 35-39 ft bgs interval was obtained for laboratory analytical confirmation (see Sampling section below).*

MW-5A *Installed the MW-5A well with the B-57 rig. NHB pulled augers up from 94 to 66 ft bgs and knocked out the bottom plug. The well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 66 to 56 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 54 ft bgs is coarse filter sand. The grout back fill in the annulus above the filter sand is bentonite slurry to the water table, then cement/bentonite slurry to the ground surface. The grout level was topped off and allowed to equilibrate overnight. The B-57 rig was deconned following well installation.*

MW-5B *The B-57 rig was moved to the MW-5B location. MW-5B was advanced from ground surface to 36 ft bgs with 4.25-inch augers, collecting one split spoon sample (formation sample) for GC screening and geological classification at 29-31 ft bgs. The well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 36 to 26 ft bgs, and ss riser installed to the ground*

surface. The annulus around the wellscreen and riser to 23 ft bgs is coarse filter sand. The back fill in the annulus above the filter sand is bentonite pellets for 3 feet, then cement/bentonite slurry to the ground surface. The pellets were hydrated and allowed to expand prior to backfilling with cement/bentonite grout. The grout level was topped off and allowed to equilibrate.

MW-7A

The B-57 rig and tools were deconned and moved to the MW-7A location and used to drill to 34 ft bgs with no sampling. Advanced to 39 ft and took one screened auger sample. The sample was analyzed with the onsite GC.

SAMPLING:

Five groundwater samples from MW-4A and one soil sample from MW-5B were obtained and screened with the field GC for the target compounds, One split screened auger sample and a trip blank were obtained and packed for pickup by NYTEST tomorrow, 8/21/92.

SAMPLE NO.	***NO OF CONTAINERS***
SHBW04A03501XX	*2*
SHQT002XXX01XX	*2*

The ARF was completed requesting sample analysis for TCL VOAs only.

AUGUST 21, 1992
Friday

PERSONNEL:	***ABB***		***NEW HAMPSHIRE BORING***
		L. Healey, FOL (LH)	*R. Mallardo (RM)*
		C. Burchill (CB)	*J. Reed (JR)*
		S. Sneed (SS)	*R. Doherty (RD)*
		D. Twomey (DT)	*J. Michaud (JM)*
		L. Sears (LS)	*E. Reed (ER)*
		E. Sandin (ES)	*J. Garside (JG)*

WEATHER: *Sunny, approximately 70 degrees F.*

EQUIPMENT: *See the record for 8/12/92 for list of ABB and NHB equipment.*

CALIBRATION: *Calibration was performed on the TIP II and TE-11 PIDs and recorded in the calibration notebook.*

OTHER EQUIPMENT: *Analytical field laboratory (see field laboratory notebook).*

ACTIVITIES: *No drilling or sampling at MW-7A.*

MW-4A *Drilled and sampled MW-4A from 94 to 109 ft bgs, obtaining three screened auger samples. The samples were analyzed with the site GC. The NHB crew stopped work at 1045 to catch an early ferry as the 1330 ferry wasn't running.*

NYTEST picked up one cooler before noon. DT and SS shut down the GC system by 1300. ABB crew left trailer at 1300 for the flight home at approximately 1430.

SAMPLING: *Three screened auger groundwater samples from MW-4A were screened with the field GC before shutting down for the shift break.*

END OF SHIFT

SHIFT 2 *MONITORING WELL INSTALLATION*

AUGUST 26, 1992
Wednesday

PERSONNEL:

ABB	*NEW HAMPSHIRE BORING*
L. Healey, FOL (LH)	*T. Garside (TG)*
E. Sandin (ES)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*B. Mallardo (BM)*
S. Secovich (SJS)	*R. Dupont (RD)*

VISITORS: *SS's relatives briefly visited the site trailer.*

ASSIGNMENTS: *LH - Field Operations Leader; DT - GC Operator; SS - Asst GC Operator; ES and SJS - drill rig monitors; ES - Health and Safety Officer (HSO).*
New Hampshire Boring (NHB) owner, TG, and crew, JR and JG, BM, and RD will be operating the Mobile B-57 and B-61 rigs.

WEATHER: *Sunny, hazy, humid, 90-95 degrees F, short rainy periods.*

CALIBRATION: *Instrument calibrations for TIP II and TE-2 are recorded on the calibration record.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES: *ECJ personnel arrived on site 1030. Waited for NHB to arrive, calibrated instruments, made a trip to the hardware store, had lunch, etc. until NHB arrived at 1145.*

One new NHB crew member, RD, attended a Health and Safety briefing led by the HSO, ES.

MW-4A *Drilling and sampling with the B-61 rig, which was left at the MW-4A borehole during the shift break, was delayed until late afternoon while JR modified a new NHB Grundfos submersible pump. Late in the day, MW-4A was advanced from*

110 to 130 ft bgs with screened 4.25-inch HSA. Two GC samples were obtained and analyzed with the onsite GC for the target compounds.

MW-7A

Drilling and sampling with the B-57 rig, which was left at the MW-7A borehole during the shift break, started soon after NHB's arrival. MW-7A was advanced with 4.25-inch screened HSA from 48 to 88 ft bgs. Screened auger samples were obtained at 10 foot intervals and screened with the onsite GC. Five GC samples were obtained and analyzed with the onsite GC for the target Compounds.

SAMPLING:

Screened auger samples were taken for GC only. No shipment to NYTEST.

AUGUST 27, 1992
Thursday

PERSONNEL:

ABB

L. Healey, FOL (LH)
E. Sandin (ES)
S. Sneed (SS)
D. Twomey (DT)
S. Secovich (SJS)

NEW HAMPSHIRE BORING

T. Garside (TG)
J. Garside (JG)
J. Reed (JR)
B. Mallardo (BM)
R. Dupont (RD)

NYSDEC

E. Blackmer (EB)

EB arrived onsite at 1345.

WEATHER:

Sunny, hazy, very very humid, 90-95 degrees F, short rainy period in the early afternoon, followed by increased humidity. NHB and ABB crews took frequent breaks and HSO monitored the crew's liquid intakes closely.

CALIBRATION:

Instrument calibrations for TIP II and TE-2 are recorded on the calibration record.

EQUIPMENT:

ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

MW-4A

MW-4A was advanced from 130 to BOB at 150 ft bgs with the B-61 rig using screened 4.25-inch HSA. Two GC samples were obtained and analyzed with the onsite GC for the target compounds.

To install the MW-4A well, NHB pulled augers with the B-61 rig up from the BOB at 150 ft bgs to 80 ft bgs and knocked out the bottom plug. The well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 80 to 70 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 67 ft bgs is coarse filter sand. The grout back fill in the annulus above the filter sand is bentonite slurry to the water table. The cement/bentonite slurry to the ground surface will be completed tomorrow.

MW-3A

The B-61 rig was deconned and moved to the MW-3A location in the northeast

corner of the site. MW-3A was advanced with the B-61 rig using 4.25-inch screened HSA from ground surface to 40 ft bgs with no sampling before stopping for the day.

MW-7A

MW-7A was advanced from 88 to BOB at 108 ft bgs with the B-57 rig using 4.25-inch screened HSA. Screened auger samples were obtained at 10 foot intervals and screened with the onsite GC. Two GC samples were obtained and analyzed with the onsite GC for the target compounds.

To install the MW-7A well, NHB pulled augers with the B-57 rig up to 67 ft bgs and knocked out the bottom plug. The well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 67 to 57 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 55 ft bgs is coarse filter sand. The grout backfill in the annulus above the filter sand is bentonite slurry to the water table, then cement/bentonite slurry to the ground surface. The grout level was topped off and allowed to equilibrate overnight.

MW-7B

The downhole tools and augers on the B-57 rig were deconned following well installation and the rig was moved over 10-12 ft to the MW-7B location. MW-7B was advanced 28 ft bgs with the B-57 rig using 4.25-inch screened HSA with no sampling before stopping for the day.

SAMPLING:

Screened auger samples were taken for GC only. No shipment to NYTEST.

AUGUST 28, 1992
Friday

PERSONNEL:

ABB

L. Healey, FOL (LH)
E. Sandin (ES)
S. Sneed (SS)
D. Twomey (DT)
S. Secovich (SJS)

NEW HAMPSHIRE BORING

T. Garside (TG)
J. Garside (JG)
J. Reed (JR)
B. Mallardo (BM)
R. Dupont (RD)

NYSDEC

E. Blackmer (EB)

EB left the site at 1125.

WEATHER:

Sunny, hazy, very humid, 85-90 degrees F. NHB and ABB crews took frequent breaks and HSO monitored the crew's liquid intakes closely.

CALIBRATION:

Instrument calibrations for TIP II and TE-2 are recorded on the calibration record.

EQUIPMENT:

ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

MW-3A

MW-3A was advanced from 40 to 140 ft bgs with the B-61 rig using screened 4.25-inch HSA. Eleven screened auger GC samples were obtained and analyzed with the onsite GC for the target compounds. One of the samples, SHBW03A09501XX, was collected in duplicate and packed for shipment to NEI next Monday for laboratory confirmation of TCL VOAs only.

To evaluate the contribution of site-related contaminants at MW-3A, the ABB FOL and crew decided to install the MW-3A well spanning the water table.

NHB pulled augers out of the MW-3A borehole with the B-61 rig up to approximately 50 ft bgs before stopping for the night.

JR and JG finished the grouting and installed protective casings at MW-7A, MW-7B, and MW-4A.

MW-7B

MW-7B was advanced with the B-57 rig using 4.25-inch screened HSA from 28 ft bgs to 38 ft bgs. One split spoon soil sample of the formation was obtained at 38-39 ft bgs. MW-7B was constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 38 to 28 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 25 ft bgs is coarse filter sand. The back fill in the annulus above the filter sand is bentonite pellets for 3 feet, then cement/bentonite slurry to the ground surface. The pellets were hydrated and allowed to expand prior to backfilling with cement/bentonite grout. The grout level was topped off and allowed to equilibrate.

MW-4B

MW-4B was advanced with the B-57 rig using 4.25-inch screened HSA from ground surface to 39 ft bgs. One split spoon soil sample of the formation was obtained at 38-39 ft bgs. MW-4B was constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 39 to 29 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 26 ft bgs is coarse filter sand. The back fill in the annulus above the filter sand is bentonite pellets for 3 feet, then cement/bentonite slurry to the ground surface. The pellets were hydrated and allowed to expand prior to backfilling with cement/bentonite grout. The grout level was topped off and allowed to equilibrate.

MW-2A

The B-57 rig was deconned and moved to the MW-2A location in the driveway at 114 Peconic Ave. MW-2A was advanced with the B-57 rig using 4.25-inch screened HSA from ground surface to 44 ft bgs with no sampling then to 84 ft bgs with screened auger sampling at 10 foot intervals. A total of five screened auger water samples were obtained and screened with the onsite GC.

SAMPLING:

One split screened auger sample was obtained, packed on ice, and held for pickup by NYTEST Monday, 8/31/92.

SAMPLE NO.	***NO OF CONTAINERS***
SHBW03A09501XX	*2*

AUGUST 29, 1992
Saturday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*T. Garside (TG)*
E. Sandin (ES)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*B. Mallardo (BM)*
S. Secovich (SJS)	*R. Dupont (RD)*

INCIDENTS:

JR and TG had backed the grout trailer up near the spot where the Resources Trailers Co. office trailer was in 1990 when electricity from a partially buried wire (hitherto unnoticed) arced and struck the frame of the grout trailer. The metal supports under the trailer were in contact with the ground and the trailer was wet with grout and water. No one was touching the trailer at the time, and no one was hurt.

LH called 911 to report a live wire, and fenced off the area. A LILCO representative came to check it out and found that the wire was hot. It looks as if it runs underground to the house at 114 Peconic, also owned by Adam Flood. The wire probably is hooked up to a separate breaker in the basement. The LILCO rep said it is the homeowner responsibility to turn off the power. LH called A. Flood at his business and home and got no answer. Will try again tomorrow.

WEATHER:

Sunny, dry, pleasant light winds, 80 to 85 degrees F.

CALIBRATION:

Instrument calibrations for TIP II and TE-2 are recorded on the calibration record.

EQUIPMENT:

ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

MW-3A

The B-61 rig was used to pull augers from where they were left last night at 50 ft bgs to 42 bgs in the MW-3A borehole prior to knocking out the bottom plug to install the well. Had trouble knocking the plug out, and the driller realized that about 2.5 ft of fine sand had come into the lead auger. (This was a new screened auger made by NHB, but it was made with 20-slot screen and passed a lot of fine sand through the slots and around the welds). Pulled the auger out and redrilled with a clean lead auger to 42 ft bgs to install MW-3A.

The well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, installed from 42 to 32 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 29 ft bgs is coarse filter sand. The back fill in the annulus above the filter sand is bentonite pellets for 3 feet, then cement/bentonite slurry to the ground surface. The pellets were hydrated and allowed to expand prior to backfilling with cement/bentonite grout. The grout level was topped off and allowed to equilibrate.

MW-1A

The B-61 rig was deconned following wellinstallation and moved to Mr. Swenor's property adjacent to the northwest corner of the 118 Peconic Ave. lot to which Mr. Sheridan has denied access. MW-1A was advanced to 41 ft bgs. using 4.25-inch screened HSA with no sampling, and from 42 to 65 ft bgs obtaining screened auger samples at 10 foot intervals. Three GC samples were obtained and analyzed with the onsite GC for the target compounds.

MW-2A

The B-57 rig drilled in MW-2A from 84 to BOB at 124 ft bgs obtaining screened auger samples at 10 foot intervals. Four GC samples were obtained and analyzed with the onsite GC for the target compounds. Pulled the augers up to 72 ft bgs to set the wellscreen. The MW-2A well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 72 to 62 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 57 ft bgs is coarse filter sand. The backfill in the annulus above the filter sand is bentonite slurry to the water table.

MW-2B

The B-57 rig tools and equipment were deconned following MW-2A well installation and moved over 10 ft south to MW-2B. MW-2B was advanced with the B-57 rig using 4.25-inch screened HSA from ground surface to 45 ft bgs. One split spoon soil sample of the formation was obtained at 44-45 ft bgs. MW-2B was constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 45 to 35 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 32 ft bgs is coarse filter sand. The backfill in the annulus above the filter sand is bentonite slurry for 3 feet. The cement/bentonite slurry to the ground surface will be added tomorrow. The grout was left to equilibrate overnight. The rig was moved to the site, and the boreholes at MW-2A and 2B were protected with locking caps and heavy equipment.

SAMPLING:

Screened auger samples were taken for GC only. No shipment to NYTEST.

AUGUST 30, 1992
Sunday

PERSONNEL:

ABB	NEW HAMPSHIRE BORING
L. Healey, FOL (LH)	*T. Garside (TG)*
E. Sandin (ES)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*B. Mallardo (BM)*
S. Secovich (SJS)	*R. Dupont (RD)*
K. Kuebler (KK)	
S. Pressley (SP)	

Started at 0900 instead of 0700 because it's Sunday and we are working in resident's yards. ES left the site at 1315 to return to Portland. T. Longley is due in tonight to replace him.

Kate Kuebler and Shelley Pressley arrived from Portland to start the domestic well survey.

Well Survey

The purpose of the domestic well survey is to determine the groundwater users in the plume area. They were briefed by LH and started the survey on Eileen Court. They will cover the area in which the contaminant plume was projected by the 1983 SCDOHS study, plus the area projected by ABB in the 1992 Work Plan. They are recording house numbers on the off-site map so that residents can be easily contacted in the future if there is concern about groundwater usage.

WEATHER:

Sunny, dry, pleasant light winds, 85 to 90 degrees F.

CALIBRATION:

Instrument calibrations for Tip II and TE-2 are recorded on the calibration record.

EQUIPMENT:

ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

MW-1A

In MW-1A the B-61 rig was used to advance with 4.25-inch screened HSA from 65 ft to BOB at 125 ft bgs obtaining screened auger samples at 10 foot intervals. Six GC samples were obtained and analyzed with the onsite GC for the target compounds. The augers were pulled up from BOB to 48 ft bgs to set the well across the water table, but the well was not installed because NHB is temporarily out of sandpack material. The borehole was secured for the night with the rig and augerhead.

MW-2B

The B-57 rig at MW-2B was used to finish the well installation, pulling augers and adding cement/bentonite backfill to near the ground surface.

MW-8

The B-57 rig, downhole equipment, and tools were deconned and the rig moved to the MW-8 location on Hanover Place. MW-8 was advanced 44 ft bgs using 4.25-inch screened HSA with no sampling. They drilled from 44 to 79 ft bgs obtaining screened auger samples at 10 foot intervals. Four GC samples were obtained from MW-8 and analyzed with the onsite GC for the target compounds.

SAMPLING

One split screened auger sample was obtained and packed with a trip blank and another split obtained on 8/28/92 for pickup by NYTEST Monday, 8/31/92.

SAMPLE NO.	***NO OF CONTAINERS***
SHBW03A09501XX	*2*
SHQT003XXX01XX	*2*
SHBW00804401XX	*2*

The ARF was completed requesting sample analysis for TCL VOAs only.

6TH

AUGUST 31, 1992
Monday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*T. Garside (TG)*
T. Longley (TL)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*G. Twombly (GT)*
S. Secovich (SJS)	*R. Dupont (RD)*
K. Kuebler (KK)	*J. Michaud (JM)*
S. Pressley (SP)	

NHB's B. Mallardo leaves and is replaced with GT and JM.

ABB's T. Longley takes ES's place as the HSO.

One new NHB crew member, G. Twombly, attended a Health and Safety briefing led by the HSO, TL.

WEATHER: *Sunny, dry, pleasant light winds, 85 to 90 degrees F.*

CALIBRATION: *Instrument calibrations for the TE-2 and TIP II were attempted but neither instrument could be calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.*

TL brought down a level, tripod, and rod from B. Burger's group for a level survey of the onsite wells.

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-1A *B-61 rig at MW-1A installed the well. MW-1A is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 48 to 38 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 35 ft bgs is coarse filter sand. The back fill in the annulus above the filter sand is bentonite slurry to the water table and cement/bentonite slurry above the water table.*

MW-9 *The B-61 rig, downhole tools, and equipment was deconned and moved to MW-9, located approx. 50 ft north of the northwest corner of Oak St. and Southaven Ave. Advanced MW-9 with 4.25-inch HSA to 45 ft bgs with no sampling, then to 79 ft bgs obtaining screened auger water samples at 10-foot intervals. Four*

samples were collected and analysed with the onsite GC for the target compounds.

MW-8

MW-8 was advanced with the B-57 rig from 79 to BOB at 110 ft bgs using 4.25-inch screened HSA obtaining screened auger samples at 10 foot intervals. Three GC samples were obtained from MW-8 and analyzed with the onsite GC for the target compounds.

Tom Longley and Linda Healey did a relative elevation survey of the onsite wells and the wells at 114 Peconic Ave.

Well Survey

Kate Kuebler and Shelley Pressley continue the domestic well survey, going door-to-door with the survey questionaires. There is no water service on Eileen Ct., only private wells. They are finding that people are mostly cooperative, but that some people fear that if the town puts water in, their costs will go up. They found that early evening is the best time to do the survey.

SAMPLING:

Screened auger samples were taken for GC only. No shipment to NYTEST.

SEPTEMBER 1, 1992
Tuesday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*T. Garside (TG)*
T. Longley (TL)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*G. Twomley (GT)*
S. Secovich (SJS)	*R. Dupont (RD)*
K. Kuebler (KK)	*J. Michaud (JM)*
S. Pressley (SP)	

T. Garside leaves the site in midafternoon.

WEATHER: *Sunny, dry, pleasant light winds, 85 to 90 degrees F.*

CALIBRATION: *Instrument calibrations for the TE-2 and TIP II were attempted but neither instrument could be calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-9 *The B-61 rig was used at MW-9 to advance with 4.25-inch screened HSA from 79 ft bgs to BOB at 140 ft bgs obtaining screened auger samples at 10 foot intervals. Six GC samples were obtained and analyzed with the onsite GC for the target compounds. The augers were pulled up from BOB to 125 ft bgs to set the wellscreen. The MW-9 well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 125 to 115 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 110 ft bgs is coarse filter sand. The backfill in the annulus above the filter sand is bentonite slurry to 90 ft bgs. Will complete the well tomorrow.*

MW-10 *The B-57 rig at MW-10 advanced from ground surface to 38 ft bgs with 4.25-inch screened HSA with no sampling and from 38 ft bgs to BOB at 134 ft bgs obtaining screened auger samples at 10 foot intervals. Ten GC samples were obtained from MW-10 and analyzed with the onsite GC for the target compounds. At the end of the day, JG pulled the augers to 90 ft bgs but could go no further with that rig.*

Well Survey

Kate Kuebler and Shelley Pressley continue the domestic well survey. They are down to Southaven Ave.

SAMPLING:

One split screened auger sample was obtained and packed with a trip blank for pickup by NYTEST Wednesday, 9/2/92.

SAMPLE NO.	***NO OF CONTAINERS***
SHBW01004901XX	*2*
SHQT004XXX01XX	*2*

The ARF was completed requesting sample analysis for TCL VOAs only.

SEPTEMBER 2, 1992
Wednesday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*T. Garside (TG)*
T. Longley (TL)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*G. Twomley (GT)*
S. Secovich (SJS)	*R. Dupont (RD)*
K. Kuebler (KK)	*J. Michaud (JM)*
S. Pressley (SP)	

WEATHER: *Sunny, dry, pleasant light winds, 85 to 90 degrees F.*

CALIBRATION: *Instrument calibrations for the TE-2 and TIP II were attempted but neither instrument could be calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-10 *The B-61 rig completed installation of the MW-9 well, deconned, then moved to the MW-10 location, where the B-57 rig could not turn the augers. The B-61 rig was used to advance to 95 ft bgs where LH indicated the wellscreen should be installed. The MW-10 well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 95 to 85 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 81 ft bgs is coarse filter sand. The backfill in the annulus above the filter sand is bentonite slurry to the water table (40 ft bgs) and cement bentonite grout to 20 ft bgs. The B-61 rig returned to the site for the night and will complete the installation tomorrow.*

MW-11 *The B-57 rig deconned and moved to the MW-11 location about 100 ft north of the northwest corner of Eileen Ct. and Jamaica Ave. MW-11 was advanced with 4.25-inch screened HSA with no sampling to 27 ft bgs, and from 27 ft bgs to 84 ft bgs obtaining screened auger samples at 10 foot intervals. Six GC samples were obtained from MW-11 and analyzed with the onsite GC for the target compounds.*

Well Survey *Kate Kuebler and Shelley Pressley continued the domestic well survey. They are down to Connelly St./Ave. They have also gone to the SCWA office and the Brookhaven Town Offices getting some demographic info.*

SAMPLING: *Screened auger samples were taken for GC only. No shipment to NYTEST.*

SEPTEMBER 3, 1992
Thursday

PERSONNEL:

ABB	*NEW HAMPSHIRE BORING*
L. Healey, FOL (LH)	*T. Garside (TG)*
T. Longley (TL)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*G. Twombly (GT)*
S. Secovich (SJS)	*R. Dupont (RD)*
K. Kuebler (KK)	*J. Michaud (JM)*
S. Pressley (SP)	

WEATHER: *Intermittent rain showers, becoming torrential thunderstorms at about 1100 hours, 70-75 degrees F.*

CALIBRATION: *Instrument calibrations for the TE-2 and TIP II were attempted but neither instrument could be calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-11

The B-57 rig at MW-11 continued drilling with screened HSA from 84 ft bgs to BOB at 114 ft bgs obtaining screened auger samples at 10 foot intervals. Three GC samples were obtained from MW-11 and analyzed with the onsite GC for the target compounds.

Delayed installation of MW-11 for about an hour and a half because of thunderstorms and heavy rain. MW-11 well is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 105 to 95 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 92 ft bgs is coarse filter sand. The backfill in the annulus above the filter sand is bentonite slurry to the water table and cement bentonite grout to __ ft bgs.

MW-12

The B-61 rig deconned the rig, downhole tools, and equipment and moved to the MW-12 location on the north side of Connelly Ave. opposite the Edwards St. intersection. Drilled from ground surface to 50 ft bgs with 4.25-inch screened HSA with no sampling, then stopped due to heavy rain and thunderstorms for an hour and a half. Drilled from 50 ft bgs to 1004 ft bgs obtaining screened auger samples at 10 foot intervals. Six GC samples were obtained from MW-11 and analyzed with the onsite GC for the target compounds. A duplicate (GC

sample split) was obtained from the 85-90 ft bgs interval (see Sampling section below).

Well Survey

Kate Kuebler and Shelley Pressley continued the domestic well survey. They are south of Connelly Ave/St. They are compiling data they have collected in order to target up to 10 domestic wells that we can sample during the first goundwater sampling round.

Sampling:

Screened auger samples were taken for GC analysis only from MW-11. One GC split sample was obtained in MW-12 at 85-90 ft bgs. It was packed with trip blank QT-5 for pickup by NEI tomorrow, 9/4/92, in the morning.

SAMPLE NO.	***NO OF CONTAINERS***
SHBW01208501XX	*2*
SHQT005XXX01XX	*2*

The ARF was completed requesting sample analysis for TCL VOAs only.

SEPTEMBER 4, 1992
Friday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*T. Garside (TG)*
T. Longley (TL)	*J. Garside (JG)*
S. Sneed (SS)	*J. Reed (JR)*
D. Twomey (DT)	*G. Twombly (GT)*
S. Secovich (SJS)	*R. Dupont (RD)*
K. Kuebler (KK)	*J. Michaud (JM)*
S. Pressley (SP)	

Last day of the second shift.

WEATHER: *Cloudy, foggy, clearing skies predicted; muggy; 75-80 degrees F.*

CALIBRATION: *None of the PI meters are working. Packed up the nonfunctioning Tip and TEs for shipment back to Portland. Also returned the level, tripod, and rod.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785 and CE-10, Thermoelectric (TE) photoionization meters TE-2, #580423386210 and TE-11 #580236878227, NYSDEC photoionization meter (Photovac TIP) TIP #FA900025, Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-11 *The B-57 rig finished MW-11 but is still at the well location pending clean up. JG, JR, and RD moved the sand cuttings back to the site with the Bobcat and installed the protective casing.*

MW-9,10 *JG, JR, and RD installed the protective casings at MW-9 and MW-10, and moved the sand cuttings back to the site.*

MW-12 *The B-61 rig drilled from 100 ft bgs to 170 ft bgs obtaining screened auger samples at 10 foot intervals. Seven GC samples were obtained from MW-11 and analyzed with the onsite GC for the target compounds.*

Well Survey *Kate Kuebler and Shelley Pressley are finished with the well survey.*

SAMPLING: *Nytest picked up one GC split sample and a trip blank (see Sampling section for 9/3/92).*

SHIFT 3 *MONITORING WELL INSTALLATION*

SEPTEMBER 11, 1992
Friday

PERSONNEL:

ABB	*NEW HAMPSHIRE BORING*
L. Healey, FOL (LH)	*T. Garside (TG)*
L. Sears (LS)	*J. Reed (JR)*
K. Hewitt (KH)	*R. Dupont (RD)*
D. Twomey (DT)	

ASSIGNMENTS: *LH - Field Operations Leader; DT - GC Operator; LS and KH - drill rig monitors; LS - Health and Safety Officer (HSO).*
New Hampshire Boring (NHB) owner, TG, and crew, RD and JR, are operating the Mobile B-57 and B-61 rigs. J. Michaud is due to arrive tomorrow.

WEATHER: *Cloudy, clearing late in day, hazy, humid, 80-85 degrees F.*

CALIBRATION: *No instruments were calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES: *ECJ personnel arrived on site 1030. Waited for NHB to arrive, packed coolers, restarted the GC units, had a short H&S briefing for KH, went over the project scope, had lunch, etc. until NHB arrived at 1145.*

MW-12 *The B-61 rig is at the MW-12 borehole on Connelly Ave. (across from Edward Ave.) where it was left during the shift break protecting the borehole. The auger string is at 100 ft bgs. LH instructed the NHB crew to install a water table well (spanning the water table) with the bottom at 100 ft. MW-12 is constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 46 to 36 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 33 ft bgs is coarse filter sand. The grout backfill in the annulus above the filter sand is bentonite pellets, then cement/bentonite slurry to the ground surface. The grout level was topped off and allowed to equilibrate overnight. The B-61 rig was left protecting the hole.*

MW-13 *The B-57 rig, which was left onsite over the shift break, was deconned and*

moved to the MW-13 location, on the south side of Southaven Ave. next to an ROW originally shown on the tax maps as Watch Hill Ave. MW-13 was advanced with 4.25-inch screened HSA from ground surface to 44 ft bgs with no sampling.

SAMPLING: *No screened auger samples were taken for GC screening. No shipment to NYTEST.*

SEPTEMBER 12, 1992
Saturday

PERSONNEL:	***ABB***		***NEW HAMPSHIRE BORING***
		L. Healey, FOL (LH)	*T. Garside (TG)*
		L. Sears (LS)	*J. Reed (JR)*
		K. Hewitt (KH)	*R. Dupont (RD)*
		D. Twomey (DT)	

WEATHER: *Sunny, dry, low humidity, 70-75 degrees F., light breeze.*

CALIBRATION: *No instruments were calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-13 *MW-13 was advanced from 44 to BOB at 104 ft bgs with the B-57 rig using screened 4.25-inch HSA, obtaining screened auger groundwater samples at ten-foot intervals. Six GC samples were obtained and analyzed with the onsite GC for the target compounds. Both Grundfos pumps were out of order most of the day. Tom Garside fixed one pump so that it works minimally.*

MW-12 *At MW-12, the grout level was topped off, the rest of the augers were pulled, and the protective casing installed.*

MW-14 *The B-61 rig, downhole tools, and equipment were deconned and moved to the MW-14 location at the west end of Connelly Ave. MW-14 was advanced using screened 4.25-inch HSA from ground surface to 50 ft bgs with no sampling.*

LS obtained a round of water level measurements in the completed wells.

SAMPLING: *Six screened auger samples from MW-13 were submitted for field GC screening. No shipment to NYTEST.*

SEPTEMBER 13, 1992
Sunday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*T. Garside (TG)*
L. Sears (LS)	*J. Reed (JR)*
K. Hewitt (KH)	*R. Dupont (RD)*
D. Twomey (DT)	*J. Michaud (JM)*

WEATHER: *Sunny, dry, low humidity, 70-75 degrees F., light breeze.*

CALIBRATION: *No instruments were calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-13 *The auger string at MW-13 was pulled up to 56 ft, and MW-13 was constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 55.5 to 45.5 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 41.5 ft bgs is coarse filter sand. The grout backfill in the annulus above the filter sand is bentonite pellets, then cement/bentonite slurry to the ground surface. The grout level was topped off and allowed to equilibrate overnight.*

B-15 *The B-57 rig deconned and moved to the B-15 location, on the north side of Connelly Ave. between Oak St and Evergreen Ave. Drilled using screened 4.25-inch HSA from ground surface to 38 ft bgs with no sampling, and from 38 to 63 ft bgs obtaining groundwater samples at ten-foot intervals. Three GC samples were obtained and analyzed with the onsite GC for the target compounds.*

MW-14 *The B-61 rig advanced the MW-14 borehole from 50 ft bgs to BOB at 149 ft bgs using screened 4.25-inch HSA and obtaining groundwater samples at ten-foot intervals. Eleven GC samples were obtained and analyzed with the onsite GC for the target compounds. One of the samples was split and sent to NEI for confirmatory analysis.*

MW-14 was constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 42.9 to 32.9 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 30 ft bgs is coarse filter sand. The well installation will be completed on Monday.

SAMPLING:

One split screened auger sample was obtained from MW-14 and packed with a trip blank for pickup by NYTEST Monday, 9/14/92.

SAMPLE NO.	***NO OF CONTAINERS***
SHBW01411501XX	*2*
SHQT006XXX01XX	*2*

The ARF was completed requesting sample analysis for TCL VOAs only.

Fourteen samples were analyzed for the target VOCs with the field GC.

SEPTEMBER 14, 1992
Monday

PERSONNEL:

ABB

L. Healey, FOL (LH)
L. Sears (LS)
K. Hewitt (KH)
D. Twomey (DT)

NEW HAMPSHIRE BORING

T. Garside (TG)
J. Reed (JR)
R. Dupont (RD)
J. Michaud (JM)

NYSDEC

E. Blackmer (EB)

John Bleiler and Sally Hewitt arrived to complete the habitat-based risk assessment. They completed a reduced scope assessment before the end of the day.

John Michaud and Rick Dupont left the site with the B-57 rig at noon.

E. Blackmer arrived at 1130.

WEATHER:

Sunny, dry, low humidity, 70-75 degrees F., light breeze (another beautiful day).

CALIBRATION:

No instruments were calibrated.

EQUIPMENT:

ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

B-15

The B-57 rig advanced B-15 using screened 4.25-inch HSA from 63 ft bgs to 108 ft bgs, obtaining groundwater samples at ten-foot intervals. The rig could no longer turn the augers at 108 ft bgs, so the rig was moved off the hole and deconned prior to leaving the site.

The B-61 rig was deconned and moved onto the B-15 borehole, replacing the B-57 rig, and advanced from 108 ft bgs to BOB at 150 ft bgs obtaining groundwater samples at ten-foot intervals. A total of nine GC samples were obtained from the boring and analyzed with the onsite GC for the target compounds.

MW-14

The B-61 rig finished grouting and pulled the augers at the MW-14 well location.

LS obtained a round of water level measurements and bailed MW-1, MW-3, and MW-4B prior to obtaining GC samples from each.

SAMPLING: *Nine screened auger samples from B-15 and three monitoring well samples from MW-1, MW-3, and MW-4B were obtained and screened with the site GC. No samples were shipped to NYTEST.*

SEPTEMBER 15, 1992
Tuesday

PERSONNEL:

ABB

L. Healey, FOL (LH)
L. Sears (LS)
K. Hewitt (KH)
D. Twomey (DT)

NEW HAMPSHIRE BORING

T. Garside (TG)
J. Reed (JR)

NYSDEC

E. Blackmer (EB)

LS from ABB left the site at the end of the day.

WEATHER:

Sunny, dry, increasing humidity, 80-85 degrees F., light breeze (and another beautiful day).

CALIBRATION:

No instruments were calibrated.

EQUIPMENT:

ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

B-16

The B-61 rig advanced using screened 4.25-inch HSA from ground surface bgs to 45 ft bgs with no sampling and 45 ft to BOB at 150 ft bgs obtaining groundwater samples at ten-foot intervals. Eleven GC samples were obtained and analyzed with the onsite GC for the target compounds. Pulled augers to 120 ft bgs before leaving for the day.

SAMPLING:

LS bailed MW-2B, MW-5B, MW-7B, MW-12, and MW-14 prior to obtaining GC samples from each.

Eleven screened auger samples from B-16 and five monitoring well samples from the wells listed above (MW-2B, 5B, 7B, 12, and MW-14) were obtained and screened with the site GC. No samples were shipped to NYTEST.

SEPTEMBER 16, 1992
Wednesday

PERSONNEL:

ABB

L. Healey, FOL (LH)
K. Hewitt (KH)
D. Twomey (DT)

NEW HAMPSHIRE BORING

T. Garside (TG)
J. Reed (JR)
J. Michaud (JM)
J. Garside (JG)

NYSDEC

E. Blackmer (EB)

NHB crew members JM and JG arrived at hotel last night. TG left in the early AM.

EB left the site at 0900.

WEATHER:

Sunny, dry, 85-90 degrees F., light breeze.

CALIBRATION:

No instruments were calibrated.

EQUIPMENT:

ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.

OTHER EQUIPMENT:

Analytical field laboratory (see field lab notebook).

ACTIVITIES:

MW-17

The B-61 rig pulled augers and finished grouting B-16, then moved back to the site and deconned prior to moving onto MW-17 at the NW corner of the intersection of Bridgeport Ave. and Connelly Ave. Advanced borehole using screened 4.25-inch HSA from ground surface to 45 ft bgs with no sampling and 45 ft to BOB at 150 ft bgs obtaining groundwater samples at ten-foot intervals. Eleven GC samples were obtained and analyzed with the onsite GC for the target compounds. NHB pulled the augers up to 55 ft bgs for the night; will install MW-17 tomorrow.

MW-13

The protective casing was installed on MW-13.

SAMPLING:

One split screened auger sample was obtained from MW-17 and packed with a trip blank for pickup by NYTEST.

SAMPLE NO.	***NO OF CONTAINERS***
SHBW01706501XX	*2*
SHQT007XXX01XX	*2*

The ARF was completed requesting sample analysis for TCL VOAs only. A

total of eleven screened auger samples were obtained from MW-17 and screened with the site GC.

SEPTEMBER 17, 1992
Thursday

PERSONNEL:	***ABB***		***NEW HAMPSHIRE BORING***
		L. Healey, FOL (LH)	*J. Garside (JG)*
		K. Hewitt (KH)	*J. Reed (JR)*
		D. Twomey (DT)	*J. Michaud (JM)*

WEATHER: *Sunny, cloudy bright, increasing humidity, 70-75 degrees F., light breeze.*

CALIBRATION: *No instruments were calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-17 *The auger string at MW-17 was pulled up to 46 ftbgs, and MW-17 was constructed of 0.010-inch wire-wrapped stainless steel (ss) wellscreen, from 45.7 to 35.7 ft bgs, and ss riser installed to the ground surface. The annulus around the wellscreen and riser to 33.5 ft bgs is coarse filter sand. The grout backfill in the annulus above the filter sand is bentonite pellets, then cement/bentonite slurry to the ground surface. The grout level was topped off and allowed to equilibrate overnight. The B-61 rig pulled augers then moved back to the site and deconned prior to leaving the site*

Development: *Developed MW-1, 3, 2A, 4A, 5A, 6, and 7A using two crews operating Grundfos pumps. The wells were pumped and surged until the return was clear.*

SAMPLING: *Seven groundwater samples from the purged wells were obtained and screened with the site GC. No samples were shipped to NYTEST.*

SEPTEMBER 18, 1992
Friday

PERSONNEL:	***ABB***		***NEW HAMPSHIRE BORING***
		L. Healey, FOL (LH)	*J. Garside (JG)*
		K. Hewitt (KH)	*J. Reed (JR)*
		D. Twomey (DT)	*J. Michaud (JM)*

WEATHER: *Rain and clouds, 70-75 degrees F., light breeze.*

CALIBRATION: *No instruments were calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *Analytical field laboratory (see field lab notebook).*

ACTIVITIES:

MW-17 *The protective casing was installed at MW-17 after topping off the grout in the borehole annulus.*

Development: *Developed MW-8, 10, 11, 12, 13, and 14 using two crews operating Grundfos pumps. The wells were pumped and surged until the return was clear.*

SAMPLING: *Four groundwater samples from the purged wells were obtained and screened with the site GC before closing down the field lab (contingent on the arrival of the gas bomb personnel, who picked up the GC gases around noon). No samples were shipped to NYTEST.*

SEPTEMBER 19, 1992
Saturday

PERSONNEL:

ABB	***NEW HAMPSHIRE BORING***
L. Healey, FOL (LH)	*J. Garside (JG)*
K. Hewitt (KH)	*J. Reed (JR)*
D. Twomey (DT)	*J. Michaud (JM)*

All personnel left the site before 1300 hours. The gate was left locked until the next shift in October.

WEATHER: *Cloudy and hot, 80-85 degrees F.*

CALIBRATION: *No instruments were calibrated.*

EQUIPMENT: *ABB H&S support equipment includes MX-241 LEL/O2 meters #ECJ10623 and 8811086-004, LEL/O2 chargers #8912060-190 and #9008053, radiation detectors #ECJ10785. and Draeger pumps # 4 and #___ (no number found.*

OTHER EQUIPMENT: *DT packed up the analytical field laboratory (see field lab notebook) and left the site.*

ACTIVITIES:

Development: *Developed MW-9, 17, 2B, 4B, 5B, and 7B using two crews operating Grundfos pumps. The wells were pumped and surged until the return was clear.*

SAMPLING: *No samples were obtained.*

SHIFT 4

GROUNDWATER SAMPLING/HYDRAULIC CONDUCTIVITY TESTING

OCTOBER 12, 1992
Monday

PERSONNEL: *ABB*

L. Healey, FOL (LH)
L. Sears (LS)
P. Kunkel (PK)
M. Lounsbury (ML)
D. Dionne (DD)

ASSIGNMENTS: *LH - Field Operations Leader; LS - HERMIT Operator; MS and KH - samplers; DD - HSO and sampling crew chief. EB - NYSDEC Project manager.*

WEATHER: *Sunny, mild, 60-65 degrees F.*

CALIBRATION: *No sampling; no instruments calibrated today.*

EQUIPMENT: *ABB equipment includes Keck water level meter, Hunter/Keck sampling pumps (2); Orion pH/conductivity/temperature meters; DO titration equipment and chemicals; Teflon™ bailers (2); PID; Hermit datalogger, pressure transducer, computer and Hermit DM software; SCBA sport breathing air tank, regulator, and apparatus.*

ACTIVITIES: *ABB personnel LH, PK, and LS arrived on site 1130. ML and DD arrived at 1400 hours with the Ryder truck and equipment. DD held a short H&S briefing; LH went over the shift scope of work.*

LS and PK completed a full round of water level measurements. DD and LH prepared sampling paperwork, coordinated delivery of sample bottles and coolers from Nytest, set up the hydraulic conductivity slug and apparatus.

OCTOBER 13, 1992
Tuesday

PERSONNEL:

ABB

L. Healey, FOL (LH)
L. Sears (LS)
P. Kunkel (PK)
M. Lounsbury (ML)
D. Dionne (DD)

NYSDEC

E. Blackmer (EB)

WEATHER: *Sunny, mild, light breeze, 60-65 degrees F.*

CALIBRATION: *Orion meter probes and PID calibrated.*

EQUIPMENT: *ABB equipment includes Keck water level meter, Hunter/Keck sampling pumps (2); Orion pH/conductivity/temperature meters #9; DO titration equipment and chemicals; Teflon™ bailers (2); PID; Hermit datalogger, pressure transducer, computer and Hermit DM software; SCBA sport breathing air tank, regulator, and apparatus.*

ACTIVITIES:

Groundwater Sampling: *DD and LH collected a sampler (rinsate) blank before the pump and bailer were used at the monitoring wells. ML and PK then obtained groundwater samples at MW-1, 2A, 2B, 3, 4A, 4B, and 5A. DD performed the titration for dissolved oxygen (DO) content on aliquots from each sample. The DO results were recorded on the sample data records with the temperature, conductivity, and pH measurements.*

Hydraulic Conductivity Testing: *LS and LH completed hydraulic conductivity tests at MW-1, 2B, 3, 4A, 4B, and 5A. Physical displacement tests using a slug were performed at the shallow wells (MW-1, 2B, 3, 4B); air displacement and physical displacement tests were performed at the deep wells (2A, 4A, 5A).*

SAMPLING: *Eleven samples were collected and packed with a trip blank for pickup by NYTEST. Because Nytest picked up at noon, the following six samples were picked up today.*

SAMPLE NO.	***NO OF CONTAINERS***
SHQT008XXX01XX	*3*
SHQS002XXX01XX	*8*
SHMW00103701XX	*8*
SHMW02A06201XX	*10*
SHMW02B03501XX	*10*
SHMW00303101XX	*8*

The ARF was completed requesting sample analysis for TCL VOAs only for the trip blank and TCL VOAs, SVOAs, and metals, plus TDS, TSS, Total alkalinity, and COD for the other samples. In addition, analyses for TCL pesticides and PCBs were requested for the samples from MW-2A and 2B. Nytest picked up the samples at noon.

Six samples (incl. the second trip blank) were held for pickup by Nytest tomorrow:

SAMPLE NO.	***NO OF CONTAINERS***
SHQT009XXX01XX	*3*
SHMW04A07001XX	*10*
SHMW04B02901XX	*26*
SHMW04B02901XD	*10*
SHMW05A05701XX	*8*
SHMW05B02501XX	*8*

The MW-4B sample contained extra volume for matrix spike and matrix spike duplicate anayses. The samples were packed on ice and locked in the site trailer overnight.

OCTOBER 14, 1992
Wednesday

PERSONNEL: ***ABB***

L. Healey, FOL (LH)
L. Sears (LS)
P. Kunkel (PK)
M. Lounsbury (ML)
D. Dionne (DD)

NYSDEC

E. Blackmer (EB)

WEATHER: *Sunny, 50-55 degrees F.*

CALIBRATION: *Orion meter probes and PID calibrated.*

EQUIPMENT: *ABB equipment includes Keck water level meter, Hunter/Keck sampling pumps (2); Orion pH/conductivity/temperature meters #9; DO titration equipment and chemicals; Teflon™ bailers (2); PID; Hermit datalogger, pressure transducer, computer and Hermit DM software; SCBA sport breathing air tank, regulator, and apparatus.*

ACTIVITIES:

Groundwater Sampling: *LH and LS collected samples at domestic wells DW-1 through DW-4, and a field blank of the decontamination water. ML and PK obtained groundwater samples at MW-6, 7A, 7B, 8, 9, 10, and 11. DD performed the titration for dissolved oxygen (DO) content on aliquots from each sample. The DO results were recorded on the sample data records with the temperature, conductivity, and pH measurements.*

Hydraulic Conductivity Testing: *LS and LH completed hydraulic conductivity tests at MW-6, 7A, 7B, 8, 9, 10, and 11. One physical displacement test using a slug was performed at the shallow well (MW-7B); air displacement and physical displacement tests were performed at the deep wells (MW-6, 7A, 8, 8, 10, and 11).*

SAMPLING: *Thirteen samples were collected and packed with the third trip blank for pickup by NYTEST. Because Nytest picked up at noon, six samples from yesterday plus the following six samples were picked up today.*

SAMPLE NO.	***NO OF CONTAINERS***
SHMW00605601XX	*10*
SHDW001XXX01XX	*8*
SHDW001XXX01XD	*8*
SHDW002XXX01XX	*8*
SHDW003XXX01XX	*8*
SHMW07A05801XX	*8*

The ARF was completed requesting sample analysis for TCL VOAs only for the trip blank and TCL VOAs, SVOAs, and metals, plus TDS, TSS, Total alkalinity, and COD for the other samples. In addition, analyses for TCL pesticides and PCBs were requested for the samples from MW-6 and 7B. Nytest picked up the samples around noon.

The following samples were held for pickup by Nytest tomorrow:

SAMPLE NO.	***NO OF CONTAINERS***
SHQT010XXX01XX	*2*
SHDW004XXX01XX	*8*
SHMW00804001XX	*8*
SHMW00911401XX	*8*
SHMW01008601XX	*8*
SHMW01109601XX	*8*
SHWY002XXX01XX	*8*

The samples were packed on ice and locked in the site trailer overnight.

OCTOBER 15, 1992
Thursday

PERSONNEL: ***ABB***

L. Healey, FOL (LH)
L. Sears (LS)
P. Kunkel (PK)
M. Lounsbury (ML)
D. Dionne (DD)

NYSDEC

E. Blackmer (EB)

WEATHER: *Rain and clouds, windy, 45-55 degrees F.*

CALIBRATION: *Orion meter probes and PID calibrated.*

EQUIPMENT: *ABB equipment includes Keck water level meter, Hunter/Keck sampling pumps (2); Orion pH/conductivity/temperature meters #9; DO titration equipment and chemicals; Teflon™ bailers (2); PID; Hermit datalogger, pressure transducer, computer and Hermit DM software; SCBA sport breathing air tank, regulator, and apparatus.*

ACTIVITIES:

Groundwater Sampling: *ML and PK obtained groundwater samples at MW-13, 14, 12, and 17. DD performed the titration for dissolved oxygen (DO) content on aliquots from each sample. The DO results were recorded on the sample data records with the temperature, conductivity, and pH measurements.*

Hydraulic Conductivity Testing: *LS and LH completed hydraulic conductivity tests at MW-13, 14, 12 and 17. Air displacement and physical displacement tests were performed at all the wells.*

SAMPLING: *Four samples were collected and packed for pickup by NYTEST. The following samples, plus those collected in the aftenoon yesterday, were picked up today.*

SAMPLE NO.	***NO OF CONTAINERS***
SHMW01304501XX	*8*
SHMW01403301XX	*8*
SHMW01203601XX	*8*
SHMW01703501XX	*8*

The ARF was completed requesting sample analysis for TCL VOAs only for the trip blank and TCL VOAs, SVOAs, and metals, plus TDS, TSS, Total alkalinity, and COD for the other samples. In addition, analyses for TCL pesticides and PCBs were requested for the field blank (WY) sample. Nytest picked up the samples around noon.

END OF SHIFT 4

SHIFT 5 *GROUNDWATER SAMPLING (ROUND 2)*

November 9, 1992
Monday

PERSONNEL: *ABB*

P. Kunkel (PK)
M. Lounsbury (ML)
D. Dionne (DD)

ASSIGNMENTS: *MS and KH - samplers; DD - HSO and sampling crew chief.*

WEATHER: *Sunny, 45 degrees F.*

CALIBRATION: *No sampling; no instruments calibrated today.*

EQUIPMENT: *ABB equipment includes Keck water level meter, Hunter/Keck sampling pumps (2); Orion pH/conductivity/temperature meters; DO titration equipment and chemicals; Teflon™ bailers (2); PID.*

ACTIVITIES: *ABB personnel ML, PK, and DD arrived at 1455 hours with the Ryder truck and equipment. DD covered the shift scope of work.*

ML and PK completed a full round of water level measurements. DD prepared sampling paperwork and coordinated delivery of sample bottles and coolers from Nytest.

November 10, 1992
Tuesday

PERSONNEL: ***ABB***

P. Kunkel (PK)
M. Lounsbury (ML)
D. Dionne (DD)

WEATHER: *Sunny, 45 degrees F.*

CALIBRATION: *Orion meter probes and PID calibrated.*

EQUIPMENT: *ABB equipment includes Keck water level meter, Hunter/Keck sampling pumps (2); Orion pH/conductivity/temperature meters; DO titration equipment and chemicals; Teflon™ bailers (2); PID.*

ACTIVITIES:

Groundwater Sampling: *DD collected a sampler (rinsate) blank before the pump and bailer were used at the monitoring wells. ML and PK then obtained groundwater samples at MW-1, 2A, 2B, 3, 4A, 4B, 5A, 5B, 6, and 7A, and a field blank. DD performed the titration for dissolved oxygen (DO) content on aliquots from each sample. The DO results were recorded on the sample data records with the temperature, conductivity, and pH measurements.*

SAMPLING: *Thirteen samples were collected and packed with a trip blank for pickup by NYTEST. Nytest picked up the following samples in the afternoonat noon:*

SAMPLE NO.	***NO OF CONTAINERS***
SHQT001XXX02XX	*3*
SHQS001XXX02XX	*10*
SHMW00103702XX	*8*
SHMW02A06202XX	*10*
SHMW02B03502XX	*10*
SHMW00303102XX	*8*
SHMW04A07001XX	*10*
SHMW04B02901XX	*26*
SHMW04B02901XD	*10*
SHWY001XXX02XX	*8*

The ARF was completed requesting sample analysis for TCL VOAs only for the trip blank and TCL VOAs, SVOAs, and metals, plus TDS, TSS, Total alkalinity, and COD for the other samples. In addition, analyses for TCL pesticides and PCBs were requested for the samples from MW-2A and 2B. The MW-4B sample contained extra volume for matrix spike and matrix spike duplicate analyses. Nytest picked up the samples in midafternoon.

Five samples (incl. the second trip blank) were held for pickup by Nytest tomorrow:

SAMPLE NO.	*NO OF CONTAINERS*
SHQT002XXX02XX	*2*
SHMW05A05702XX	*8*
SHMW05B02502XX	*8*
SHMW00605602XX	*10*
SHMW07A05802XX	*8*

These samples were packed on ice and locked in the site trailer overnight.

November 11, 1992
Wednesday

PERSONNEL: ***ABB***

P. Kunkel (PK)
M. Lounsbury (ML)
D. Dionne (DD)

WEATHER: *Cloudy 40 degrees F.*

CALIBRATION: *Orion meter probes and PID calibrated.*

EQUIPMENT: *ABB equipment includes Keck water level meter, Hunter/Keck sampling pumps (2); Orion pH/conductivity/temperature meters; DO titration equipment and chemicals; Teflon™ bailers (2); PID.*

ACTIVITIES:

Groundwater Sampling: *ML and PK obtained groundwater samples at MW-7B, 8, 9, 10, 11, 12, 13, 14, and 17. DD performed the titration for dissolved oxygen (DO) content on aliquots from each sample. The DO results were recorded on the sample data records with the temperature, conductivity, and pH measurements.*

SAMPLING: *Nine samples were collected and packed with five samples from yesterday for pickup by NYTEST. Nytest picked up the samples at noon and the remainder at the end of the day, so an additional trip blank was sent with the last shipment.*

SAMPLE NO.	***NO OF CONTAINERS***
SHQT003XXX02XX	*3*
SHMW07B02802XX	*10*
SHMW00804002XX	*8*
SHMW00911402XX	*8*
SHMW01008602XX	*8*
SHMW01109602XX	*8*
SHMW01304502XX	*8*
SHMW01403302XX	*8*
SHMW01203602XX	*8*
SHMW01703502XX	*8*

The ARF was completed requesting sample analysis for TCL VOAs only for the trip blank and TCL VOAs, SVOAs, and metals, plus TDS, TSS, Total alkalinity, and COD for the other samples. In addition, analysis for TCL pesticides and PCBs was requested for the sample from MW-7B. Nytest picked up the samples in midafternoon.

END OF SHIFT

APPENDIX A-2

SOIL GAS SURVEY

SOIL GAS DATA PLOTS

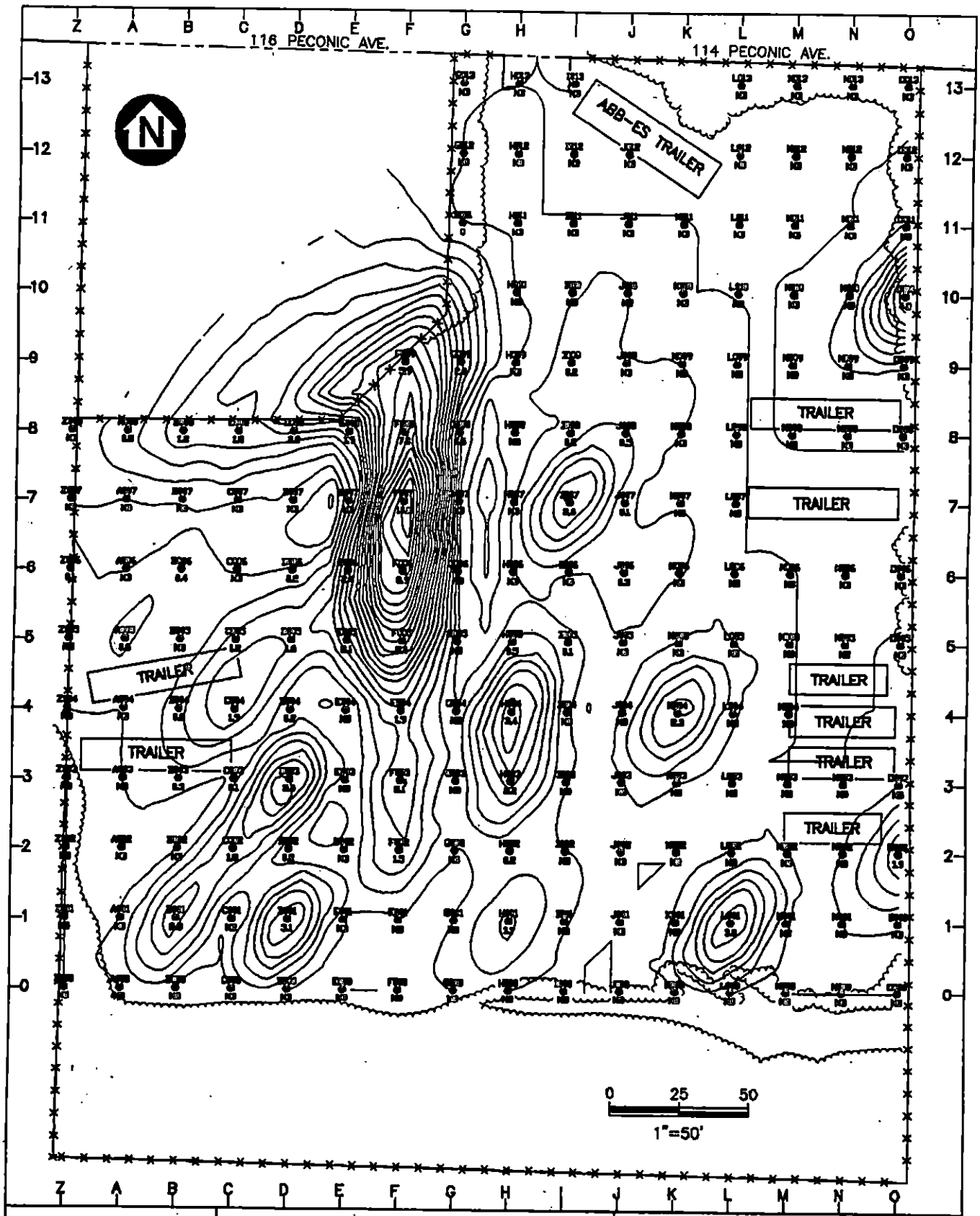


ABB Environmental Services Inc.

SOIL GAS SURVEY
BET X
ug/L

SHERIDAN WASTE OIL SITE
BROOKHAVEN, NEW YORK

7121-21

FIG-1

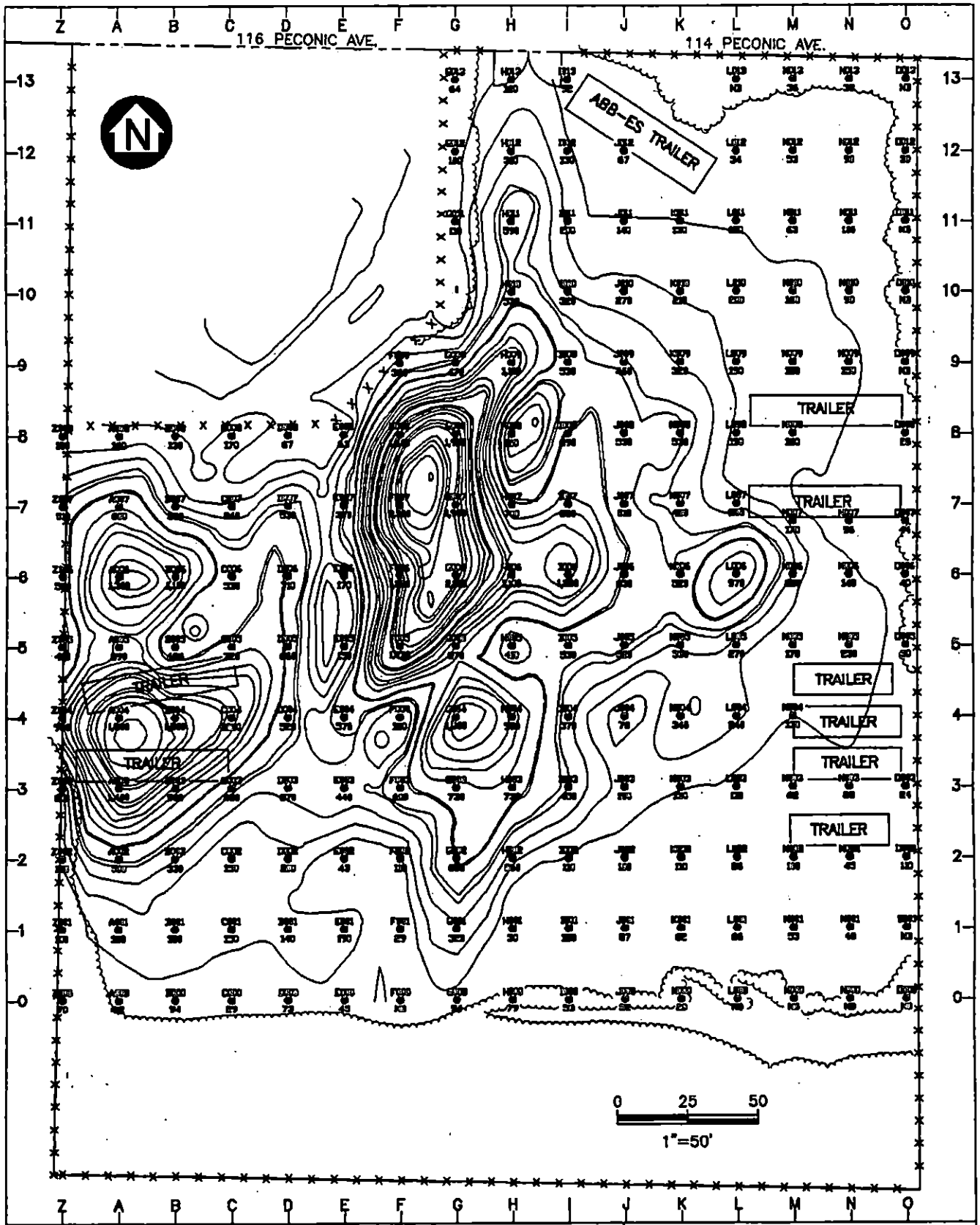


	ABB Environmental Services Inc.	SOIL GAS SURVEY 1,1,1-TRICHLOROETHANE ng/L
	SHERIDAN WASTE OIL SITE BROOKHAVEN, NEW YORK	-
	7121-21	-

FIG-2

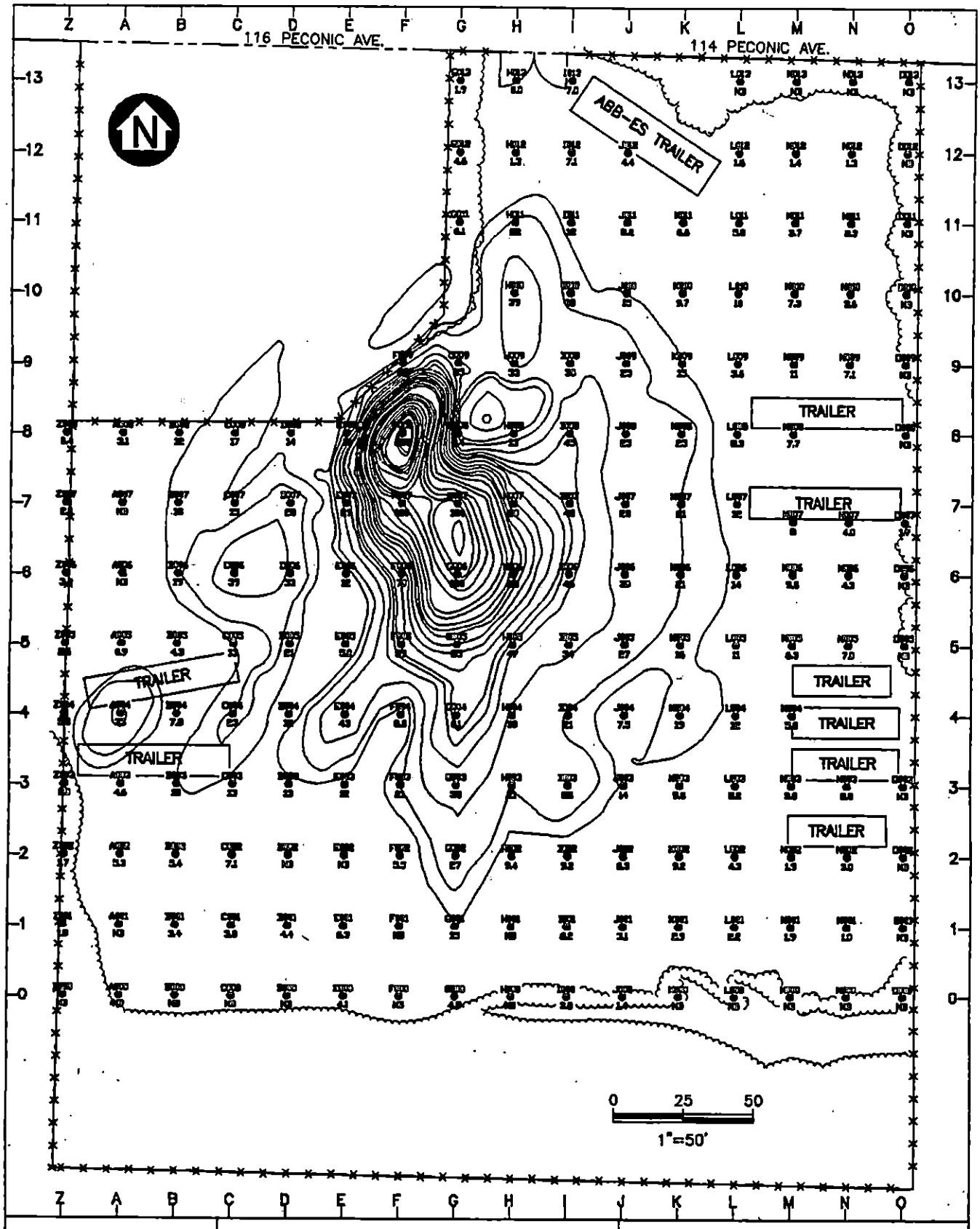


	ABB Environmental Services Inc.	SOIL GAS SURVEY 1,1-DICHLOROETHENE ug/L
	SHERIDAN WASTE OIL SITE BROOKHAVEN, NEW YORK	7121-21

FIG-3

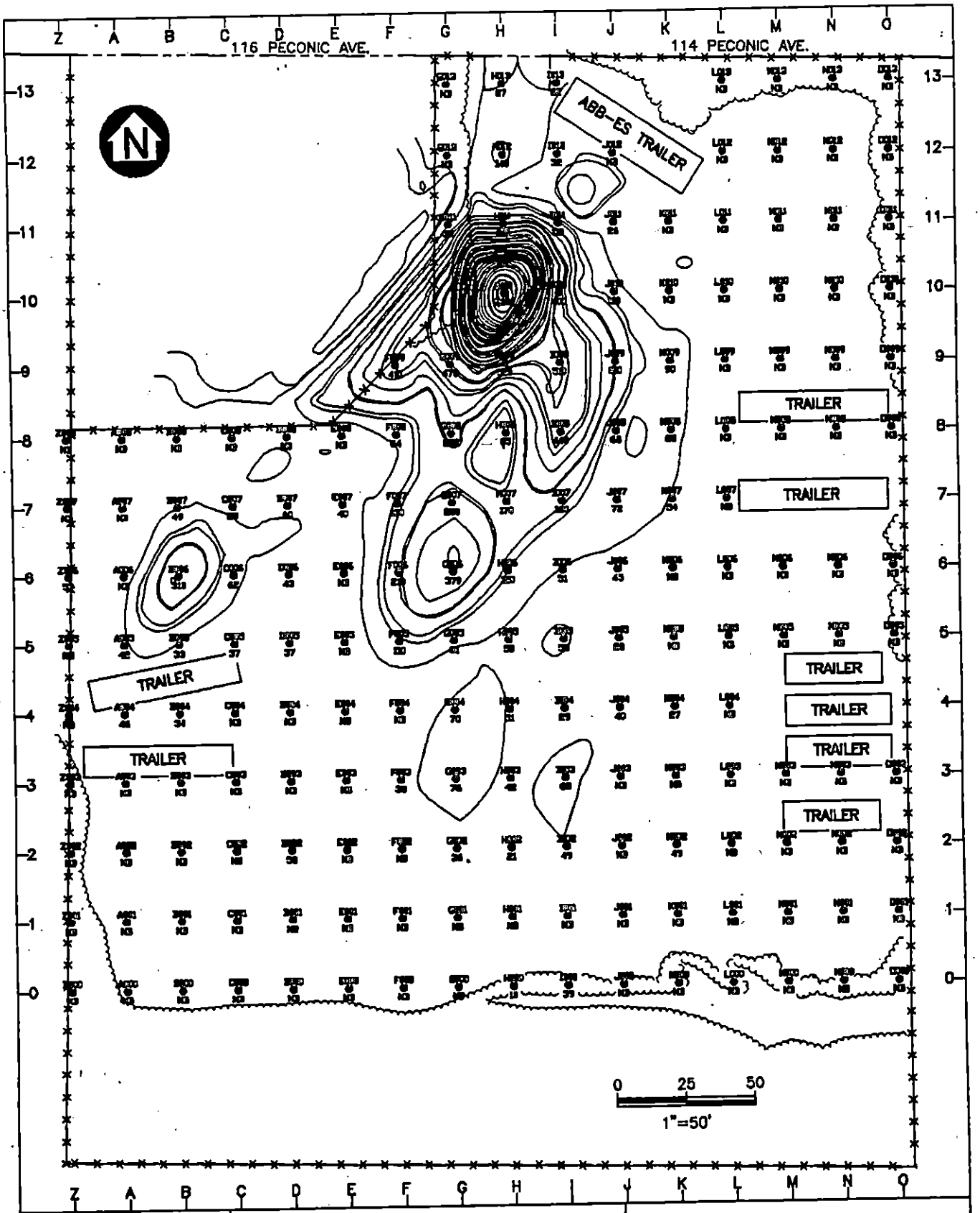


ABB Environmental Services Inc.

SOIL GAS SURVEY
TRICHLOROETHENE
ng/L

SHERIDAN WASTE OIL SITE
BROOKHAVEN, NEW YORK

7121-21

FIG-5

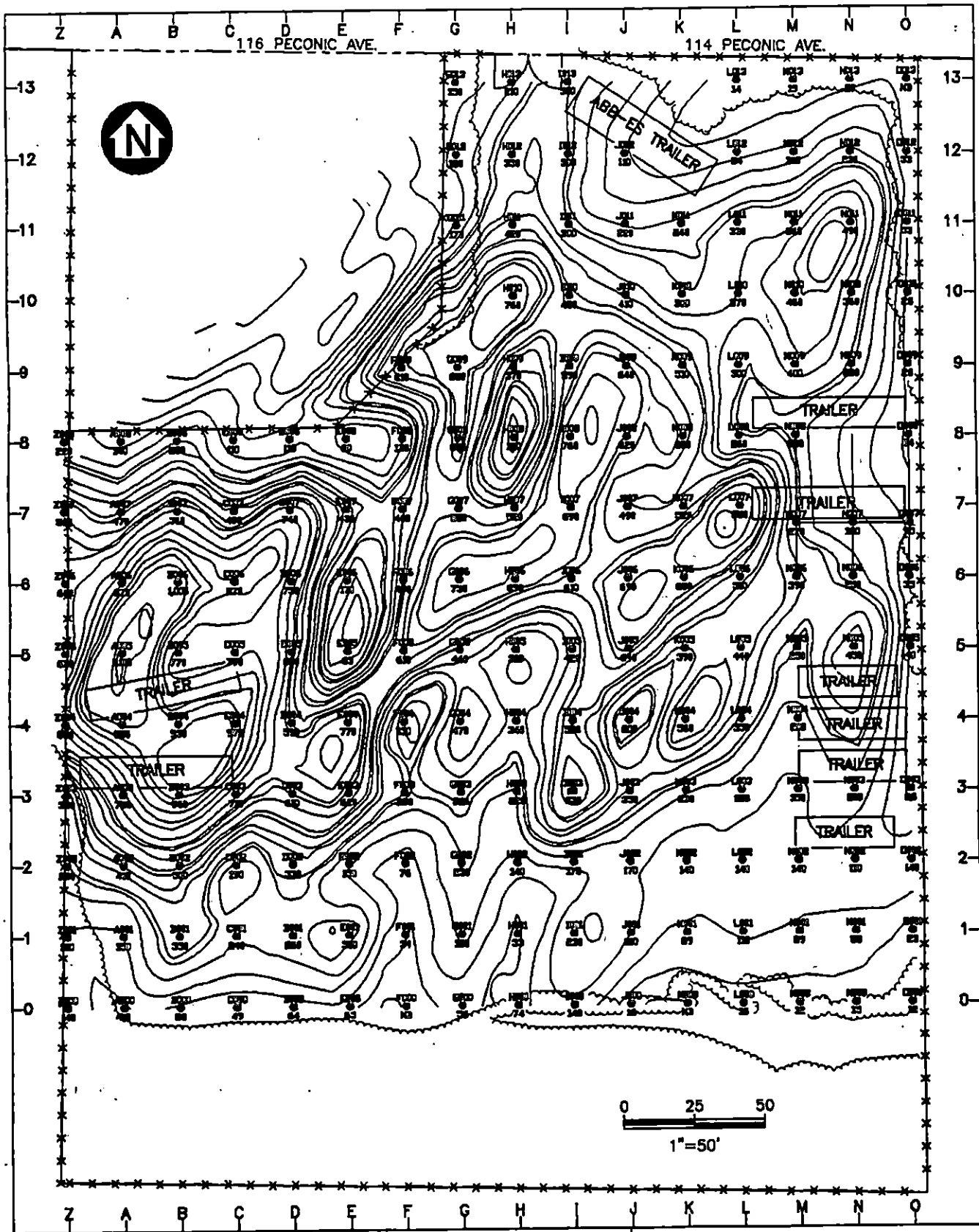


	ABB Environmental Services Inc.	SOIL GAS SURVEY TETRACHLOROTHENE ng/L
	SHERIDAN WASTE OIL SITE BROOKHAVEN, NEW YORK	7121-21

FIG-4

SOIL GAS DATA SHEETS

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 8	SH[illegible]	WATER / x SOIL	7/21/92	1230	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Very Hard, dense top layer					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 7	SH[illegible]	WATER / x SOIL	7/21/92	1250	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Very Hard, dense top layer					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 8	SH[illegible]	WATER / x SOIL	7/21/92	1300	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 2nd run to Confirm Hots					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 6	SH[illegible]	WATER / x SOIL	7/21/92	1330	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=4.1 Very Hard, Compact Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 5	SH[illegible]	WATER / x SOIL	7/21/92	1341	x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=2.1 Very Hard, Compact Top Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 6	SH[illegible]	WATER / x SOIL	7/21/92	1420	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=3.1 Very Hard, Compact Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 4	SH[illegible]	WATER / x SOIL	7/21/92	1500	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): No Tip Battery wk Red, Hard, donson Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 3	SH[illegible]	WATER / x SOIL	7/21/92	1515	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): No Tip Reading, Soil Settling Softer					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 2	SH[illegible]	WATER / x SOIL	7/21/92	1530	6 x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): No Tip Reading - Soil Very Soft					USE: x FIELD ANALYSIS / LAB ANALYSIS	

Sampler Signature: [signature]

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 4 Y 1	SHXX4X7[illegible] X601XF	WATER / x SOIL	7/22/92	1600	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): NO TIP Reading - Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 4 Y 0	SHXX4XX6X601XF	WATER / x SOIL	7/21/92	1630	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): NO TIP Reading - Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X G Y 8	SHXXGXX6X701XF	WATER / x SOIL	7/22/92	900	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): TIP=1.7 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 6 Y 7	SHXXGXX7X6X701XF	WATER / x SOIL	7/22/92	930	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): TIP=0.0 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X G Y 6	SHXXGXX6X601XF	WATER / x SOIL	7/22/92	1000	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): TIP=1.7 Very Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 6 Y 5	SHXXGXX5X601XF	WATER / x SOIL	7/21/92	1030	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): TIP=0.0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X G Y 4	SHXXGXX4X601XF	WATER / x SOIL	7/22/92	1100	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): TIP=0.0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X G Y 3	SHXXGXX3X601XF	WATER / x SOIL	7/22/92	1130	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): TIP=0.0, Soils becoming a little Looser,					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X G Y 2	SHXXGXX2X601XF	WATER / x SOIL	7/22/92	1200	6 INCHES / x FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): TIP=0.0 Hit refusal at 1.5', moved over 3' east and sampled					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: [signature]

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 6 Y 1	SHXXGXX1X601XF	WATER / x SOIL	7/22/92	1230	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 6 Y 0	SHXXGXX0X601XF	WATER / x SOIL	7/22/92	1240	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0 - Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 8	SHXXEXX8X601XP	WATER / x SOIL	7/22/92	1245	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0, very hard, dense Fill, Fuel odor					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 8	SHXXEXX8X601XP	WATER / x SOIL	7/22/92	1330	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0, Fairly Soft Fill, Fuel odor					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D Y 8	SHXXDXX8X601XF	WATER / x SOIL	7/22/92	1345	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0, Soft Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X C Y 8	SHXXCXX8X601XP	WATER / x SOIL	7/22/92	1400	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0 Slight Fuel odor, Somewhat Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 8	SHXXBXX8X601XP	WATER / x SOIL	7/22/92	1430	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0 Fairly Soft Soils, Fuel odor					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X A Y 8	SHXXAXX8X601XF	WATER / x SOIL	7/22/92	1500	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F Y 9	SHXXFXX9X601XF	WATER / x SOIL	7/22/92	1530	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0.0 Fairly Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Matthew M. Young

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 6 Y 9	SHXXG XX9 X6 01 XF	WATER / x SOIL	7/22/92	1630	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Buff-g Dead					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F Y 0	SHXXF XX0 X6 01 XF	WATER / x SOIL	7/21/92	1645	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Buff-g Dead - Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F Y 1	SHXXF XX1 X6 01 XF	WATER / x SOIL	7/22/92	1700	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Buff-g Dead - Moderate Compactness					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 0	SHXXE X10X6 01 XF	WATER / x SOIL	7/22/92	1745	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Buff-g Dead - Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 9	SHXXH XX9 X6 01 XF	WATER / x SOIL	7/23/92	830	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top > 0.0 Ubiq Hard, Compact Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F Y 7	SH XXF XX7 X6 01 XF	WATER / x SOIL	7/23/92	900	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top > 13.4 Hard Compact Fill, Soft Layer ≈ 4" Fuel odor					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F Y 6	SH XXF XX6 X6 01 XF	WATER / x SOIL	7/23/92	930	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top > 2.6 Hard Compact Fill, Soft Layer at 4"					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F Y 5	SH XXF XX5 X6 01 XF	WATER / x SOIL	7/23/92	1845	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top > 2.1 Hard Compact Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F Y 4	SH XXF XX4 X6 01 XF	WATER / x SOIL	7/23/92	1015	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top > 3.1 Hard, Compact Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Michael H Young

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D3 Y	SHXXFXX3XX601XF	WATER x SOIL	7/23/92	1030	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Soft Soils						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X F2 Y	SHXXFXX2XX601XF	WATER x SOIL	7/23/92	1100	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=7.1 Soft Soils - Hit Something hard @ 5.5 feet						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E5 Y	SHXXEXX5XX601XF	WATER x SOIL	7/23/92	1111	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Fairly Soft Soils						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D5 Y	SHXXDXX5XX601XF	WATER x SOIL	7/23/92	1200	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=1.7 Soft Soils						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X C5 Y	SHXXCXX5XX601XF	WATER x SOIL	7/23/92	1230	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=2.6 Soft Soils						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B5 Y	SHXXBXX5XX601XF	WATER x SOIL	7/23/92	1245	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=5.1 Soft Soils						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X A5 Y	SHXXAXX5XX601XF	WATER x SOIL	7/23/92	1330	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=1.7 Soft Soils						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X Z5 Y	SHXXZXX5XX601XF	WATER x SOIL	7/23/92	1345	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=3.1 Soft Soils						USE: x FIELD ANALYSIS; LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H5 Y	SHXXHXX5XX601XF	WATER x SOIL	7/23/92	1700	6 x FEET	INCHES; BAILER; OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=4.1 - used as a check on Rain effect						USE: x FIELD ANALYSIS; LAB ANALYSIS

Sampler Signature: Michael A Young

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 6	SHXXIXX6XX6016XX	WATER / x SOIL	7/23/92	1500	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=1.0 Very Hard dense, Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 6	SHXXJXX6XX6016XX	WATER / x SOIL	7/23/92	1530	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 softer Sands, Very Soft ~1'					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 6	SHXXKXX6XX6016XX	WATER / x SOIL	7/23/92	1550	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0, fairly Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 6	SHXXLXX6XX6016XX	WATER / x SOIL	7/23/92	1800	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 6	SHXXMXX6XX6016XX	WATER / x SOIL	7/23/92	1615	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 ~~Short~~ Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 6	SHXXNXX6XX6016XX	WATER / x SOIL	7/23/92	1645	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X O Y 6	SHXXOXX6XX6016XX	WATER / x SOIL	7/24/92	830	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X P Y 7	SHXXAXX7XX6016XX	WATER / x SOIL	7/24/92	930	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X A Y 6	SHXXAXX6XX6016XX	WATER / x SOIL	7/24/92	1000	6 x FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Soft Soils - Hard object ~3'					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Martin A. Tang

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X A Y 3	SHXXAXX3X601XF	WATER / x SOIL	7/24/92	1030	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X A Y 2	SHXXAXX2X601XF	WATER / x SOIL	7/24/92	1050	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X A Y 1	SHXXAXX1X601XF	WATER / x SOIL	7/24/92	1115	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X A Y 0	SHXXAXX0X601XF	WATER / x SOIL	7/24/92	1130	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 0	SHXXBXX0X601XF	WATER / x SOIL	7/24/92	1230	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X C Y 0	SHXXCXX0X601XF	WATER / x SOIL	7/24/92	1300	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D Y 0	SHXXDXX0X601XF	WATER / x SOIL	7/24/92	1315	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X C Y 2	SHXXCXX2X601XF	WATER / x SOIL	7/24/92	1345	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 2	SHXXEXX2X601XF	WATER / x SOIL	7/24/92	1415	6 x FEET / INCHES	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=22.4 Hard, dense Till					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Matthew H. Tonn

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 4	SH[illegible]	WATER / x SOIL	7/24/92	1445	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 4	SHXEXY4X6OIXF	WATER / x SOIL	7/24/92	1500	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 6	SHXEXX6X6OIXF	WATER / x SOIL	7/24/92	1515	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X C Y 6	SHXCXX6X6OIXF	WATER / x SOIL	7/24/92	1530	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 10	SHXH10X6OIXF	WATER / x SOIL	7/24/92	1540	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Very Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 11	SHXH11X6OIXF	WATER / x SOIL	7/24/92	1550	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Very hard dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 12	SHXH12X6OIXF	WATER / x SOIL	7/24/92	1600	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X H Y 13	SHXH13X6OIXF	WATER / x SOIL	7/24/92	1615	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 0	SHXIXX0X6OIXF	WATER / x SOIL	7/24/92	1630	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top=0 Very Soft Sand					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: [signature]

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
I 2	SHXXIX2X601XF	WATER / x SOIL	8/24/92	1645	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
K 2	SHXXK X2X601XF	WATER / x SOIL	7/24/92	1700	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): No Top Reading - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
M 2	SHXXMX2X601XF	WATER / x SOIL	7/24/92	1715	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): NO Top Reading - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
O 2	SHXXO X2X601XF	WATER / x SOIL	7/24/92	1730	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): No Top Reading - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
J 0	SHXXJX0X601XF	WATER / x SOIL	7/25/92	930	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Battery Dead, Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
K 0	SHXXKX0X601XF	WATER / x SOIL	7/25/92	1000	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Battery Dead, Very Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
L 0	SHXXLX0X601XF	WATER / x SOIL	7/25/92	1015	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Battery Dead, Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
M 0	SHXXMX0X601XF	WATER / x SOIL	7/25/92	1045	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
N 0	SHXXNX0X601XF	WATER / x SOIL	7/25/92	1100	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Michael H. Tomasy

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 0	SHXX0XX0X601XP	WATER / x SOIL	7/21/92	1040	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 1	SHXX0XX1X601XF	WATER / x SOIL	7/21/92	1200	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 3	SHXX0XX3X601XF	WATER / x SOIL	7/21/92	1215	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead - Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 5	SHXX0XX5X601XF	WATER / x SOIL	7/21/92	1245	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 8	SHXX0XX8X601XF	WATER / x SOIL	7/21/92	1300	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Hard, Compact Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 9	SHXX0XX9X601XF	WATER / x SOIL	7/21/92	1315	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Hard, Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 10	SHXX0X10X601XF	WATER / x SOIL	7/21/92	1345	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Hard - Medium Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 11	SHXX0X11X601XF	WATER / x SOIL	7/21/92	1400	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Hard - Medium Sand					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 0 Y 12	SHXX0X12X601XF	WATER / x SOIL	7/21/92	1415	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top = Battery Dead, Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Michael H. Long

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X O Y 13	SHXXOX13X601XP	WATER / x SOIL	7/25/92	1400	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top 2 Dead Matting, Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 13	SHXXNX13X601XP	WATER / x SOIL	7/25/92	1420	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top-Matting Dead, Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 13	SHXXMX13X601XP	WATER / x SOIL	7/25/92	1510	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Matting Dead, Fairly Dense Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 13	SHXXLX13X601XP	WATER / x SOIL	7/25/92	1530	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top: Matting Dead, Hard Layer at 2' - Soft Below That					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 11	SHXXMX11X601XP	WATER / x SOIL	7/25/92	1600	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top: Matting Dead, Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 9	SHXXMX9X601XP	WATER / x SOIL	7/25/92	1610	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top: Matting Dead, Hard - Medium Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 11	SHXXKX11X601XP	WATER / x SOIL	7/26/92	830	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top 0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 11	SHXXIX11X601XP	WATER / x SOIL	7/26/92	845	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top 0 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 9	SHXXIX9X601XP	WATER / x SOIL	7/26/92	915	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top 0 Very hard, Compact Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Michael H. Long

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 9	SHXXK XXX X601XF	WATER / x SOIL	7/26/92	930	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 7	SHXXK XX7 X601XF	WATER / x SOIL	7/26/92	1000	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 7	SHXXI XX7 X601XF	WATER / x SOIL	7/26/92	1030	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D Y 9	SHXXD XX7 X601XF	WATER / x SOIL	7/26/92	1045	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 7	SHXXB XX7 X601XF	WATER / x SOIL	7/26/92	1115	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 5 Y N	SHXX5N XX5 X601XF	WATER / x SOIL	7/26/92	1145	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Fairly Soft Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 5 Y L	SHXX5L XX5Y601XF	WATER / x SOIL	7/26/92	1215	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=6.7 Soft Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 5 Y J	SHXX5J XX5Y601XF	WATER / x SOIL	7/26/92	1230	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Very hard dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 4	SHXXK XX4X601XF	WATER / x SOIL	7/26/92	1235	6 x FEET	INCHES / x BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) TIP=0 Very hard dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Anthony H. Young

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 4	SHXXJXX4X601XF	WATER / x SOIL	7/26/92	1245	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Very hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 4	SHXXMXX4X601XF	WATER / x SOIL	7/26/92	1300	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X U Y 3	SHXXWXX3X601XF	WATER / x SOIL	7/26/92	1315	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Soft Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 3	SHXXLXX3X601XF	WATER / x SOIL	7/26/92	1330	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 3	SHXXJXX3X601XF	WATER / x SOIL	7/26/92	1345	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Soft Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D Y 3	SHXXDXX3X601XF	WATER / x SOIL	7/26/92	1400	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=Fill Soft Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 3	SHXXBXX3X601XF	WATER / x SOIL	7/26/92	1430	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=Fill Fairly Soft Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 1	SHXXBXX1X601XF	WATER / x SOIL	7/26/92	1445	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=- Soft Sandy Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D Y 1	SHXXDXX1X601XF	WATER / x SOIL	7/26/92	1501	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Top=0 Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Arthur H. Young

207-828-3201

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO. 7121-00

GRID ID (X Y)	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD	USE	OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.)
J B	SHXJXXB X60XF	X SOIL	7/26/92	1515	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip=0 Soft Sands
L 1	SHXXLXX1X60XF	X SOIL	7/26/92	1530	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip=0 Hard packed Sand
E 7	SHXXEXX7X60XF	X SOIL	7/26/92	1600	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip=0 Soft Sands
C 7	SHXXCXX7X60XF	X SOIL	7/26/92	1615	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip=0 Fairly Soft Sands
Z 7	SHXXZXX7X60XF	X SOIL	7/26/92	1630	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip=Battery Died - Soft Sands
Z 8	SHXXZXX8X60XF	X SOIL	7/26/92	1645	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip - Battery Dead - Soft Sands
D 6	SHXXDXX6X60XF	X SOIL	7/26/92	1700	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip=0 Battery Hard packed Fill
B 6	SHXXBXX6X60XF	X SOIL	7/26/92	1715	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip - Battery Dead - Soft Sands
Z 6	SHXXZXX6X60XF	X SOIL	7/26/92	1730	6 X FEET	X PROBE	X FIELD ANALYSIS	Tip - Battery Dead

Sampler Signature: [signature]

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D Y 4	SHXXD4XY4X601XF	WATER / x SOIL	7/27/92	915	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Soft Sandy Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 4	SHXXBXY4X601XF	WATER / x SOIL	7/27/92	930	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=9.9 Soft Sands, Fuel odor, Black staining on rods					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X Z Y 4	SHXXZXY4X601XF	WATER / x SOIL	7/27/92	945	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 3	SHXXEXY3X601XF	WATER / x SOIL	7/27/92	1000	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Fairly Soft Sandy Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X C Y 3	SHXXCXY3X601XF	WATER / x SOIL	7/27/92	1015	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Soft Sands, with Hard Layers - Concrete, Rock					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X Z Y 3	SHXXZXY3X601XF	WATER / x SOIL	7/27/92	1045	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X Z Y 2	SHXXZXY2X601XF	WATER / x SOIL	7/27/92	1100	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 2	SHXXBXY2X601XF	WATER / x SOIL	7/27/92	1115	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Soft Sandy Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X D Y 2	SHXXDXY2X601XF	WATER / x SOIL	7/27/92	1145	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=8.8 Fuel odor Fairly Hard Sandy Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

Sampler Signature: Matthew H. Tony

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 1	SHXXEXX1X60LXF	WATER / x SOIL	7/26/92	1150	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) @ Tip=0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X C Y 1	SHXXCXY1X60LXF	WATER / x SOIL	7/26/92	1200	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 2 Y 2	SHXX2XX2X60LXF	WATER / x SOIL	7/26/92	1210	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=0 Soft Sand					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X B Y 0	SHXBXX0X60LXF	WATER / x SOIL	7/26/92	1230	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X G Y 13	SHXXGX13X60LXF	WATER / x SOIL	7/26/92	1245	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=0 Soft Sand					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
XG Y 12	SHXXGX12X60LXF	WATER / x SOIL	7/26/92	1300	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=0 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X G Y 11	SHXXGX11X60LXF	WATER / x SOIL	7/26/92	1315	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=4.1 Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X 6 Y 9	SHXXGXY9X60LXF	WATER / x SOIL	7/26/92	1400	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=0 Fairly Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 13	SHXYIXY3X60LXF	WATER / x SOIL	7/26/92	1411	6 x INCHES / FEET	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.) Tip=0 Fairly hard dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: Michael A. Young

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 12	SHXXIX12X601XP	WATER / x SOIL	7/26/92	1430	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Solid, Hard, Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 10	SHXXIX10X601XP	WATER / x SOIL	7/26/92	1445	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Hard, Compact Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 8	SHXXIX08X601XP	WATER / x SOIL	7/26/92	1500	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=1.2 Very hard, dense Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 5	SHXXIX05X601XP	WATER / x SOIL	7/26/92	1580	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Very hard, dense Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 3	SHXXIX03X601XP	WATER / x SOIL	7/26/92	1545	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Very hard, dense Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X I Y 1	SHXXIX01X601XP	WATER / x SOIL	7/26/92	1400	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Very Soft Sand					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 2	SHXXJX02X601XP	WATER / x SOIL	7/26/92	1415	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Soft Soil					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 4	SHXXJX04X601XP	WATER / x SOIL	7/26/92	1445	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip-0 Hard, dense Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X Y		WATER / x SOIL			x FEET / INCHES	x PROBE / BAILER / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.)					USE: x FIELD ANALYSIS / LAB ANALYSIS	

Sampler Signature: Michael H. [illegible]

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 12	SHXXJX12X601XF	WATER / x SOIL	7/28/92	980	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip- Buttery Dead Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 11	SHXJX11X601XF	x WATER / SOIL	7/28/92	945	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Buttery Dead – Medium dense Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 10	SHXJX10X601XF	x WATER / SOIL	7/28/92	1000	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Buttery Dead - Hard, Compact Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 9	SHXJX9X601XF	x WATER / SOIL	7/28/92	1030	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Buttery Dead – Hard, Compact Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y 8	SHXJX8X601XF	x WATER / SOIL	7/28/92	1045	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=0 Hard, Muck, Fill, Refusal at 11:10 due to separation of liner					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X J Y J	SHXJX8X601XF	x WATER / SOIL	7/28/92	1100	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip- Buttery Dead Hard, Dense Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 6	SHXKX6X601XF	x WATER / SOIL	7/28/92	1130	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip- Buttery Dead Soft Sands -not run					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 8	SHXKX8X601XF	x WATER / SOIL	7/28/92	1141	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip- Buttery Dead - Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 8	SHXLX8X601XF	x WATER / SOIL	7/28/92	1230	6 x FEET / INCHES	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip - Buttery Dead - Hard, dense fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

Sampler Signature: Richard H. Young

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 7	SHXXLXX7X601XP	WATER / x SOIL	7/28/92	1335	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Battery Dead - Hard dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 5	SHXXKXX5X601XP	WATER / x SOIL	7/28/92	1300	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead - Very hard, dense fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 4	SHXXLXX4X601XP	WATER / x SOIL	7/28/92	1315	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 3	SHXXKXX3X601XP	WATER / x SOIL	7/28/92	1345	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip- Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 2	SHXXLXX2X601XP	WATER / x SOIL	7/28/92	1400	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip- Battery Dead - Soft Soils					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 1	SHXXKXX1X601XP	WATER / x SOIL	7/28/92	1415	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 1	SHXXMXX1X601XP	WATER / x SOIL	7/28/92	1430	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 1	SHXXNXX1X601XP	WATER / x SOIL	7/28/92	1445	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 2	SHXXNXX2X601XP	WATER / x SOIL	7/28/92	1500	6 x INCHES / FEET	BAILER / OTHER; x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip= Battery Dead - Soft Sand					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: [signature]

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL ISIS BASE: SH JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 3	SHXYM X13X60 1XF	WATER / x SOIL	7/28/92	1515	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip=Battery Dead - Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 5	SHXYM X15X60 1XF	WATER / x SOIL	7/28/92	1570	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip-Battery Dead - Soft Soils					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 7	SHXYM X17X60 1XF	WATER / x SOIL	7/28/92	1515	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip - Battery Dead - Soft Sand					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 7	SHXYN X17X60 1XF	WATER / x SOIL	7/28/92	1600	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip-Battery Dead - Soft Soils					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 8	SHXYM X18X60 1XF	WATER / x SOIL	7/29/92	900	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip - Battery Dead - Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 8	SHXYN X18X60 1XF	WATER / x SOIL	7/29/92	930	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip - Battery Dead - Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 9	SHXYL X19X60 1XF	WATER / x SOIL	7/29/92	945	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top - Battery Dead - Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 9	SHXXN X19X60 1XF	WATER / x SOIL	7/29/92	1000	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip = Battery Dead - Soft Sands					USE: x FIELD ANALYSIS / LAB ANALYSIS	

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X K Y 10	SHXXK X10X60 1XF	WATER / x SOIL	7/29/92	1015	6 x FEET / INCHES	BAILER / x PROBE / OTHER
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Tip - Battery Dead - Hard, dense Fill					USE: x FIELD ANALYSIS / LAB ANALYSIS	

Sampler Signature: [signature]

SOIL GAS SAMPLE DATA RECORD
TERRAPROBE EXPLORATIONS

E. C. JORDAN CO.

PROJECT: NYSDEC D002472-11

SITE: SHERIDAN WASTE OIL | ISIS BASE: SH | JOB NO.: 7121-00

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 10	SHXYLX10x60XF	WATER / x SOIL	7/29/92	1100	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead- Hard, dense Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 10	SHXYMX10X60XP	WATER / x SOIL	7/29/92	1115	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead - Fairly dense Sand, Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 10	SHXYNX10X60XP	WATER / x SOIL	7/29/92	1130	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead- Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 11	SHXXLX11X60XP	WATER / x SOIL	7/29/92	1145	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead- Dense, Sand, Fill					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 11	SHXXNX11X60XP	WATER / x SOIL	7/29/92	1200	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead- Soft Sand					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X N Y 12	SHXXNX12X60XP	WATER / x SOIL	7/29/92	1215	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead - Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X M Y 12	SHXXMX12X60XP	WATER / x SOIL	7/29/92	1230	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead- Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X L Y 11	SHXXLX11X60XP	WATER / x SOIL	7/29/92	1245	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top- Battery Dead- Soft Sands					USE	x FIELD ANALYSIS / LAB ANALYSIS

GRID ID	SAMPLE ISIS ID	MATRIX	DATE	TIME	DEPTH	METHOD
X E Y 7	SHXXEXX7150XP	WATER / x SOIL	7/29/92	1300	6 INCHES / x FEET	BAILER / OTHER / x PROBE
OBSERVATIONS (COLOR, TEXTURE, ODOR, ETC.): Top-fill - hard packed dense Sand					USE	x FIELD ANALYSIS / LAB ANALYSIS

Sampler Signature: [signature]

APPENDIX A-3

GEOPHYSICAL SURVEY MEMORANDUM AND DATA

MEMORANDUM

Date: November 9, 1992

From: Richard P. Allen

To: Linda Healey

Subject: Geophysical Survey
Sheridan Waste Oil Site
Medford, New York

Introduction. A geophysical survey was conducted at the Sheridan Waste Oil Site in Medford, NY on July 14 and 15, 1992 (Figure 1). The purpose of the study was to determine if any USTs are present at the site and to map any unknown utilities which may exist so that future explorations can be placed so as to avoid them. The geophysical techniques selected for this work are magnetometry and ground penetrating radar (GPR).

The effectiveness of magnetometry was somewhat reduced by the presence of approximately 10 tractor trailers parked around the site. Magnetic interference from the trailers is excessive for magnetic stations located within approximately 30 feet of these vehicles.

The instrumentation consisted of a EDA OmniPlus magnetometer with vertical gradiometer attachment and a GSSI SIR System III ground penetrating radar system with Model 3207 antenna (500 MHz center frequency). I was the geophysicist in charge of the field program and Linda Healey, also of ABB-ES, assisted.

Field Program. The field program consisted of a magnetic survey conducted along a 15- by 15-foot measurement grid, which was established by the field party at the time of the survey. This was to be followed by GPR profiling to confirm the results of the magnetometer survey and to map any piping or other underground structures.

Magnetometer Study. Magnetometers are used routinely for locating repositories of buried (drummed) wastes. Locating and quantifying these materials is essential to any remediation effort, and magnetometer surveys can provide an extra measure of safety to those personnel involved in the clean-up activities.

The earth's magnetic field is modified locally by both naturally occurring and manmade magnetic materials. The total field of the earth has a value which varies from approximately 30,000 to 60,000 gammas, depending on location: the total field value is approximately 30,000 gammas at the equator and 60,000 gammas at the poles. One can obtain the absolute value of the total earth's field intensity to an accuracy of 1 gamma or better. In the field, the operator should be aware of sources of high magnetic gradients such as would be caused by power lines, buildings, and any large iron or steel objects. If a total field survey is being conducted, base station readings should be taken frequently (every 30 minutes to 1 hour) to provide a check on any diurnal variations and magnetic

storms that may occur during a survey. Typically, diurnal variations will not exceed a few tens of gammas.

Vertical gradient measurements involve the simultaneous acquisition by two sensors of two values of the total field. For this study, an EDA Omniplus Vertical Gradiometer was used. The sensors are mounted on a staff that is held vertically during a measurement. A known distance (in this case ½ meter) separates the sensors on the staff. The upper sensor is 8 feet above the ground when a measurement is taken. This instrument records all data in an internal memory which can be transferred in the field to a PC for evaluation and data processing. The vertical gradient value is derived by obtaining the difference between the total field values of the lower and upper sensors divided by the distance between them.

Vertical gradient measurements are more sensitive to the presence of near-surface metal objects than total field values alone and are not subject to diurnal magnetic variations because any variation affects the two sensors on the magnetometer sensor staff equally.
The magnetometer study consisted of a total of 321 readings in an area 300 feet wide (east-west) by 360 feet long (north-south). A field sketch plan (Figure 1) shows the locations of the magnetic traverses along with some of the major landmarks encountered in the study area, which included the area enclosed by chain link fencing. A baseline was established along the north-south fence line on the west side of the driveway entrance. The orientation of the baseline was approximately north-south (magnetic) with blaze orange pin flags placed every 60 feet for a total length of 360 feet. Traverses were established every 15 feet along the baseline and measurements were taken every 15 feet along a traverse.

GPR Study. The GPR technique uses high frequency radio waves to determine the presence of subsurface objects and structures. Energy is radiated downward into the subsurface from an antenna that is pulled slowly across the ground at speeds varying from about 0.25 to 5 mph, depending on the amount of detail desired and the nature of the target. The radio wave energy is reflected from surfaces where there is a contrast in the electrical properties of subsurface materials. These surfaces may be naturally occurring geologic horizons (e.g., soil layers, changes in moisture content, voids and fractures in bedrock) or manmade (e.g., buried utilities, tanks, drums).

The reflected energy is processed and displayed as a continuous strip chart recording of distance versus time (where time can be thought of as proportional to depth). The depth of penetration of a GPR system is highly site-specific, and depends on the soil types at the site (clean sands are best), moisture conditions (dry is best), and the frequency of the antenna (the lower the frequency, the deeper the penetration, and the less the resolution capability).

Typical applications for GPR include delineating the boundaries of buried hazardous waste materials and the perimeters of abandoned landfills; finding steel reinforcement bars and voids in concrete structures; and locating and mapping underground storage tanks and other buried utilities.

The GPR study consisted of a series of east-west traverses 10 feet apart across the west portion of the site (Figure 1). This is the area where USTs and associated piping were expected at the site.

Results.

Magnetometer Survey. The results of the study are presented as vertical gradient contours, Figure 2. There are a number of magnetic anomalies on Figure 2, but in nearly every case, they are explained by magnetic interference of adjacent steel objects, like fencing, trailers, and steel-belted tires. There is a small anomaly caused by a single data point at (X=255, Y=315) that is very localized and which is not explained by surface debris. It does not have the magnitude or lateral extent to be a UST, and does not appear to be a buried utility. With this exception, no magnetic anomalies were defined during this study that could not be explained by objects at the surface that would produce magnetic disturbances like those observed (fencing, metal objects, tractor trailers).

GPR Survey. The only feature which was defined by GPR profiles was a reflective anomaly at a depth of approximately 5 feet located at (X=140, Y=090). This is the approximate location of an old sump which appears on some older engineering drawings of the site. Figures 3A and 3B show the GPR anomaly caused by this feature.

Conclusions. We conclude that there are no remaining USTs at the Sheridan Waste Oil Site and that most, if not all the piping associated with former USTs has been removed. There are indications on GPR recordings of occasional isolated targets which could be buried metal objects, but these targets do not appear to be continuous.

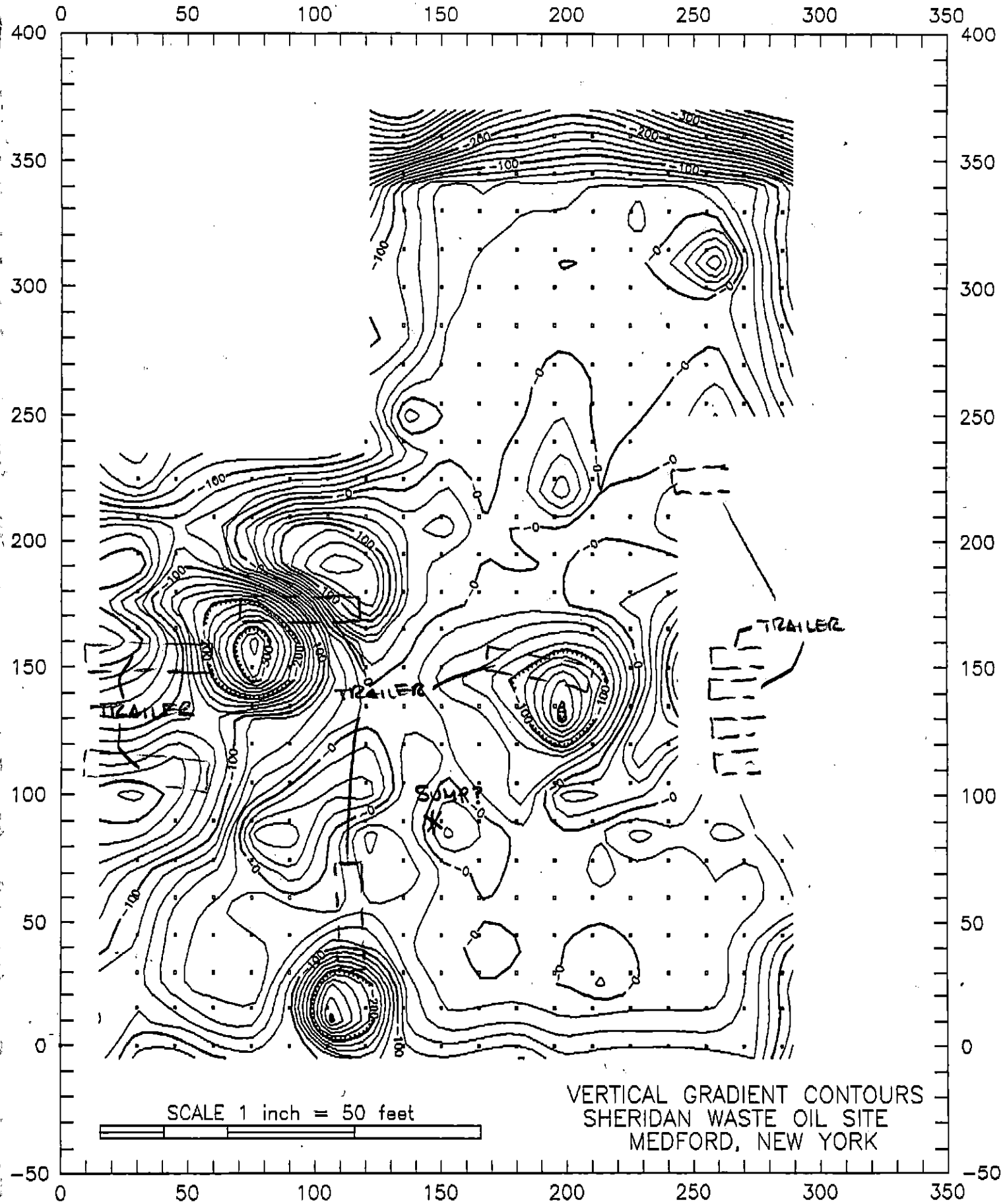

0
50
100
150
200
250
300
350
400
-50
TRAILER
TRAILER
TRAILER
SUMP?
SCALE 1 inch = 50 feet
VERTICAL GRADIENT CONTOURS
SHERIDAN WASTE OIL SITE
MEDFORD, NEW YORK

FIGURE 2

APPENDIX A-4

BORING LOGS

INTERPRETIVE BORING LOG

BORING NO.: SB-1

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/13/92	Date Completed: 8/13/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:79.13 Ft MSL	Soil Drilled: 38 Ft.	Total Depth: 38 Ft.	Ground Water Depth (Bgs): 36 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
0	S-1 0-2'		1.5/2.0	BKG	Dark brown medium to fine SAND; well-graded; loose; damp; over black silty sand at 1.0-1.2 ft; over light brown medium SAND; well-graded; loose; damp.	SW	5/5/9/10	14	0
2	S-2 2-4'	GC/CLP	1.4/2.0	BKG	Same as above, trace blackish fine SAND.	SW	5/5/8/9	13	2
4	S-3 4-6'		0.8/2.0	BKG	Tan to white medium SAND; trace well-rounded white quartz gravel (10%); well-graded; loose; damp.	SW	4/5/3/7	8	4
6	S-4 6-8'	GC	1.6/2.0	BKG	Same as above, at 9 ft bgs change to brown medium SAND; same as above with less gravel (<5%).	SP	5/6/7/8	13	6
8	S-5 8-10'		1.4/2.0	BKG	Same as above, color change to tan to white medium SAND; some well-rounded quartz gravel; well-graded; loose; damp.	SP	7/5/5/8	10	8
10	S-6 10-12'	GC	1.2/2.0	BKG	Same as above, with trace to no gravel.	SP	8/6/5/6	11	10
12	S-7 12-14'		1.2/2.0	BKG	Same as above, medium dense; trace gravel; moist.	SP	11/9/13/12	22	12
14	S-8 14-16'	GC/CLP	1.2/2.0	BKG	Same as above, increasing gravel content; moist.	SW	10/10/13/14	23	14
16	S-9 16-18'		1.3/2.0	BKG	Same as above.	SW	10/19/24/12	43	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-1

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/13/92	Date Completed: 8/13/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:79.13 Ft MSL	Soil Drilled: 38 Ft.	Total Depth: 38 Ft.	Ground Water Depth (Bgs): 36 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
18	S-10 18-20'	GC	1.1/2.0	BKG	Same as above.	SW	5/6/10/12	16	18
20	S-11 20-22'		0.1/2.0	BKG	Same as above, little recovery.	SW	18/23/23/9	46	20
22	S-12 22-24'		1.5/2.0	BKG	Same as above.	SW	10/10/10/10	20	22
24	S-13 24-26'		0.2/2.0	BKG	Same as above, little recovery.	SW	6/14/19/17	33	24
26	S-14 26-28'	GC	1.4/2.0	BKG	Same as above.	SW	10/11/12/13	23	26
28	S-15 28-30'		1.4/2.0	BKG	Same as above with trace black fine sand; stratified.	SW	10/12/14/14	26	28
30	S-16 30-32'		1.0/2.0	BKG	Same as above.	SW	8/12/13/16	25	30
32	S-17 32-34'	GC	1.2/2.0	BKG	Same as above, some red-orange mottled coarse sand and gravel.	SW	14/12/10/10	22	32
34	S-18 34-36'	GC	1.1/2.0	BKG	Same as above, slight decrease in gravel.	SW	12/12/20/25	32	34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-1

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/13/92	Date Completed: 8/13/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:79.13 Ft MSL	Soil Drilled: 38 Ft.	Total Depth: 38 Ft.	Ground Water Depth (Bgs): 36 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (FT)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (FT)
36	S-19 36-38'	GC CLP	1.3 / 2.0		Gray-white medium SAND, saturated.	SP	12/15/13/12	28	36
38					Bottom of Boring at 38.0 ft bgs.				38
40									40
42									42
44									44
46									46
48									48
50									50
52									52
54									54

INTERPRETIVE BORING LOG

BORING NO.: SB-2

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/13/92	Date Completed: 8/14/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.: 78.33 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): 36 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
0	S-1 0-2'	GC / CLP	2.0 / 2.0	1.2	Tan fine SAND, changing to black-stained fine SAND; dense, poorly graded; changing near bottom to brown, fine SAND; poorly graded; loose; damp.	SP	9/19/22/11	41	0
2	S-2 2-4'		1.0 / 2.0	3	Fine yellowish-white SAND; trace coarse, well-rounded quartz gravel; very loose; damp-dry.	SP	13/15/16/11	31	2
4	S-3 4-6'	GC	1.0 / 2.0	2	White to tan fine SAND; poorly graded; with trace well-rounded medium gravel; very loose; damp-dry; stratified.	SP	10/9/13/13	22	4
6	S-4 6-8'		1.0 / 2.0	BKG	Same as above; decreasing gravel; damp-dry.	SP	11/17/16/16	33	6
8	S-5 8-10'	GC	1.0 / 2.0	BKG	Light tan to whitish SAND; trace coarse sand; loose; damp-dry;.	SP	5/9/14/17	23	8
10	S-6 10-12'		1.0 / 2.0	BKG	Tan to white fine SAND; poorly graded; loose; dry.	SP	5/9/14/17	23	10
12	S-7 12-14'	GC	1.1 / 2.0	BKG	Same as above, stratified.	SP	9/11/16/22	27	12
14	S-8 14-16'		1.1 / 2.0	BKG	Tan fine SAND; Trace coarse SAND; loose; dry.	SP	5/1/15/13	16	14
16	S-9 16-18'	GC / CLP	1.1 / 2.0	BKG	Same as above, rounded gravel; dry.	SW	9/11/14/20	25	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-2

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/13/92	Date Completed: 8/14/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:78.33 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): 36 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT 'N'	Depth (Ft)
18	S-10 18-20'		1.1/2.0	BKG	Tan to white fine SAND; trace coarse sand; poorly graded; loose; dry.	SP	9/11/14/8	25	18
20	S-11 20-22'	GC	1.0/2.0	--	Same as above, tan fine SAND; clean; loose; dry.	SP	11/12/13/10	25	20
22	S-12 22-24'		0.6/2.0	--	Same as above, moist.	SP	9/18/14/14	32	22
24	S-13 24-26'	GC	0.6/2.0	--	Same as above.	SP	8/12/15/11	27	24
26	S-14 26-28'		1.0/2.0	--	Same as above, coarse SAND; increasing moisture.	SP	10/10/12/11	22	26
28	S-15 28-30'	GC	1.1/2.0	--	Same as above, coarse SAND; trace fine gravel; moist; stratified.	SW	7/8/8/10	16	28
30	S-16 30-32'		1.1/2.0	--	Stratified tan fine SAND; orange-stained SAND; coarse gray SAND; fine gravel; moisture increasing..	SW	8/11/13/18	24	30
32	S-17 32-34'	GC	1.0/2.0	BKG	Same as above.	SW	10/10/11/8	21	32
34	S-18 34-36'	GC CLP	1.0/2.0	BKG	Same as above, changing to orange coarse SAND and GRAVEL; saturated.	SW	5/7/6/6	13	34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-2

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/13/92	Date Completed: 8/14/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:78.33 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): 36 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

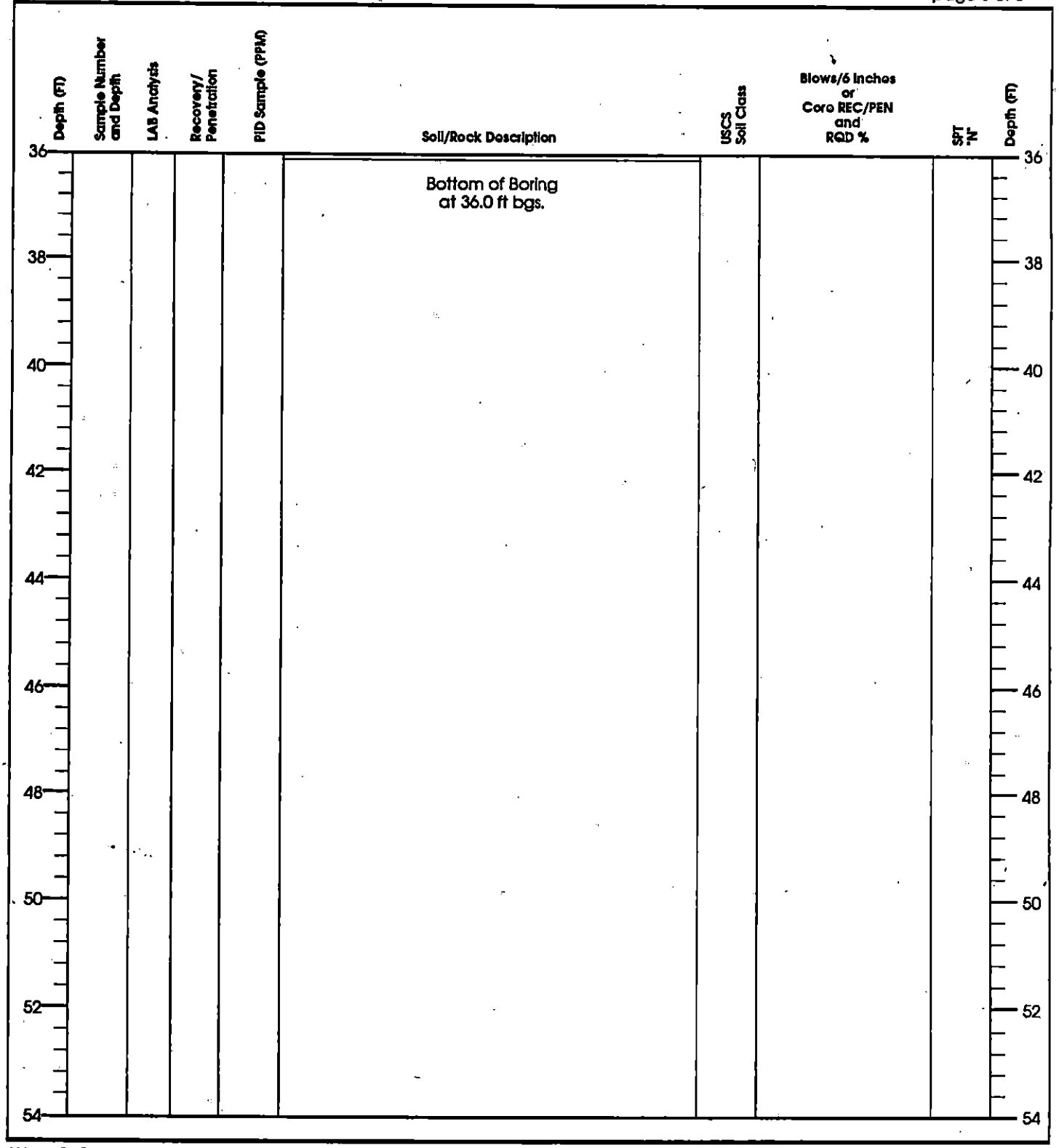


ABB Environmental Services

INTERPRETIVE BORING LOG

BORING NO.: SB-3

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/14/92	Date Completed: 8/14/92
Method: HSA	Casing Size: 4.25 in.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:77.49 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT 'N'	Depth (Ft)
0	S-1 0-2'		1.1/2.0	BKG	Light brown medium SAND, little fine gravel; medium dense; mod. graded; damp to wet (sampled in rain).	SP	8/15/11/9	26	0
2	S-2 2-4'	GC/CLP	1.6/2.0	--	Same as above, dark brown to black-stained medium SAND; strong oily odor.	SP	18/15/18/21	33	2
4	S-3 4-6'		1.7/2.0	--	Same as above.	SP	6/11/15/20	26	4
6	S-4 6-8'	GC/CLP	1.4/2.0	--	Dark brown to black-stained medium SAND, trace gravel; mod. graded; less oily odor; medium dense; damp.	SP	6/11/15/20	26	6
8	S-5 8-10'		1.4/2.0	--	Same as above, some oily odor; bands of black-stained sand; changing to wide layers near bottom of spoon.	SP	3/5/8/10	13	8
10	S-6 10-12'	GC	1.4/2.0	--	Same as above; changing in color to white-gray medium SAND; no gravel; poorly graded; stratified with brown SAND; medium dense; moist.	SP	7/13/14/15	27	10
12	S-7 12-14'		1.3/2.0	--	Same as above, color change to orange-stained sandy stratifications with trace of dark gray gravel; dense; moist.	SP	7/11/14/12	25	12
14	S-8 14-16'	GC	0.9/2.0	--	White to gray medium sand (clean), trace fine gravel; mod. graded; medium dense; moist; stratified.	SP	10/13/11/12	24	14
16	S-9 16-18'		1.2/2.0	--	Same as above, little gravel.	SP	10/8/11/12	19	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-3

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/14/92	Date Completed: 8/14/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.: 77.49 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
18	S-10 18-20'	GC	1.1/2.0	BKG	White to tan medium SAND; layering of thick dark brown bands of medium sand; poorly graded; medium dense; moist.	SP	10/7/9/13	16	18
20	S-11 20-22'		1.2/2.0	BKG	Same as above.	SP	8/10/13/15	23	20
22	S-12 22-24'	GC	0.8/2.0	BKG	Same as above.	SP	8/10/10/12	20	22
24	S-13 24-26'	GC	1.0/2.0	BKG	Same as above.	SP	9/10/10/11	20	24
26	S-14 26-28'	GC	1.2/2.0	BKG	Same as above.	SP	10/14/17/22	31	26
28	S-15 28-30'		1.5/2.0	BKG	Same as above, trace of gravel.	SP	8/12/13/11	25	28
30	S-16 30-32'	GC	1.3/2.0	BKG	Same as above.	SP	9/14/21/19	35	30
32	S-17 32-34'		0.7/2.0	BKG	Same as above, incresing gravel content and moisture.	SW	11/13/15/17	28	32
34	S-18 34-36'	GC/CLP	1.0/2.0	BKG	Same as above, some orange-stained mottling; saturated	SW	6/7/5/5	12	34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-3

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/14/92	Date Completed: 8/14/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.: 77.49 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

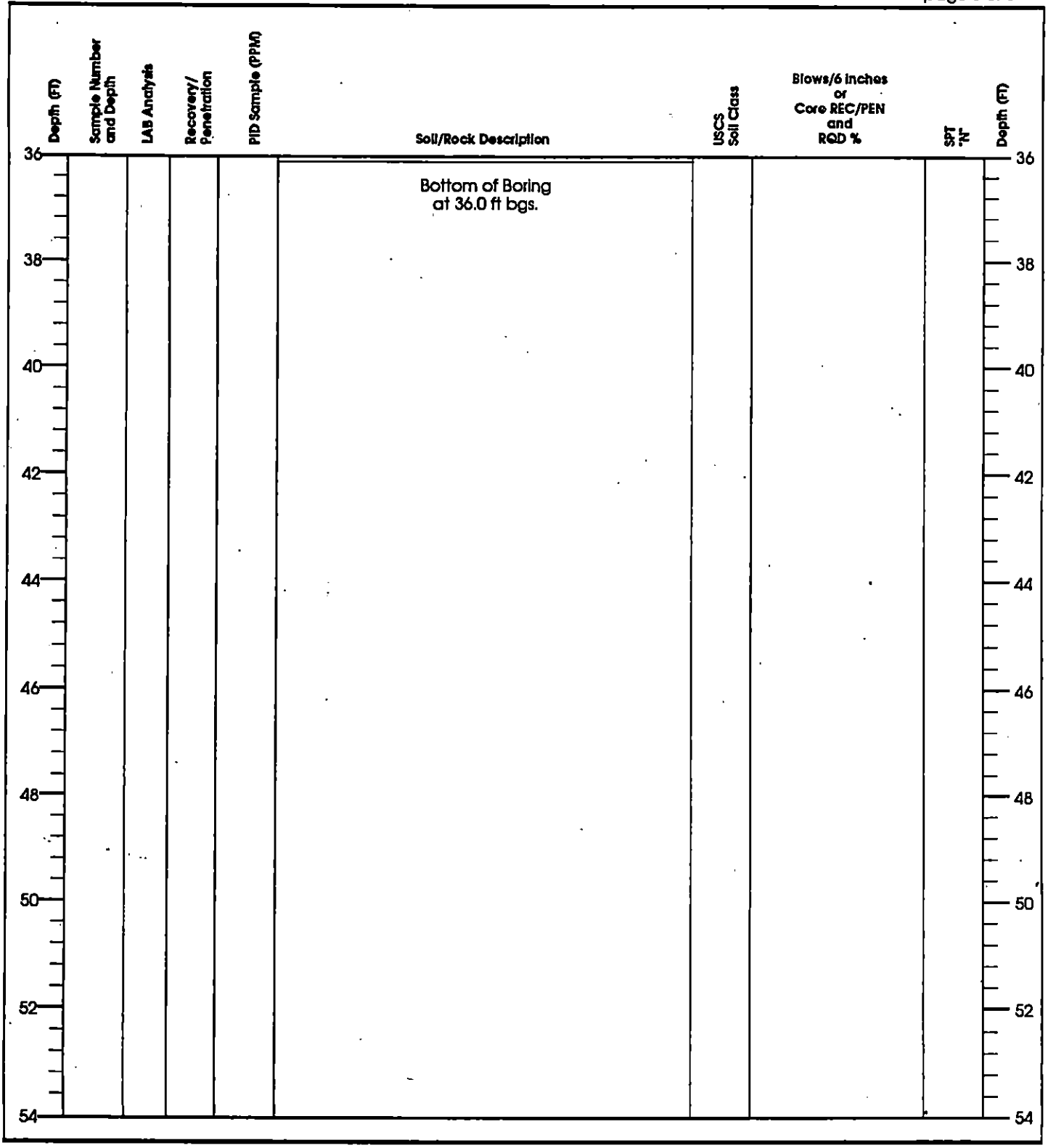


ABB Environmental Services

INTERPRETIVE BORING LOG

BORING NO.: SB-4

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/14/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.96 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (FT)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (FT)
0	S-1 0-2'		1.6/2.0	--	Brown gravelly SAND, oil-stained with strong oily odor; well graded; loose.	SP/SW	5/10/14/14	24	0
2	S-2 2-4'	GC/CLP	2.0/2.0	--	Black-stained medium SAND; loose; very strong oily odor; greasy feel; slightly cemented.	SP	10/12/15/12	27	2
4	S-3 4-6'	GC	1.3/2.0	--	Same as above, very strong odor.	SP	3/5/4/5	9	4
6	S-4 6-8'		1.1/2.0	--	Same as above, changing color to yellowish-brown.	SP	2/2/2/2	4	6
8	S-5 8-10'	GC	1.0/2.0	--	Yellowish-tan medium to fine SAND; trace fine gravel; loose, damp-dry.	SP	2/2/5/8	7	8
10	S-6 10-12'		1.0/2.0	--	Bright yellow and tan alternating layers of fine to medium SAND; loose; moist.	SP	5/12/19/20	31	10
12	S-7 12-14'	GC/CLP	1.1/2.0	--	Same as above, tan medium SAND; less yellowish color; trace gravel; loose; moist.	SP	7/7/10/14	17	12
14	S-8 14-16'		1.1/2.0	--	Tan fine to medium SAND; loose; moist.	SP	11/8/11/13	19	14
16	S-9 16-18'	GC	1.2/2.0	--	Same as above, coarse sandy layers; stratified.	SP	5/5/6/6	11	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-4

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/14/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.96 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (FT)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (FT)
18	S-10 18-20'		1.1/2.0	--	Tan fine to medium SAND; trace gravel and coarse sand; med. dense; moist.	SP	6/9/12/14	21	18
20	S-11 20-22'	GC	1.0/2.0	--	Same as above; changing to white quartz SAND.	SP	9/12/11/14	23	20
22	S-12 22-24'		1.0/2.0	--	Same as above.	SP	7/10/16/21	26	22
24	S-13 24-26'	GC	1.0/2.0	--	Same as above.	SP	6/10/14/14	24	24
26	S-14 26-28'		1.1/2.0	--	Same as above.	SP	7/14/17/21	31	26
28	S-15 28-30'	GC	1.0/2.0	--	Same as above.	SP	8/11/14/15	25	28
30	S-16 30-32'		1.0/2.0	--	Increasing coarse sand and moisture content.	SP	9/16/21/24	37	30
32	S-17 32-34'	GC	0.9/2.0	--	Same as above.	SP	7/15/21/26	36	32
34	S-18 34-36'	GC/CLP	1.0/2.0	--	Tan-orange fine to coarse SAND; trace gravel; loose; saturated.	SP/SW	6/11/10/12	21	34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-4

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/14/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.96 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

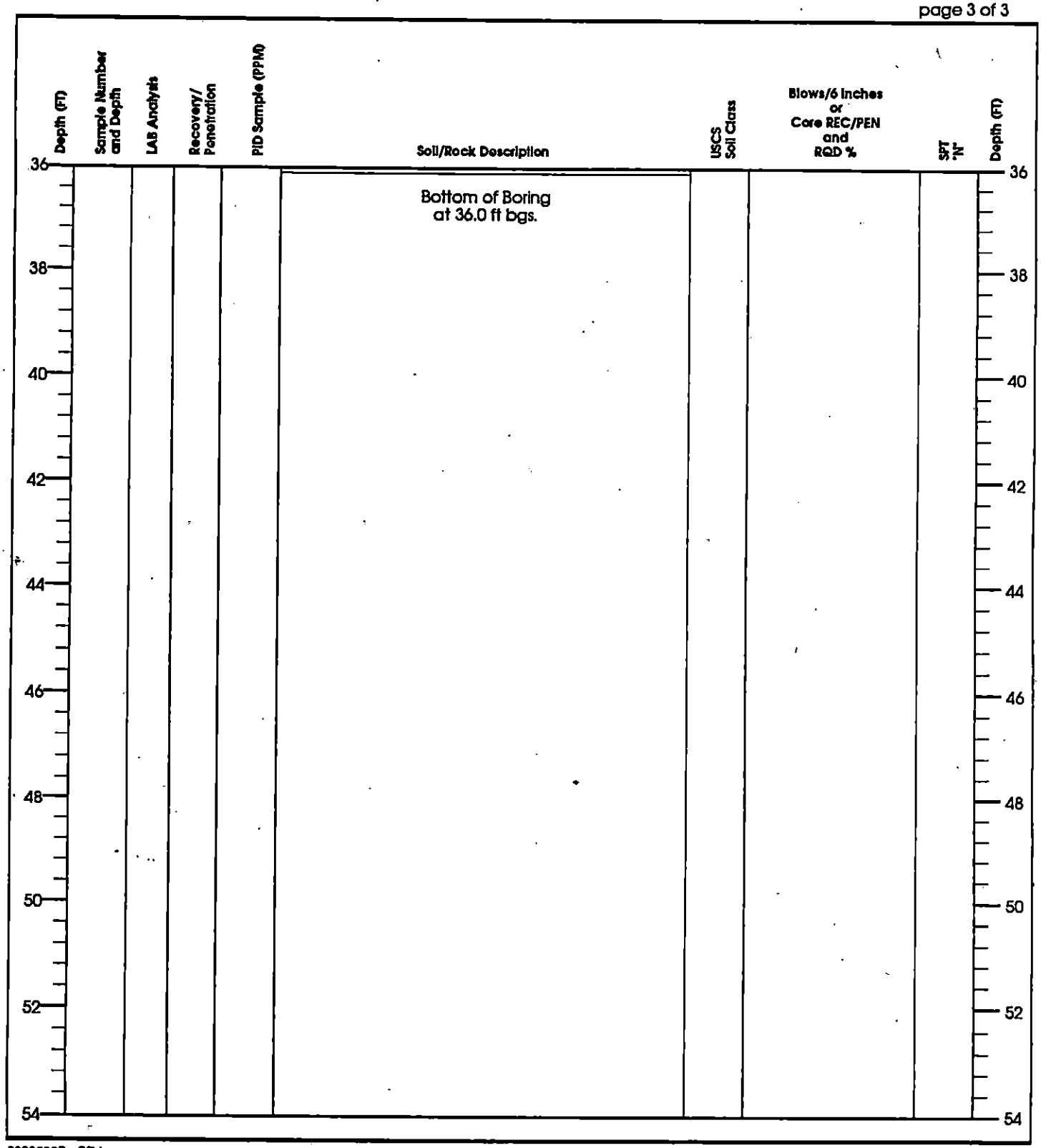


ABB Environmental Services

INTERPRETIVE BORING LOG

BORING NO.: SB-5

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/15/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.63 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT 'N'	Depth (Ft)
0	S-1 0-2'	GC	1.6/2.0	5	Dark brownish/gray gravelly/silty SAND; well to medium graded; dense; non-plastic; damp.	SP/SW	14/38/28/34	66	0
2	S-2 2-4'	GC	1.2/2.0	7	Same as above over tan to light brown medium SAND; trace gravel; poorly graded; dense; non-plastic; moist.	SP	23/35/27/33	62	2
4	S-3 4-6'	GC	1.0/2.0	BKG	Same as above, tan to white medium SAND.	SP	13/10/13/13	23	4
6	S-4 6-8'	GC/CLP	1.0/2.0	BKG	Same as above.	SP	10/13/15/17	28	6
8	S-5 8-10'	GC	0.8/2.0	BKG	Same as above, fine to medium SAND, no gravel.	SP	10/13/14/17	27	8
10	S-6 10-12'		0.8/2.0	BKG	Same as above.	SP	7/10/10/13	20	10
12	S-7 12-14'	GC	1.2/2.0	BKG	Same as above, trace gravel, stratified.	SP	8/11/18/17	29	12
14	S-8 14-16'		1.4/2.0	BKG	Same as above.	SP	8/10/18/18	28	14
16	S-9 16-18'	GC	1.0/2.0	BKG	Same as above.	SP	10/15/25/15	40	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-5

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/15/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.63 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
18	S-10 18-20'		1.0/2.0	BKG	Same as above.	SP	6/7/12/10	19	18
20	S-11 20-22'	GC	0.6/2.0	BKG	Same as above.	SP	8/10/13/15	23	20
22	S-12 22-24'		0.5/2.0	BKG	Same as above, some gravel layers.	SP	7/14/18/15	32	22
24	S-13 24-26'	GC/CLP	1.0/2.0	BKG	Same as above.	SP	7/11/13/12	24	24
26	S-14 26-28'		1.2/2.0	BKG	Same as above.	SP	8/15/19/24	34	26
28	S-15 28-30'	GC	1.0/2.0	BKG	Same as above, some coarse gravel layers.	SP	8/13/16/20	29	28
30	S-16 30-32'		0.8/2.0	BKG	Same as above.	SP	15/12/17/17	29	30
32	S-17 32-34'	GC	1.1/2.0	BKG	Same as above, increasing angular gravel; moist to saturated.	SW	10/14/17/15	31	32
34	S-18 34-36'	GC/CLP	0.8/2.0	BKG	Same as above, some orange gravelly SAND; saturated.	SW	5/8/9/14	17	34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-5

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/15/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.63 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
36					Bottom of Boring at 36.0 ft bgs.				36
38									38
40									40
42									42
44									44
46									46
48									48
50									50
52									52
54									54

ABB Environmental Services

INTERPRETIVE BORING LOG

BORING NO.: SB-6

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/15/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.69 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (FT)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (FT)
0									0
	S-1 0-2'		1.0/2.0	1.5	Brown medium SAND, loose, moist; changing at 0.7 ft bgs to black-stained medium to fine SAND; trace of gravel; moist; oily odor.	SP	6/17/22/20	39	
2	S-2 2-4'	GC	1.0/2.0	18	Gray fine SAND, trace of gravel; mod. graded; moist; oily odor.	SP	8/11/11/15	22	2
4	S-3 4-6'	GC/CLP	1.0/2.0	3	Whitish-tan fine to coarse SAND; clean, trace gravel; loose; moist.	SW	13/11/11/13	22	4
6	S-4 6-8'		1.0/2.0	BKG	Same as above.	SW	5/11/20/18	31	6
8	S-5 8-10'	GC	1.1/2.0	0.7	Same as above.	SW	5/11/17/22	28	8
10	S-6 10-12'		1.1/2.0	BKG	Same as above.	SW	8/11/17/22	28	10
12	S-7 12-14'	GC	1.0/2.0	BKG	Same as above, increasing fine SAND; moist.	SW	8/13/18/22	31	12
14	S-8 14-16'		1.2/2.0	BKG	Same as above.	SW	7/14/20/20	34	14
16	S-9 16-18'	GC/CLP	1.0/2.0	BKG	Same as above, changing to more coarse SAND; little gravel, reddish oxidized laminae and gray marbling.	SW	6/14/18/18	32	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-6

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/15/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.69 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): 9.34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (FT)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (FT)
18	S-10 18-20'		1.2/2.0	BKG	White fine to medium SAND; trace coarse SAND, trace fine gravel; well graded; loose; moist; few thin rust-colored lenses, stratified.	SW	7/12/11/13	23	18
20	S-11 20-22'	GC	1.0/2.0	BKG	Same as above.	SW	7/9/12/13	21	20
22	S-12 22-24'		1.0/2.0	BKG	Clean whitish, tan fine SAND; loose; moist.	SP	7/10/17/21	27	22
24	S-13 24-26'	GC	1.0/2.0	BKG	Clean, tan fine, medium SAND; loose, moist, very well sorted.	SP	9/13/15/20	28	24
26	S-14 26-28'		1.0/2.0	BKG	Same as above.	SP	10/15/29/22	44	26
28	S-15 28-30'	GC	1.0/2.0	BKG	Same as above.	SP	10/17/26/34	43	28
30	S-16 30-32'		1.0/2.0	BKG	Same as above.	SP	12/17/32/39	49	30
32	S-17 32-34'		1.1/2.0	BKG	Same as above.	SP	7/15/18/20	33	32
34	S-18 34-36'	GC CLP	1.1/2.0	BKG	Same as above, color changing to orange-brown layers; saturated.	SP	12/19/29/41	48	34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-6

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/15/92	Date Completed: 8/15/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:76.69 Ft MSL	Soil Drilled: 36 Ft.	Total Depth: 36 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

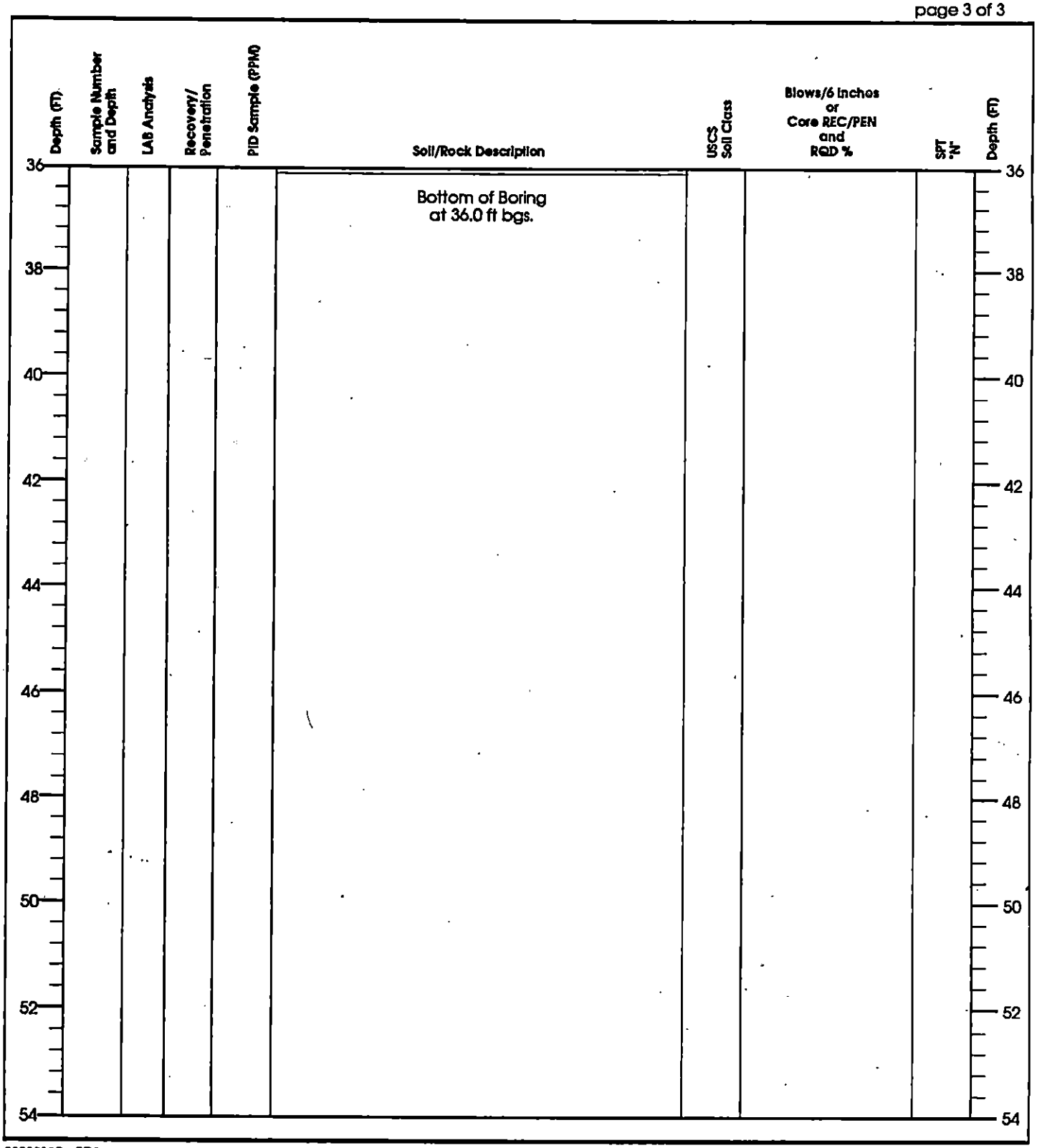


ABB Environmental Services

INTERPRETIVE BORING LOG

BORING NO.: SB-7

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/16/92	Date Completed: 8/16/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:75.81 Ft MSL	Soil Drilled: 34 Ft.	Total Depth: 34 Ft.	Ground Water Depth (Bgs): 33 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
0	S-1 0-2'	GC	1.0/2.0	BKG	Dark brown to grayish/black-stained medium SAND; some gravel; poorly graded; medium dense; non-plastic; damp.	SP	6/11/19/22	30	0
2	S-2 2-4'	GC/CLP	1.5/2.0	7	Same as above, black-stained, slightly cemented medium SAND; little gravel.	SP	7/10/12/12	22	2
4	S-3 4-6'	GC	0.8/2.0	BKG	Same as above, changing to brown medium SAND; little gravel; poorly graded; moist.	SP	10/5/4/9	9	4
6	S-4 6-8'		0.8/2.0	BKG	Tan/white medium SAND; trace gravel; mod. graded; moist; stratified.	SP	2/5/7/9	12	6
8	S-5 8-10'	GC	0.7/2.0	BKG	Same as above.	SP	5/5/18/22	23	8
10	S-6 10-12'		1.1/2.0	BKG	Same as above.	SP	13/17/18/22	35	10
12	S-7 12-14'	GC	1.3/2.0	BKG	Same as above.	SP	8/13/7/32	20	12
14	S-8 14-16'		1.1/2.0	BKG	Same as above.	SP	12/5/17/21	22	14
16	S-9 16-18'	GC	1.3/2.0	BKG	Same as above.	SP	13/17/17/20	34	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-7

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/16/92	Date Completed: 8/16/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:75.81 Ft MSL	Soil Drilled: 34 Ft.	Total Depth: 34 Ft.	Ground Water Depth (Bgs): 33 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
18	S-10 18-20'		0.9/2.0	BKG	Same as above, with stratified dark gray sand laminae.	SP	9/13/18/28	31	18
20	S-11 20-22'	GC	1.7/2.0	BKG	Same as above, increased gravel stratification.	SW	12/19/28/32	47	20
22	S-12 22-24'		1.1/2.0	BKG	Same as above, decreasing gravel.	SP	7/13/17/21	30	22
24	S-13 24-26'	GC/CLP	1.3/2.0	BKG	Same as above, dark brown sand laminae.	SP	9/8/15/26	23	24
26	S-14 26-28'		0.8/2.0	BKG	Same as above.	SP	13/38/24/28	62	26
28	S-15 28-30'	GC	1.2/2.0	BKG	Same as above, occasional orange and brown laminae.	SP	10/15/17/26	32	28
30	S-16 30-32'		1.0/2.0	BKG	Same as above, white/tan SAND; orange layers increasing in width; increasing moisture content.	SP	9/11/13/24	24	30
32	S-17 32-34'	GC/CLP	1.0/2.0	BKG	Same as above, saturated.	SP	9/17/24/26	41	32
34					Bottom of Boring at 34.0 ft bgs.				34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-8

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/17/92	Date Completed: 8/17/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:73.60 Ft MSL	Soil Drilled: 32 Ft.	Total Depth: 32 Ft.	Ground Water Depth (Bgs): ~30 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT 'N'	Depth (Ft)
0	S-1 0-2'		1.3/2.0	BKG	Brown medium SAND, some gray/black gravel; poorly graded; medium dense; non-plastic; damp.	SP	8/10/12/11	22	0
2	S-2 2-4'	GC/CLP	1.4/2.0	BKG	Ligth brown medium SAND; some gravel; medium dense; non-plastic; damp.	SP	11/13/15/18	28	2
4	S-3 4-6'	GC	1.0/2.0	BKG	Same as above, light brown to white/gray medium SAND; moist.	SP	8/9/12/14	21	4
6	S-4 6-8'	GC	1.3/2.0	BKG	Same as above, all white/gray.	SP	3/5/9/10	14	6
8	S-5 8-10'	GC	1.5/2.0	BKG	Same as above.	SP	5/6/6/7	12	8
10	S-6 10-12'		1.2/2.0	BKG	Same as above.	SP	2/5/8/10	13	10
12	S-7 12-14'	GC	1.1/2.0	BKG	Same as above.	SP	5/4/13/12	17	12
14	S-8 14-16'		0.8/2.0	BKG	Same as above.	SP	6/9/11/17	20	14
16	S-9 16-18'	GC	1.0/2.0	BKG	Same as above.	SP	4/7/8/10	15	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-8

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/17/92	Date Completed: 8/17/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:73.60 Ft MSL	Soil Drilled: 32 Ft.	Total Depth: 32 Ft.	Ground Water Depth (Bgs): ~30 Ft.
Logged by: L. Sears		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
18	S-10 18-20'		0.9/2.0	BKG	White/gray medium SAND; little gravel; mod. graded; medium dense; moist; stratified.	SP	7/9/10/34	19	18
20	S-11 20-22'	GC/CLP	1.2/2.0	BKG	Same as above.	SP	13/17/24/17	41	20
22	S-12 22-24'		0/2.0	BKG	No recovery.	--	22/38/45/22	83	22
24	S-13 24-26'	GC	1.3/2.0	BKG	White/gray medium SAND; little gravel; mod. graded; medium dense; moist; stratified with some dark gray sand laminae.	SP	7/10/13/12	23	24
26	S-14 26-28'		1.0/2.0	BKG	Same as above.	SP	7/12/13/19	25	26
28	S-15 28-30'	GC	1.0/2.0	BKG	Same as above, increasing gravel and moisture content.	SP	10/15/17/22	32	28
30	S-16 30-32'	GC/CLP	1.0/2.0	BKG	Same as above, saturated.	SP	13/17/13/14	30	30
32					Bottom of Boring at 32.0 ft bgs.				32
34									34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-9

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/16/92	Date Completed: 8/16/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:74.16 Ft MSL	Soil Drilled: 32 Ft.	Total Depth: 32 Ft.	Ground Water Depth (Bgs): ~32 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (FT)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (FT)
0	S-1 0-2'		0.9/2.0	--	Tan, clean, medium SAND; over black-stained cemented medium sand; dense; moist.	SP	7/43/18/20	61	0
2	S-2 2-4'	GC/CLP	1.4/2.0	--	Reddish/brown medium SAND, over gray to black, oily stained fine to medium SAND, some with wood pieces; loose; moist.	SP	5/3/4/5	7	2
4	S-3 4-6'		—/2.0	--	Whitish/gray fine SAND; very poorly graded; loose; moist.	SP	6/8/5/8	13	4
6	S-4 6-8'	GC	1.0/2.0	--	Whitish/tan, fine to medium SAND; trace coarse sand, trace rounded gravel, loose; moist.	SP	5/6/5/4	11	6
8	S-5 8-10'		1.0/2.0	--	Same as above, with trace to little coarse, well-rounded SAND; loose; moist.	SP	5/12/15/20	27	8
10	S-6 10-12'	GC	1.0/2.0	--	Same as above.	SP	10/12/12/15	24	10
12	S-7 12-14'		1.1/2.0	--	Same as above, subtle olive lenses.	SP	12/14/15/15	29	12
14	S-8 14-16'	GC/CLP	1.0/2.0	--	Same as above, without olive lenses.	SP	8/12/15/18	27	14
16	S-9 16-18'		—/2.0	--	Same as above.	SP	13/14/23/27	37	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-9

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/16/92	Date Completed: 8/16/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:74.16 Ft MSL	Soil Drilled: 32 Ft.	Total Depth: 32 Ft.	Ground Water Depth (Bgs): ~32 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
18	S-10 18-20'	GC	1.0/2.0	--	Whitish/tan, fine to medium SAND; medium dense; moist.	SP	7/13/21/28	34	18
20	S-11 20-22'		1.0/2.0	--	Same as above, trace coarse gravel; stratified.	SP	7/12/19/24	31	20
22	S-12 22-24'	GC	1.0/2.0	--	Same as above.	SP	9/10/12/18	22	22
24	S-13 24-26'		1.0/2.0	--	Same as above, decreasing gravel.	SP	12/19/15/34	34	24
26	S-14 26-28'	GC	1.0/2.0	--	Same as above, increasingly moist.	SP	12/18/21/35	39	26
28	S-15 28-30'		1.0/2.0	--	Same as above, trace of rusty-coated gravel.	SP	9/15/15/30	30	28
30	S-16 30-32'	GC/CLP	1.0/2.0	--	Same as above, saturated.	SP	8/11/13/10	24	30
32					Bottom of Boring at 32.0 ft bgs.				32
34									34
36									36

INTERPRETIVE BORING LOG

BORING NO.: SB-10

Client: NYSDEC	Site: Sheridan Waste Oil Co.		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/17/92	Date Completed: 8/17/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:75.37 Ft MSL	Soil Drilled: 34 Ft.	Total Depth: 34 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
0									0
	S-1 0-2'	GC	1.4/2.0	--	Brown gravelly medium SAND; changing to black-stained medium sand over bright yellow/orange medium SAND; loose; moist.	SP	12/20/17/73	37	
2	S-2 2-4'		1.2/2.0	--	Tan/whitish fine to medium SAND; trace coarse SAND; trace gravel; loose; moist.	SP	12/15/14/10	29	2
4	S-3 4-6'	GC/CLP	1.0/2.0	--	Same as above.	SP	8/11/11/12	22	4
6	S-4 6-8'		0.9/2.0	--	Same as above.	SP	5/7/9/10	16	6
8	S-5 8-10'	GC	1.1/2.0	--	Same as above.	SP	3/5/6/7	11	8
10	S-6 10-12'		1.2/2.0		Same as above.	SP	5/6/6/9	12	10
12	S-7 12-14'	GC	0.6/2.0		Same as above, increasing tan color.	SP	5/10/11/12	21	12
14	S-8 14-16'		1.2/2.0		Same as above.	SP	6/8/9/11	17	14
16	S-9 16-18'	GC/CLP	/2.0		Same as above, whitish.	SP	5/8/8/9	16	16
18									18

INTERPRETIVE BORING LOG

BORING NO.: SB-10

Client: **NYSDEC**	Site: **Sheridan Waste Oil Co.**		Project No.: 7121-21
Contractor: New Hampshire Boring		Date Started: 8/17/92	Date Completed: 8/17/92
Method: HSA	Casing Size: 4.25 In.	PID: TE - 10.0 (eV)	Protection Level: D
Ground Elev.:75.37 Ft MSL	Soil Drilled: 34 Ft.	Total Depth: 34 Ft.	Ground Water Depth (Bgs): ~34 Ft.
Logged by: T. Longley		Checked by: L. Healey	Date: 2/4/93

Depth (Ft)	Sample Number and Depth	LAB Analysis	Recovery/ Penetration	PID Sample (PPM)	Soil/Rock Description	USCS Soil Class	Blows/6 Inches or Core REC/PEN and RQD %	SPT "N"	Depth (Ft)
18	S-10 18-20'		1.1/2.0	--	Whitish/tan fine medium SAND; loose; moist.	SP	9/11/17/20	28	18
20	S-11 20-22'	GC	1.1/2.0	--	Same as above.	SP	7/10/11/13	21	20
22	S-12 22-24'		1.0/2.0	--	Same as above.	SP	5/7/8/8	15	22
24	S-13 24-26'	GC	1.1/2.0	--	Same as above.	SP	5/8/7/8	15	24
26	S-14 26-28'		1.1/2.0	--	Same as above.	SP	2/6/6/10	12	26
28	S-15 28-30'	GC	1.0/2.0	--	Same as above.	SP	12/9/8/11	17	28
30	S-16 30-32'		1.0/2.0	--	Same as above, trace to little gravel; stratified; increasing moisture.	SP	9/13/17/24	30	30
32	S-17 32-34'	GC/CLP	1.0/2.0	--	Same as above, fine to med SAND & GRAVEL; rusty mottling.	SP	10/10/21/23	31	32
34					Bottom of Boring at 34.0 ft bgs.				34
36									36

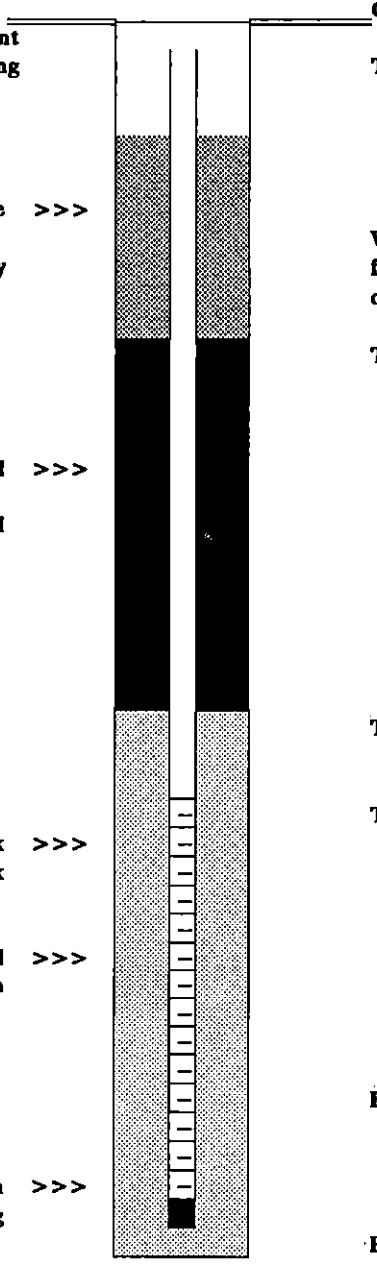
APPENDIX A-5

WELL INSTALLATION LOGS

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-1	INSTALLATION DATE: 8-31-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: S. Secovich

(NOT TO SCALE)

MW-1



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	84.60
Top of Riser	0.37	84.23
Water Level from riser on 10/12/92	40.96	43.27
Top of Seal	32.0	52.6
Top of Sandpack	35.0	49.6
Top of Screen	38.0	46.6
Bottom of Screen	48.0	36.6
Bottom of Boring	130.0	-45.4

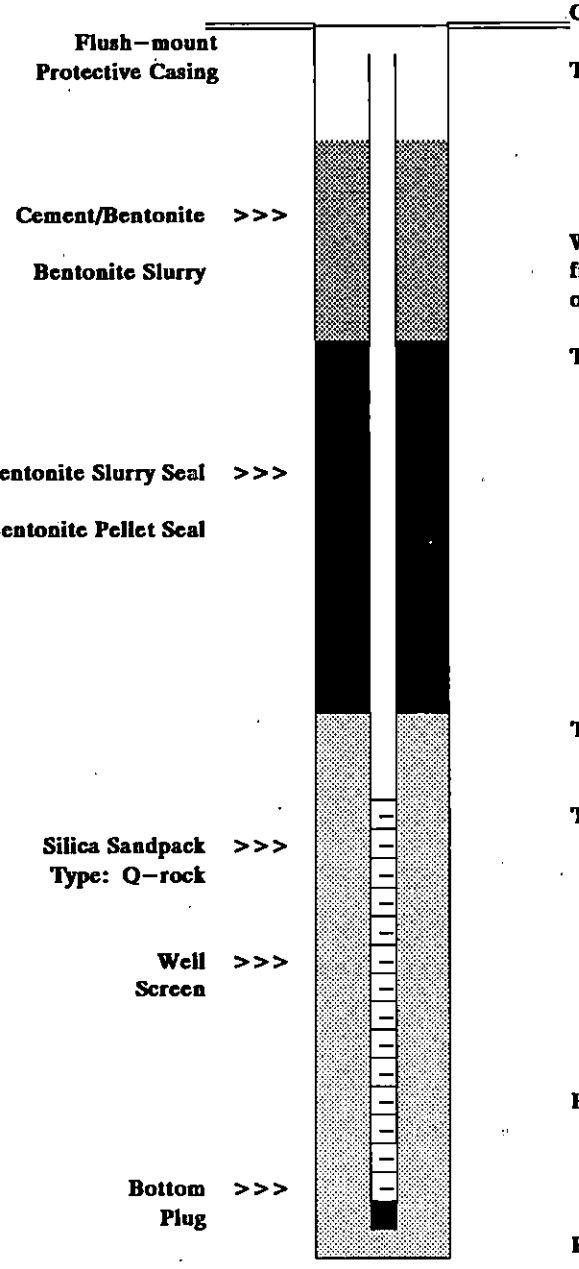
WELL CONSTRUCTION

[X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-2A	INSTALLATION DATE: 8-30-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: E. Sandin

(NOT TO SCALE)

MW-2A



	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	81.38
Top of Riser	0.48	80.90
Water Level from riser on 10/12/92	37.69	43.21
Top of Seal	35.0	46.4
Top of Sandpack	57.0	24.4
Top of Screen	62.0	19.4
Bottom of Screen	72.0	9.4
Bottom of Boring	124.0	-42.6

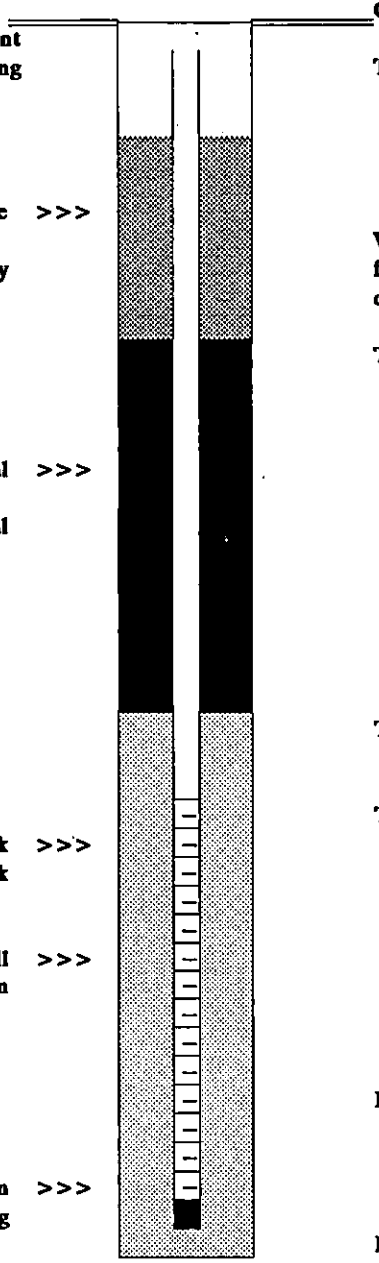
WELL CONSTRUCTION

X Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-2B	INSTALLATION DATE: 8-29-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: E. Sandin

(NOT TO SCALE)

MW-2B



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	81.32
Top of Riser	0.55	80.77
Water Level from riser on 10/12/92	37.58	43.19
Top of Seal	28.0	53.3
Top of Sandpack	32.0	49.3
Top of Screen	35.0	46.3
Bottom of Screen	45.0	36.3
Bottom of Boring	45.0	36.3

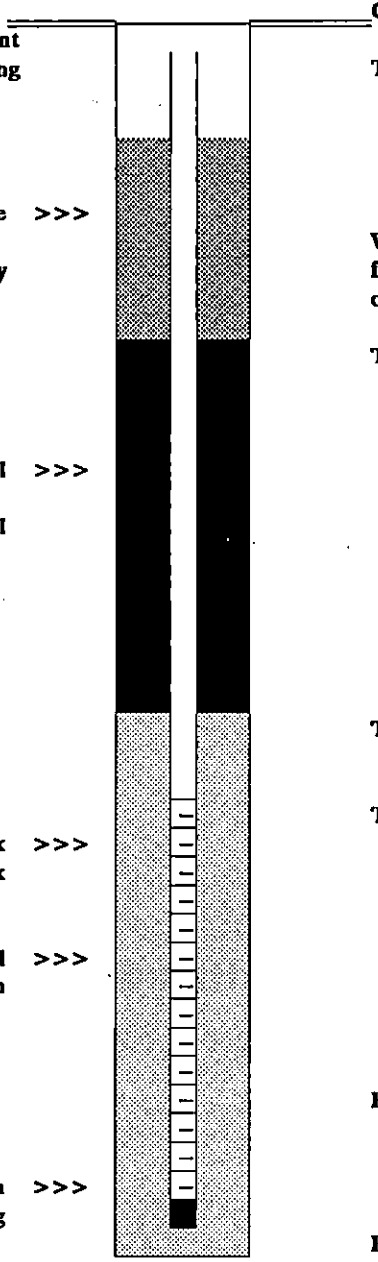
WELL CONSTRUCTION

- [X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-3	INSTALLATION DATE: 8-29-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: S. Secovich

(NOT TO SCALE)

MW-3



Flush-mount Protective Casing

(check one)
[X] Cement/Bentonite >>>
[ ] Bentonite Slurry

(check one)
[X] Bentonite Slurry Seal >>>
[ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	79.22
Top of Riser	0.38	78.84
Water Level from riser on 10/12/92	35.68	43.16
Top of Seal	26.0	53.2
Top of Sandpack	29.0	50.2
Top of Screen	32.0	47.2
Bottom of Screen	42.0	37.2
Bottom of Boring	140.0	-60.8

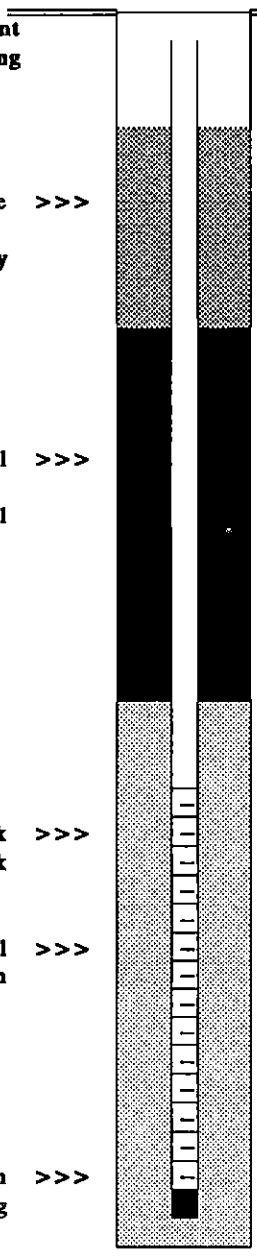
WELL CONSTRUCTION

[X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG		E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE		NYSDEC Contract D002472-11
WELL NO. MW-4A	INSTALLATION DATE:	8-27-92
INSTALLED BY: New Hampshire Boring	LOGGED BY:	L. Sears

(NOT TO SCALE)

MW-4A



Flush-mount Protective Casing

(check one)
[X] Cement/Bentonite >>>
[ ] Bentonite Slurry

(check one)
[X] Bentonite Slurry Seal >>>
[ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	76.17
Top of Riser	0.51	75.66
Water Level from riser on 10/12/92	32.76	42.90
Top of Seal	35.0	41.2
Top of Sandpack	67.0	9.2
Top of Screen	70.0	6.2
Bottom of Screen	80.0	-3.8
Bottom of Boring	150.0	-73.8

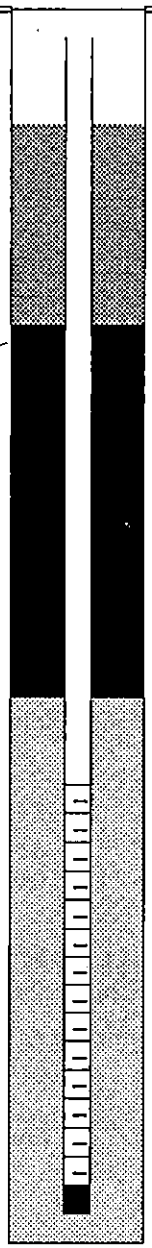
WELL CONSTRUCTION

[X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-4B	INSTALLATION DATE: 8-28-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: E. Sandin

(NOT TO SCALE)

MW-4B



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>> Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	76.40
Top of Riser	0.42	75.98
Water Level from riser on 10/12/92	33.06	42.92
Top of Seal	23.0	53.4
Top of Sandpack	26.0	50.4
Top of Screen	29.0	47.4
Bottom of Screen	39.0	37.4
Bottom of Boring	39.0	37.4

WELL CONSTRUCTION

[X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG		E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE		NYSDEC Contract D002472-11
WELL NO. MW-5A	INSTALLATION DATE:	8-20-92
INSTALLED BY: New Hampshire Boring	LOGGED BY:	E. Sandin

(NOT TO SCALE)

MW-5A

Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	71.54
Top of Riser	0.19	71.35
Water Level from riser on 10/12/92	28.70	42.65
Top of Seal	28.0	43.5
Top of Sandpack	51.0	20.5
Top of Screen	56.0	15.5
Bottom of Screen	66.0	5.5
Bottom of Boring	94.0	-22.5

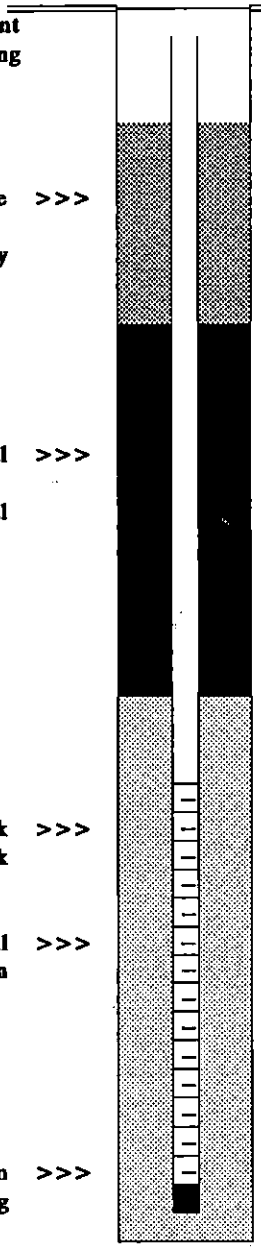
WELL CONSTRUCTION

- [X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-5B	INSTALLATION DATE: 8-20-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: E. Sandin

(NOT TO SCALE)

MW-5B



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	71.57
Top of Riser	0.35	71.22
Water Level from riser on 10/12/92	28.52	42.70
Top of Seal	20.0	51.6
Top of Sandpack	23.0	48.6
Top of Screen	26.0	45.6
Bottom of Screen	36.0	35.6
Bottom of Boring	36.0	35.6

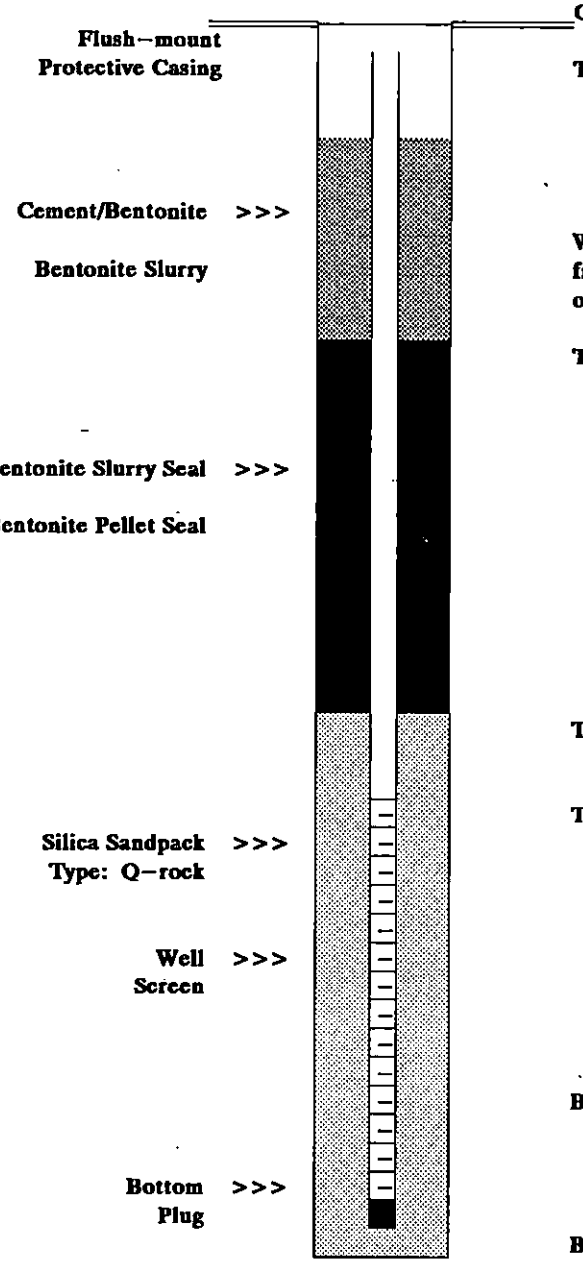
WELL CONSTRUCTION

- [X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG		E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE		NYSDEC Contract D002472-11
WELL NO. MW-6	INSTALLATION DATE:	8-19-92
INSTALLED BY: New Hampshire Boring	LOGGED BY:	L. Sears

(NOT TO SCALE)

MW-6



	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	72.81
Top of Riser	0.43	72.38
Water Level from riser on 10/12/92	29.67	42.71
Top of Seal	30.0	42.8
Top of Sandpack	54.5	18.3
Top of Screen	57.0	15.8
Bottom of Screen	67.0	5.8
Bottom of Boring	120.0	-47.2

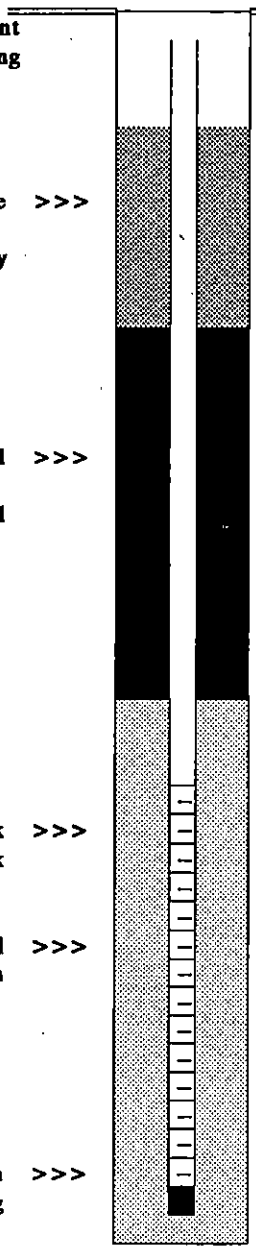
WELL CONSTRUCTION

X Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG		E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE		NYSDEC Contract D002472-11
WELL NO. MW-7A	INSTALLATION DATE:	8-27-92
INSTALLED BY: New Hampshire Boring	LOGGED BY:	E. Sandin

(NOT TO SCALE)

MW-7A



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	73.23
Top of Riser	0.09	73.14
Water Level from riser on 10/12/92	30.39	42.75
Top of Seal	30.0	43.2
Top of Sandpack	55.0	18.2
Top of Screen	58.0	15.2
Bottom of Screen	68.0	5.2
Bottom of Boring	108.0	-34.8

WELL CONSTRUCTION

[X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-7B	INSTALLATION DATE: 8-28-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: E. Sandin

(NOT TO SCALE)

MW-7B

Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	73.64
Top of Riser	0.32	73.32
Water Level from riser on 10/12/92	30.56	42.76
Top of Seal	22.0	51.6
Top of Sandpack	25.0	48.6
Top of Screen	28.0	45.6
Bottom of Screen	38.0	35.6
Bottom of Boring	38.5	35.1

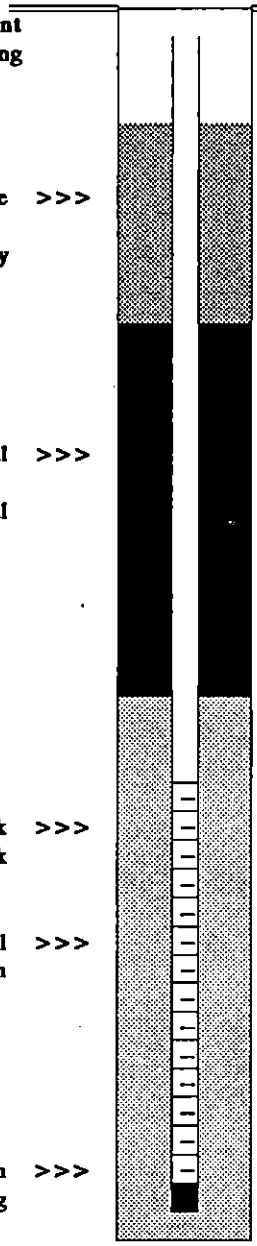
WELL CONSTRUCTION

- [X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-8	INSTALLATION DATE: 8-31-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: S. Secovich

(NOT TO SCALE)

MW-8



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	79.71
Top of Riser	0.46	79.25
Water Level from riser on 10/12/92	40.63	38.62
Top of Seal	41.0	38.7
Top of Sandpack	61.0	18.7
Top of Screen	64.0	15.7
Bottom of Screen	74.0	5.7
Bottom of Boring	110.0	-30.3

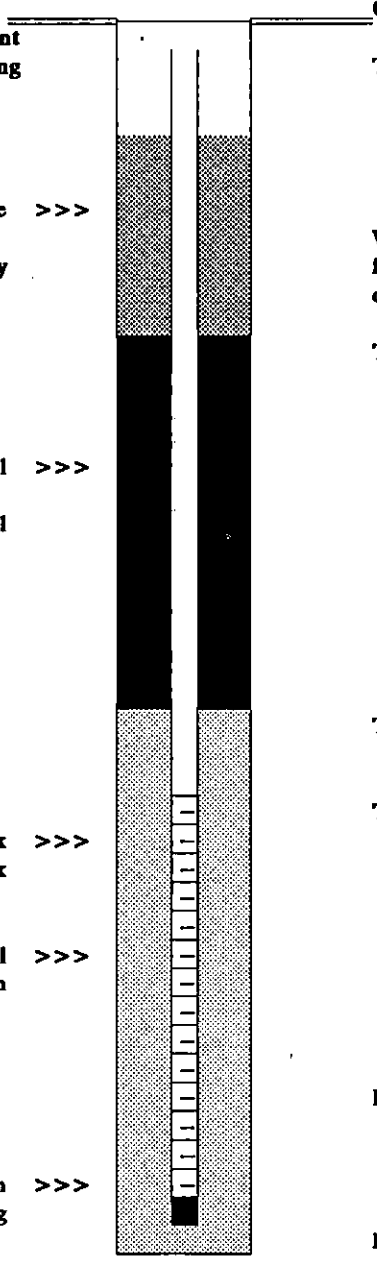
WELL CONSTRUCTION

[X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG		E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE		NYSDEC Contract D002472-11
WELL NO. MW-9	INSTALLATION DATE:	9-1-92
INSTALLED BY: New Hampshire Boring	LOGGED BY:	T. Longley

(NOT TO SCALE)

MW-9



	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	76.55
Top of Riser	0.40	76.15
Water Level from riser on 10/12/92	41.17	34.98
Top of Seal	45.0	31.5
Top of Sandpack	110.0	-33.5
Top of Screen	115.0	-38.5
Bottom of Screen	125.0	-48.5
Bottom of Boring	140.0	-63.5

Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

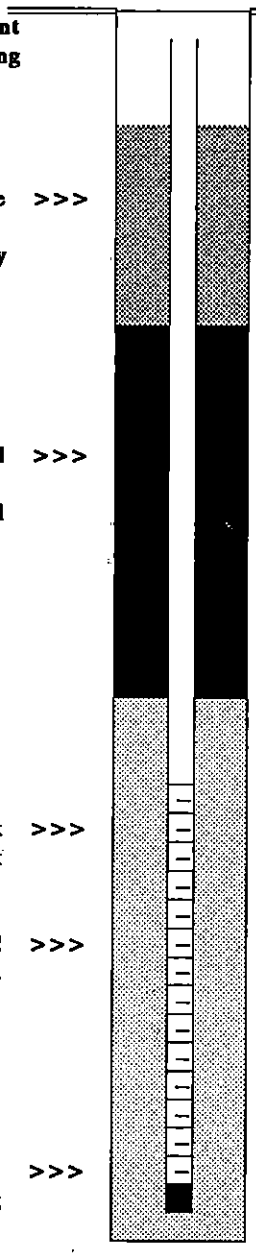
WELL CONSTRUCTION

[X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-10	INSTALLATION DATE: 9-2-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: T. Longley

(NOT TO SCALE)

MW-10



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>> Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	70.43
Top of Riser	0.61	69.82
Water Level from riser on 10/12/92	35.31	34.51
Top of Seal	40.0	30.4
Top of Sandpack	81.0	-10.6
Top of Screen	85.0	-14.6
Bottom of Screen	95.0	-24.6
Bottom of Boring	134.0	-63.6

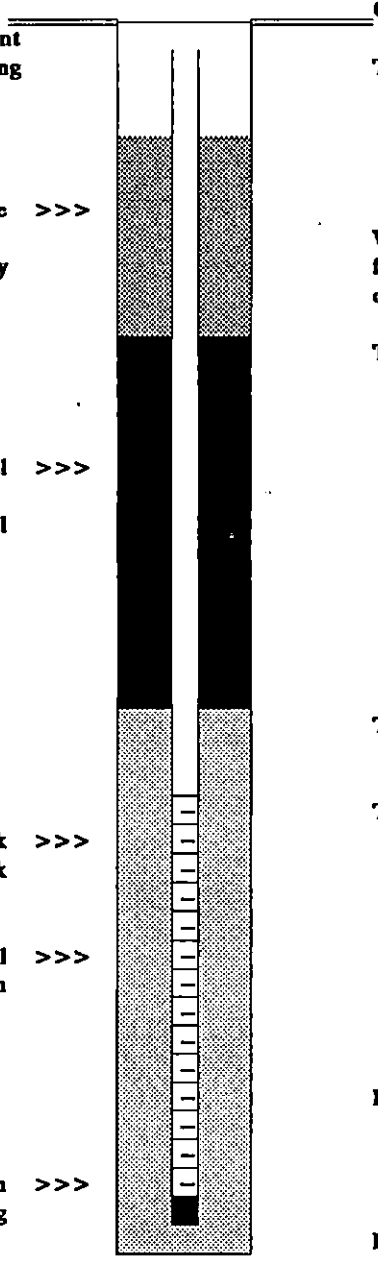
WELL CONSTRUCTION

- [X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-11	INSTALLATION DATE: 9-3-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: S. Secovich

(NOT TO SCALE)

MW-11



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	65.12
Top of Riser	0.71	64.41
Water Level from riser on 10/12/92	22.21	42.20
Top of Seal	21.0	44.1
Top of Sandpack	90.6	-25.5
Top of Screen	95.5	-30.4
Bottom of Screen	105.5	-40.4
Bottom of Boring	114.0	-48.9

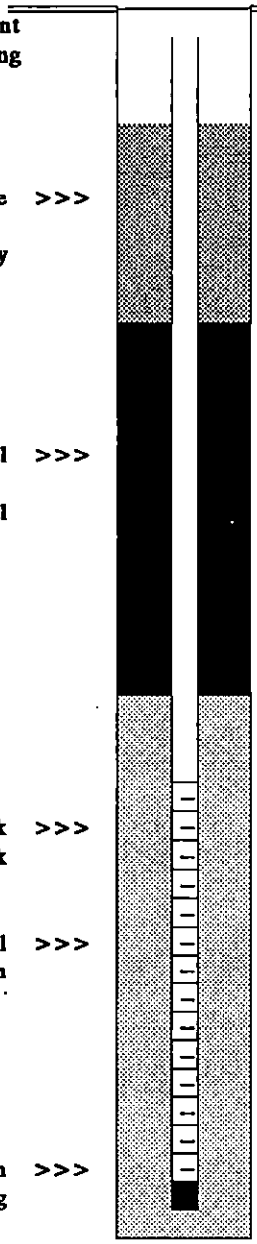
WELL CONSTRUCTION

- [X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-12	INSTALLATION DATE: 9-11-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: L. Sears

(NOT TO SCALE)

MW-12



Flush-mount Protective Casing

(check one)
- [X] Cement/Bentonite >>>
- [ ] Bentonite Slurry

(check one)
- [X] Bentonite Slurry Seal >>>
- [ ] Bentonite Pellet Seal

Silica Sandpack >>>
Type: Q-rock

Well Screen >>>

Bottom Plug >>>

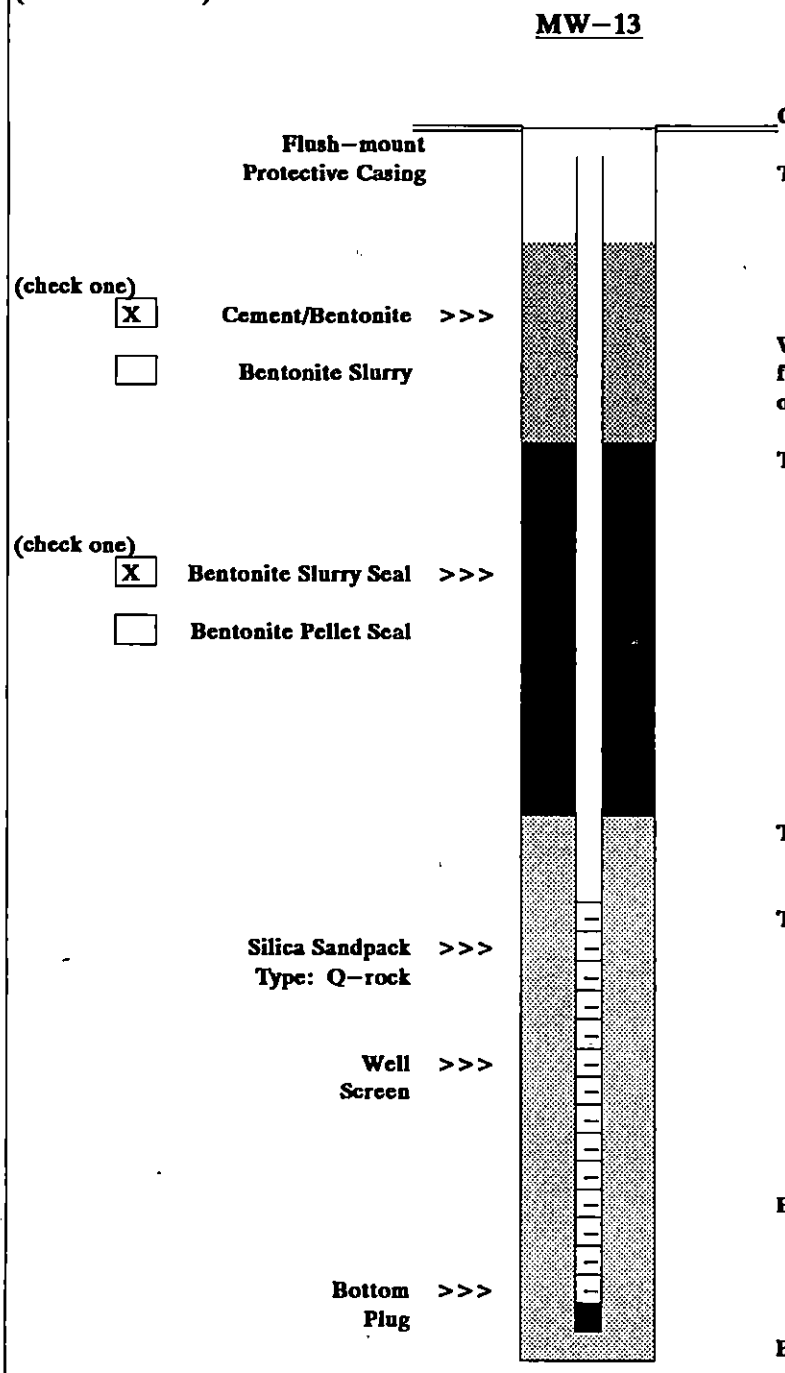
	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	71.39
Top of Riser	0.50	70.89
Water Level from riser on 10/12/92	38.27	32.62
Top of Seal	31.0	40.4
Top of Sandpack	34.0	37.4
Top of Screen	35.8	35.6
Bottom of Screen	45.8	25.6
Bottom of Boring	160.0	-88.6

WELL CONSTRUCTION

- [X] Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG		E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE		NYSDEC Contract D002472-11
WELL NO. MW-13	INSTALLATION DATE:	9-13-92
INSTALLED BY: New Hampshire Boring	LOGGED BY:	K. Hewitt

(NOT TO SCALE)



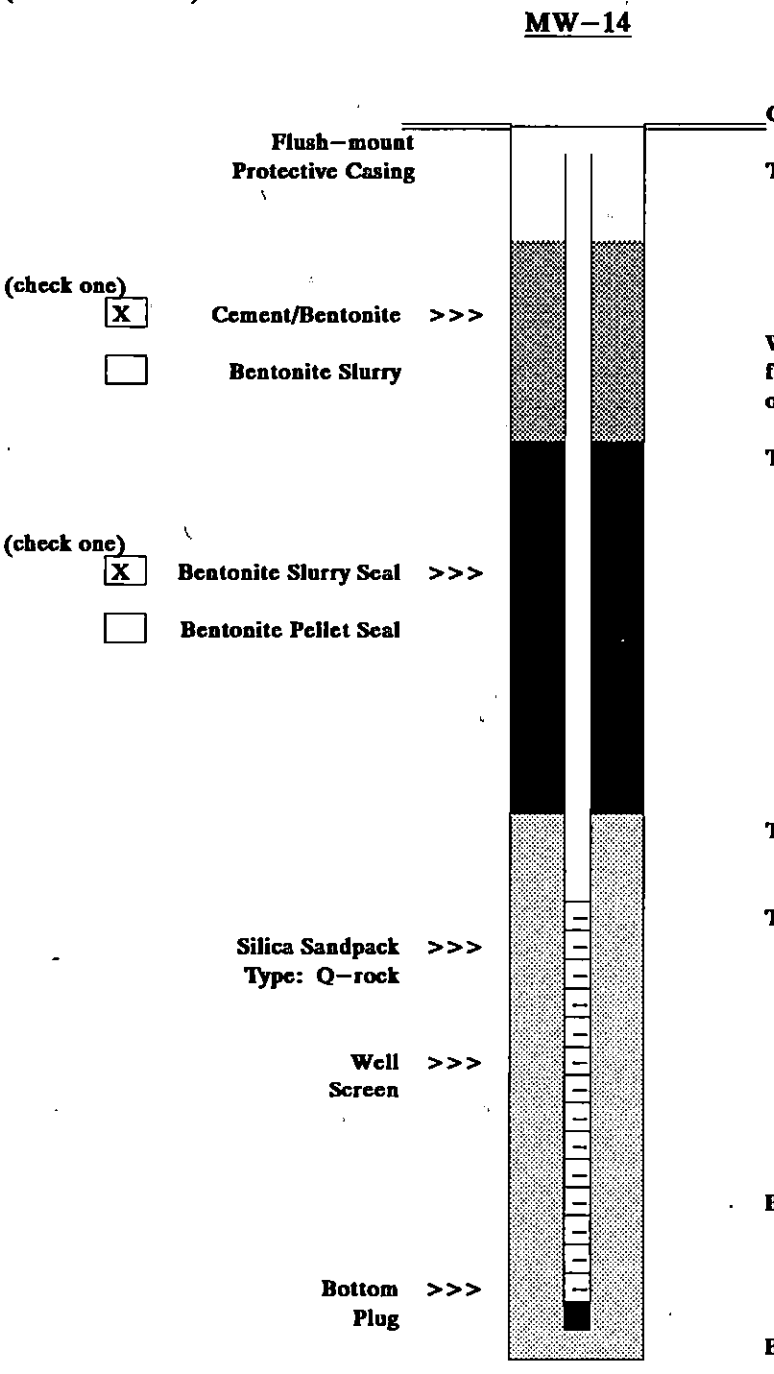
	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	75.05
Top of Riser	0.34	74.71
Water Level from riser on 10/12/92	39.84	34.87
Top of Seal	38.3	36.8
Top of Sandpack	41.5	33.6
Top of Screen	45.5	29.5
Bottom of Screen	55.5	19.5
Bottom of Boring	104.0	-29.0

WELL CONSTRUCTION

X Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG		E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE		NYSDEC Contract D002472-11
WELL NO. MW-14	INSTALLATION DATE:	9-14-92
INSTALLED BY: New Hampshire Boring	LOGGED BY:	L. Sears

(NOT TO SCALE)



	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	68.04
Top of Riser	0.42	67.62
Water Level from riser on 10/12/92	35.16	32.46
Top of Seal	27.0	41.0
Top of Sandpack	30.0	38.0
Top of Screen	32.4	35.6
Bottom of Screen	42.4	25.6
Bottom of Boring	150.0	-82.0

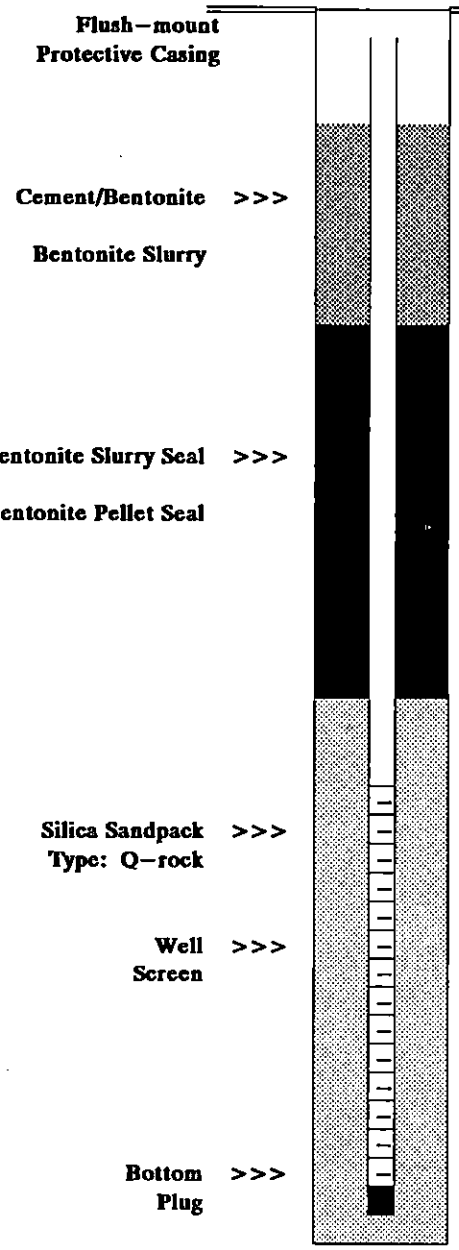
WELL CONSTRUCTION

X Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

WELL INSTALLATION LOG	E. C. JORDAN JOB # 7121-21
SHERIDAN WASTE OIL CO. SITE	NYSDEC Contract D002472-11
WELL NO. MW-17	INSTALLATION DATE: 9-17-92
INSTALLED BY: New Hampshire Boring	LOGGED BY: K. Hewitt

(NOT TO SCALE)

MW-17



	DEPTH (ft below ground)	ELEVATION (ft above MSL)
Ground Surface	0.00	71.46
Top of Riser	0.42	71.04
Water Level from riser on 10/12/92	38.36	32.68
Top of Seal	30.5	41.0
Top of Sandpack	33.4	38.1
Top of Screen	35.8	35.7
Bottom of Screen	45.8	25.7
Bottom of Boring	150.0	-78.5

WELL CONSTRUCTION

X Riser and screen are constructed with 2-inch ID Sch. 5 flush-joint stainless steel. The screen slot size is 0.010-inch.

APPENDIX A-6

PRELIMINARY HYDRAULIC CONDUCTIVITY DATA

Time-Drawdown Data for Monitoring Well Slug Tests at Sheridan Waste Oil Site

NYSDEC

MW-01
10/13/92

Time (min)	Displacement (ft)	
	Test 1	Test 2
0	-0.088	-0.555
0.0033	-0.619	-0.656
0.0066	-0.903	-0.669
0.01	-0.505	-0.536
0.0133	-0.776	-0.435
0.0166	-0.776	-0.353
0.02	-0.625	-0.296
0.0233	-0.505	-0.246
0.0266	-0.416	-0.214
0.03	-0.347	-0.183
0.0333	-0.29	-0.157
0.05	-0.138	-0.088
0.0666	-0.088	-0.069
0.0833	-0.069	-0.063
0.1	-0.063	-0.056
0.1166	-0.056	-0.05
0.1333	-0.056	-0.05
0.15	-0.056	-0.05
0.1666	-0.05	-0.05
0.1833	-0.05	-0.05
0.2	-0.05	-0.044
0.2166	-0.05	-0.05
0.2333	-0.05	-0.05
0.25	-0.05	-0.05
0.2666	-0.05	-0.05
0.2833	-0.05	-0.044
0.3	-0.05	-0.05
0.3166	-0.05	-0.05
0.3333	-0.05	-0.05
0.4166	-0.05	-0.044
0.5	-0.05	-0.05
0.5833	-0.05	-0.044
0.6666	-0.05	-0.044
0.75	-0.044	-0.044
0.8333	-0.044	-0.044
0.9166	-0.044	-0.044
1	-0.044	-0.044
1.0833	-0.044	-0.044
1.1666	-0.044	-0.044
1.25	-0.044	-0.05
1.3333	-0.044	-0.044
1.4166	-0.05	-0.044
1.5	-0.05	-0.044
1.5833	-0.05	-0.05
1.6666	-0.044	-0.044
1.75	-0.044	-0.044
1.8333	-0.05	-0.044
1.9166	-0.05	-0.05
2	-0.05	-0.044

MW-2B
10/13/92

Time (min)	Displacement (ft)	
	Test 1	Test 2
0	0.448	0.562
0.0033	0.833	0.802
0.0066	0.682	0.688
0.01	0.669	0.536
0.0133	0.77	0.644
0.0166	0.871	0.77
0.02	0.947	0.871
0.0233	1.004	0.941
0.0266	1.029	0.991
0.03	1.054	1.023
0.0333	1.067	1.042
0.05	1.111	1.092
0.0666	1.124	1.117
0.0833	1.13	1.124
0.1	1.13	1.13
0.1166	1.143	1.136
0.1333	1.143	1.143
0.15	1.143	1.143
0.1666	1.143	1.143
0.1833	1.143	1.143
0.2	1.149	1.143
0.2166	1.149	1.143
0.2333	1.149	1.143
0.25	1.149	1.149
0.2666	1.149	1.149
0.2833	1.149	1.149
0.3	1.149	1.149
0.3166	1.149	1.149
0.3333	1.149	1.149
0.4166	1.149	1.149
0.5	1.149	1.149
0.5833	1.149	1.149
0.6666	1.149	1.149
0.75	1.143	1.149
0.8333	1.149	1.149
0.9166	1.149	1.149
1	1.149	1.149
1.0833	1.149	1.149
1.1666	1.149	1.149
1.25	1.149	1.149
1.3333	1.149	1.149
1.4166	1.149	1.149
1.5	1.149	1.149
1.5833	1.149	1.149
1.6666	1.149	1.149
1.75	1.149	1.149
1.8333	1.149	1.149
1.9166	1.149	1.149
2	1.149	1.149

MW-03
10/13/92

Time (min)	Displacement (ft)	
	Test 1	Test 2
0	0.119	0.138
0.0033	0.119	0.126
0.0066	0.113	-0.202
0.01	-0.202	-0.063
0.0133	-0.353	-0.277
0.0166	-0.258	-0.208
0.02	-0.347	-0.132
0.0233	-0.246	-0.082
0.0266	-0.176	-0.044
0.03	-0.12	-0.018
0.0333	-0.088	0
0.05	0.025	0.063
0.0666	0.069	0.094
0.0833	0.088	0.107
0.1	0.101	0.113
0.1166	0.107	0.119
0.1333	0.113	0.119
0.15	0.113	0.119
0.1666	0.113	0.126
0.1833	0.119	0.126
0.2	0.119	0.126
0.2166	0.119	0.126
0.2333	0.119	0.119
0.25	0.119	0.126
0.2666	0.119	0.126
0.2833	0.119	0.126
0.3	0.119	0.126
0.3166	0.119	0.126
0.3333	0.119	0.126
0.4166	0.126	0.126
0.5	0.126	0.126
0.5833	0.126	0.126
0.6666	0.126	0.126
0.75	0.126	0.126
0.8333	0.126	0.126
0.9166	0.126	0.126
1	0.126	0.119
1.0833	0.126	0.126
1.1666	0.126	0.126
1.25	0.126	0.126
1.3333	0.126	0.126
1.4166	0.126	0.126
1.5	0.126	0.126
1.5833	0.126	0.126
1.6666	0.119	0.126
1.75	0.126	0.126
1.8333	0.126	0.126
1.9166	0.126	0.126
2	0.126	0.132

Time-Drawdown Data for Monitoring Well
Slug Tests at Sheridan Waste Oil Site (continued)

NYSDEC

MW-4B
10/13/92

Time	Displacement (ft)	
(min)	Test 1	Test 2
0	-0.884	-1.528
0.0033	-0.884	-1.231
0.0066	-0.89	-1.193
0.01	-1.042	-1.307
0.0133	-1.029	-1.2
0.0166	-1.067	-1.099
0.02	-1.01	-1.035
0.0233	-0.966	-0.991
0.0266	-0.941	-0.972
0.03	-0.922	-0.947
0.0333	-0.915	-0.941
0.05	-0.896	-0.909
0.0666	-0.89	-0.903
0.0833	-0.89	-0.903
0.1	-0.89	-0.896
0.1166	-0.89	-1.237
0.1333	-0.884	-0.991
0.15	-0.89	-0.991
0.1666	-0.884	-0.985
0.1833	-0.884	-0.991
0.2	-0.884	-0.985
0.2166	-0.884	-0.985
0.2333	-0.884	-0.991
0.25	-0.884	-0.991
0.2666	-0.884	-0.985
0.2833	-0.884	-0.985
0.3	-0.884	-0.985
0.3166	-0.884	-0.985
0.3333	-0.884	-0.985
0.4166	-0.884	-0.985
0.5	-0.884	-0.985
0.5833	-0.89	-0.985
0.6666	-0.884	-0.985
0.75	-0.884	-0.985
0.8333	-0.884	-0.985
0.9166	-0.89	-0.985
1	-0.89	-0.985
1.0833	-0.884	-0.985
1.1666	-0.884	-0.985
1.25	-0.884	-0.985
1.3333	-0.884	-0.985
1.4166	-0.884	-0.985
1.5	-0.89	-0.985
1.5833	-0.884	-0.985
1.6666	-0.884	-0.985
1.75	-0.884	-0.985
1.8333	-0.884	-0.985
1.9166	-0.884	-0.985
2	-0.884	-0.985
2.5	-0.985	

MW-5B
10/14/92

Time	Displacement (ft)	
(min)	Test 1	Test 2
0	-0.561	0.006
0.0033	-0.681	-0.107
0.0066	-0.434	-0.512
0.01	-0.34	-0.562
0.0133	-0.327	-0.455
0.0166	-0.378	-0.335
0.02	-0.618	-0.284
0.0233	-0.548	-0.335
0.0266	-0.592	-0.392
0.03	-0.46	-0.411
0.0333	-0.333	-0.455
0.05	-0.063	-0.12
0.0666	-0.025	-0.032
0.0833	-0.012	-0.013
0.1	-0.012	-0.006
0.1166	-0.012	0
0.1333	-0.006	-0.006
0.15	-0.006	0
0.1666	-0.006	0
0.1833	-0.006	0.006
0.2	-0.006	0
0.2166	-0.006	0
0.2333	0	0
0.25	-0.006	0
0.2666	-0.006	0
0.2833	-0.006	0
0.3	0	0
0.3166	-0.006	0
0.3333	-0.006	0
0.4166	0	0.006
0.5	0	0
0.5833	-0.006	0
0.6666	0	0
0.75	0	0.006
0.8333	-0.006	0
0.9166	0	0.006
1	0	0.006
1.0833	0	0.006
1.1666	0.007	0
1.25	0	0.006
1.3333	0	0.006
1.4166	0.007	0.006
1.5	0	0.006
1.5833	0.007	0
1.6666	0	0.006
1.75	0	0.006
1.8333	0	0.006
1.9166	0	0
2	0	0.006
2.5	0	
3	0.006	
3.5	0.006	
4	0	

MW-7B
10/14/92

Time	Displacement (ft)		
(min)	Test 1	Test 2	Test 3
0	-0.656	0.006	-1.414
0.0033	-0.947	-1.206	-1.427
0.0066	-0.739	-1.522	-0.915
0.01	-0.429	-1.023	-0.568
0.0133	-0.416	-0.675	-0.492
0.0166	-0.448	-0.631	-0.682
0.02	-0.461	-0.612	-0.682
0.0233	-0.505	-0.656	-0.694
0.0266	-0.581	-0.682	-0.682
0.03	-0.48	-0.675	-0.631
0.0333	-0.486	-0.53	-0.53
0.05	-0.088	-0.094	-0.164
0.0666	-0.037	-0.044	-0.113
0.0833	-0.025	-0.025	-0.101
0.1	-0.018	-0.025	-0.094
0.1166	-0.012	-0.018	-0.088
0.1333	-0.012	-0.025	-0.088
0.15	-0.012	-0.713	-0.082
0.1666	-0.006	-0.101	-0.082
0.1833	-0.006	-0.101	-0.082
0.2	-0.006	-0.101	-0.082
0.2166	-0.006	-0.101	-0.082
0.2333	-0.006	-0.101	-0.075
0.25	-0.006	-0.101	-0.082
0.2666	-0.006	-0.101	-0.075
0.2833	-0.006	-0.101	-0.082
0.3	-0.006	-0.101	-0.082
0.3166	-0.006	-0.101	-0.082
0.3333	-0.006	-0.101	-0.082
0.4166	-0.006	-0.094	-0.082
0.5	-0.006	-0.094	-0.082
0.5833	-0.006	-0.094	-0.082
0.6666	-0.006	-0.094	-0.082
0.75	0	-0.094	-0.138
0.8333	-0.006	-0.094	-0.075
0.9166	0	-0.094	-0.075
1	-0.006	-0.094	-0.075
1.0833	-0.006	-0.094	-0.075
1.1666	-0.006	-0.094	-0.075
1.25	-0.006	-0.094	-0.075
1.3333	-0.006	-0.094	-0.075
1.4166	-0.006	-0.094	-0.075
1.5	-0.006	-0.094	-0.075
1.5833	-0.006	-0.094	-0.075
1.6666	-0.006	-0.094	-0.075
1.75	-0.006	-0.094	-0.075
1.8333	-0.006	-0.094	-0.075
1.9166	-0.006	-0.094	-0.075
2	-0.006	-0.094	-0.075
2.5	-0.082		

Time-Drawdown Data for Monitoring Well
Slug Tests at Sheridan Waste Oil Site (continued)

NYSDEC

MW-12
10/15/92

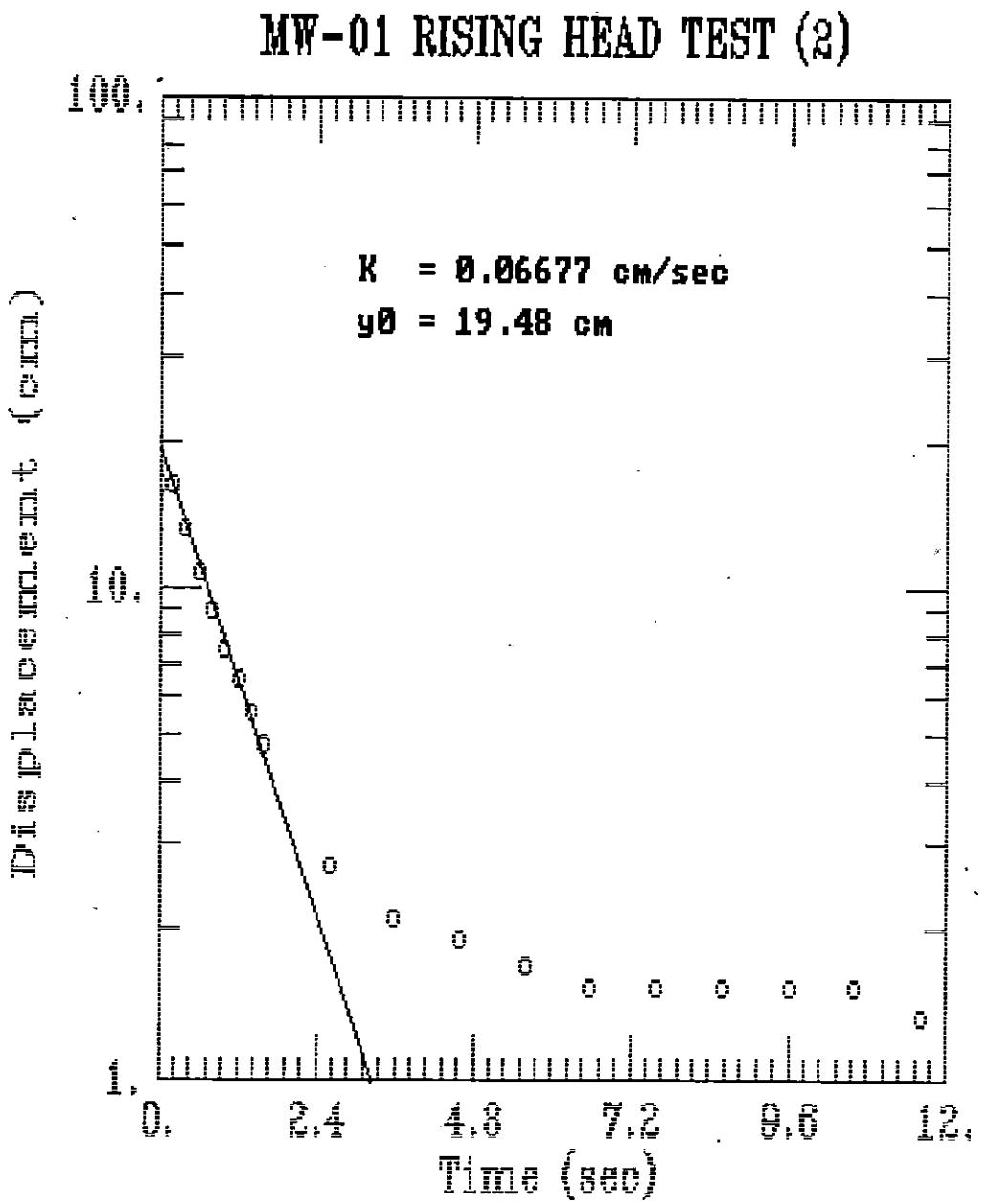
Time (min)	Displacement (ft) Test 1	Test 2
0	-0.442	-0.764
0.0033	-1.244	-0.827
0.0066	-1.155	-0.789
0.01	-0.675	-0.859
0.0133	-0.732	-0.884
0.0166	-0.802	-0.739
0.02	-0.675	-0.587
0.0233	-0.536	-0.454
0.0266	-0.416	-0.36
0.03	-0.322	-0.277
0.0333	-0.252	-0.221
0.05	-0.069	-0.069
0.0666	-0.025	-0.031
0.0833	-0.012	-0.018
0.1	-0.012	-0.018
0.1166	-0.018	-0.018
0.1333	-0.006	-0.012
0.15	-0.006	-0.012
0.1666	-0.006	-0.012
0.1833	0	-0.006
0.2	0	-0.006
0.2166	0	-0.006
0.2333	0	-0.006
0.25	0	-0.006
0.2666	0	-0.006
0.2833	0	-0.006
0.3	0	-0.006
0.3166	0	-0.006
0.3333	0	-0.006
0.4166	0	-0.006
0.5	0	-0.006
0.5833	0	-0.006
0.6666	0	-0.006
0.75	0	-0.006
0.8333	0	-0.006
0.9166	0	-0.006
1	0	-0.006
1.0833	0	-0.006
1.1666	0	-0.006
1.25	0	-0.006
1.3333	0	-0.006
1.4166	0	0
1.5	0	0
1.5833	0	0
1.6666	0	-0.006
1.75	0	0
1.8333	0	0
1.9166	0	0
2	0	0

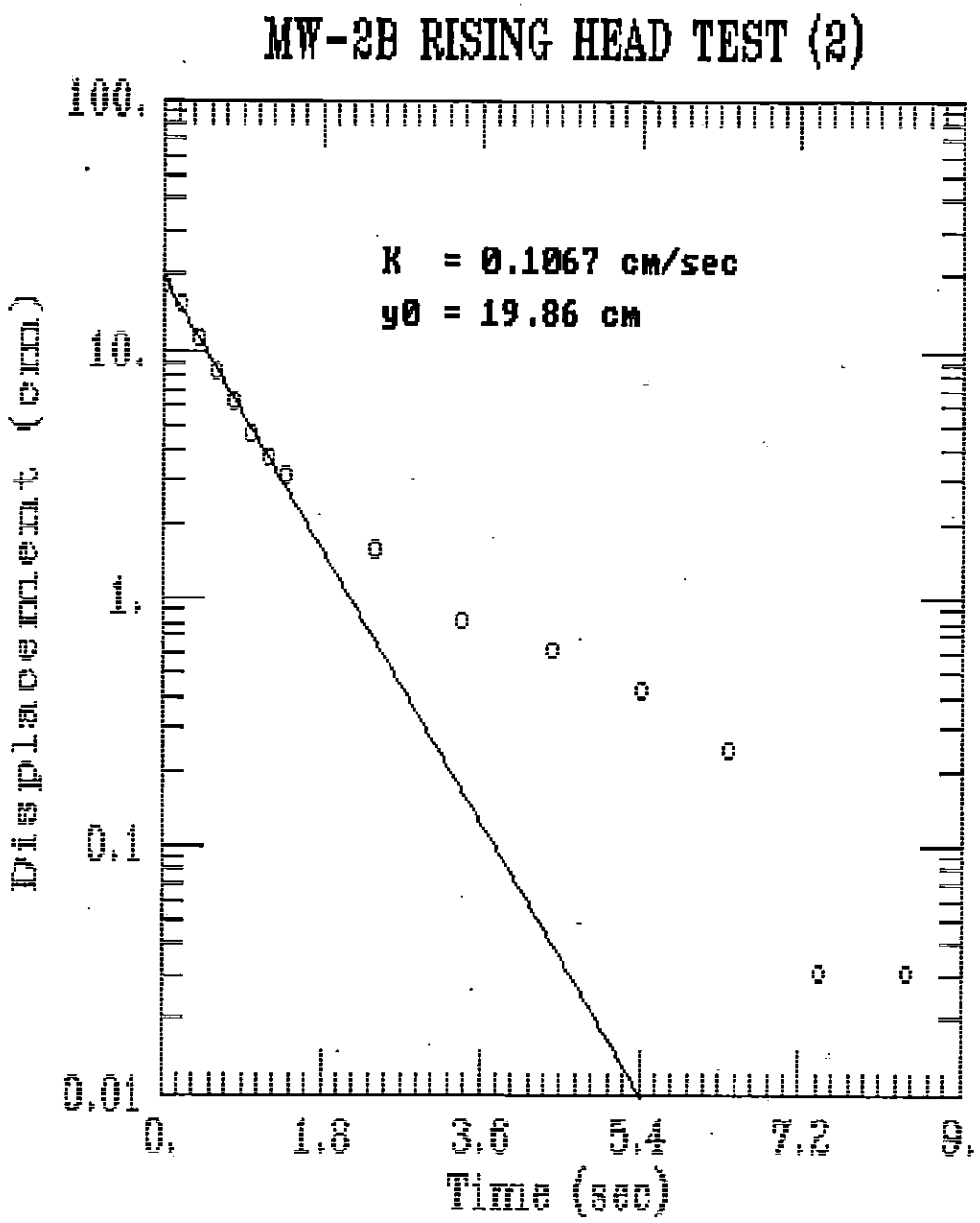
MW-14
10/15/92

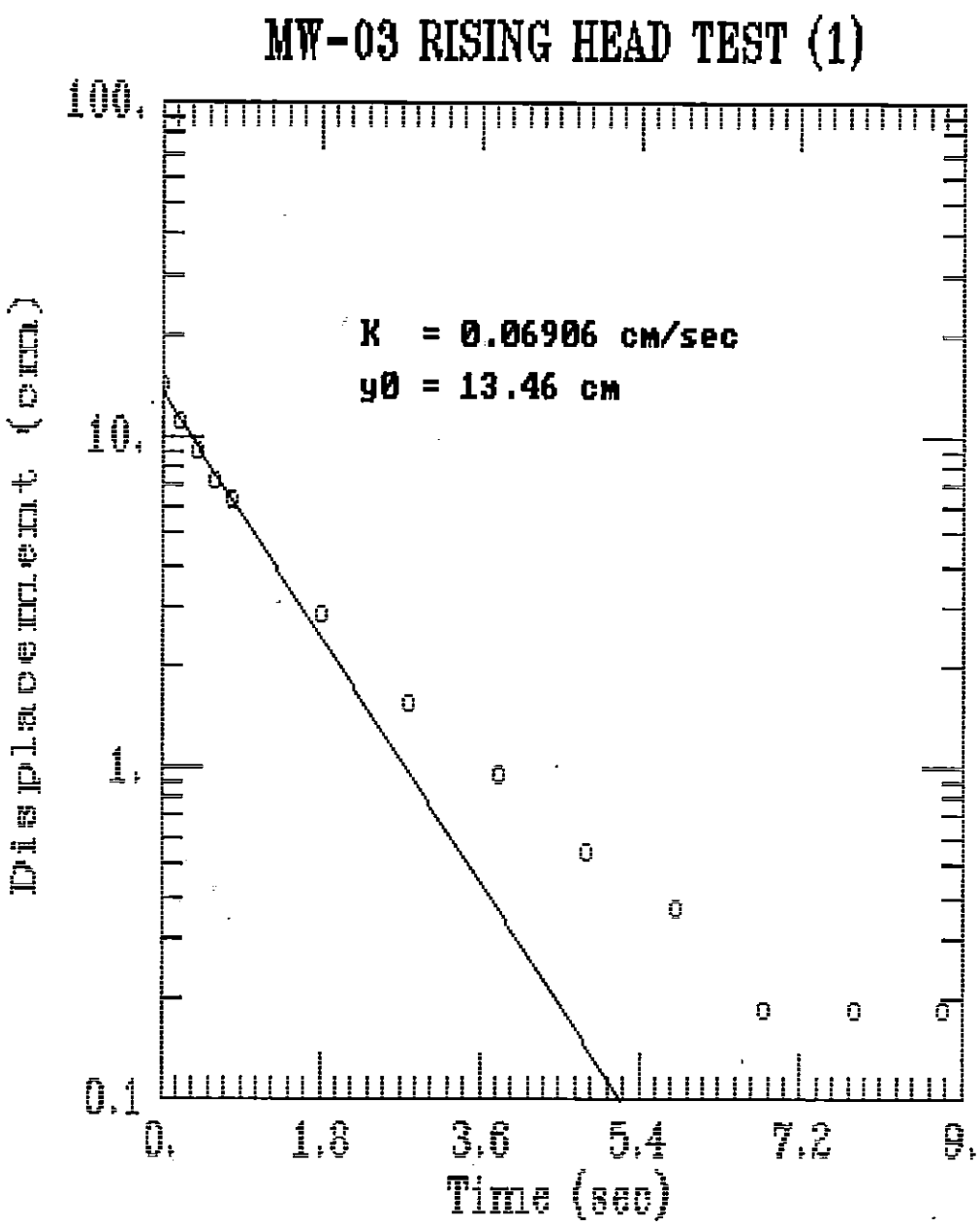
Time (min)	Displacement (ft) Test 1	Test 2
0	-0.473	-0.96
0.0033	-0.77	-0.568
0.0066	-0.896	-0.48
0.01	-0.72	-0.549
0.0133	-0.568	-0.852
0.0166	-0.448	-0.808
0.02	-0.353	-0.827
0.0233	-0.277	-0.795
0.0266	-0.221	-0.644
0.03	-0.176	-0.511
0.0333	-0.145	-0.416
0.05	-0.069	-0.157
0.0666	-0.044	-0.101
0.0833	-0.031	-0.075
0.1	-0.018	-0.063
0.1166	-0.012	-0.056
0.1333	-0.012	-0.05
0.15	-0.006	-0.044
0.1666	-0.006	-0.037
0.1833	0	-0.025
0.2	0	-0.025
0.2166	0	-0.025
0.2333	0	-0.025
0.25	0.006	-0.025
0.2666	0.006	-0.025
0.2833	0.006	-0.018
0.3	0.006	-0.018
0.3166	0.006	-0.018
0.3333	0.006	-0.018
0.4166	0.006	-0.018
0.5	0.006	-0.018
0.5833	0.006	-0.018
0.6666	0.006	-0.018
0.75	0.006	-0.018
0.8333	0.006	-0.018
0.9166	0.006	-0.018
1	0.006	-0.018
1.0833	0.006	-0.018
1.1666	0.006	-0.018
1.25	0.006	-0.018
1.3333	0.006	-0.018
1.4166	0.006	-0.018
1.5	0.006	-0.018
1.5833	0.006	-0.018
1.6666	0.006	-0.012
1.75	0.006	-0.018
1.8333	0.006	-0.018
1.9166	0.006	-0.012
2	0.006	-0.018

MW-17
10/15/92

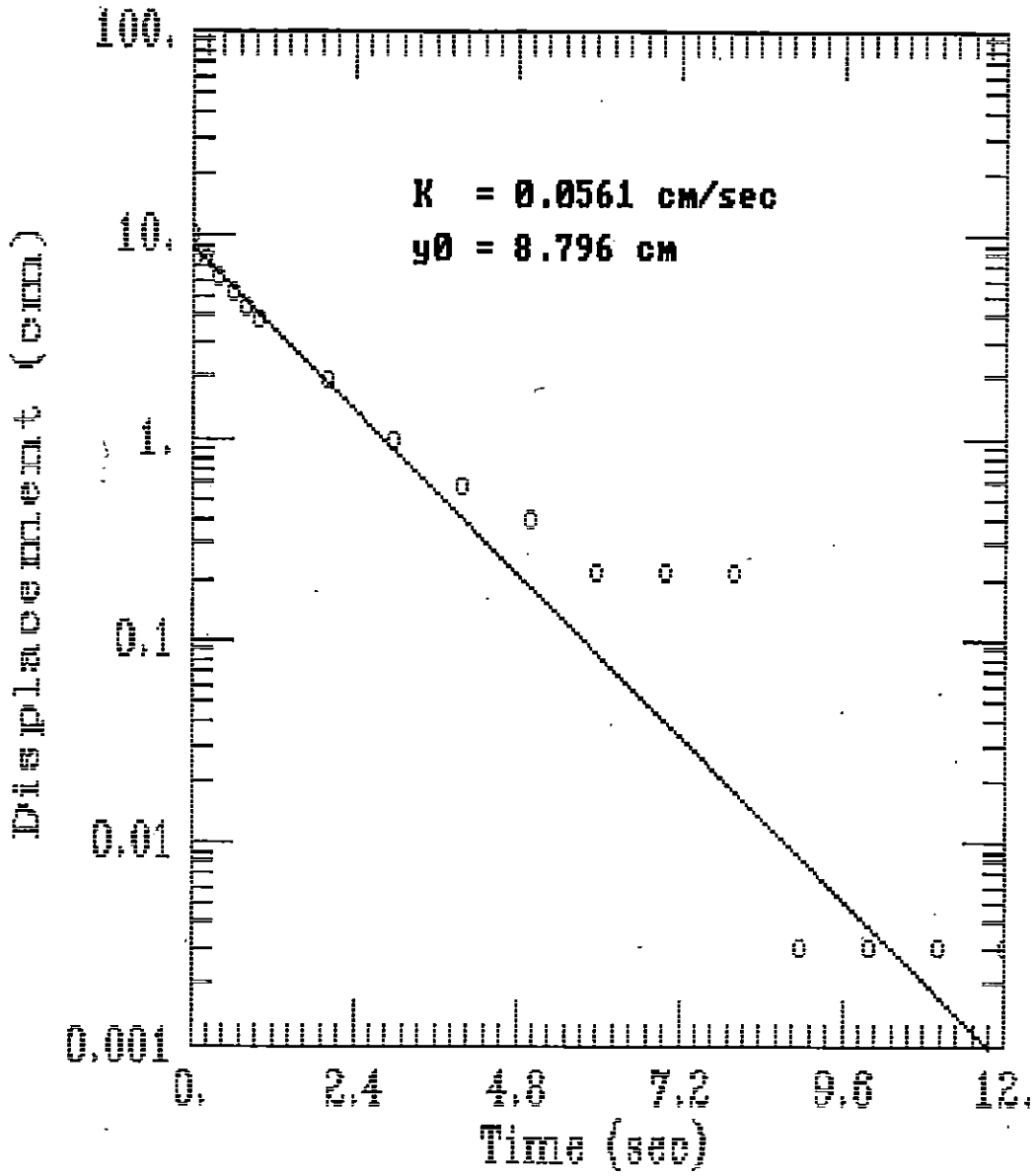
Time (min)	Displacement (ft) Test 1	Test 2	Test 3
0	-0.221	-0.006	-0.36
0.0033	-0.581	-0.637	-1.56
0.0066	-0.271	-0.903	-1.301
0.01	-0.524	-0.492	-0.53
0.0133	-0.435	-0.656	-0.423
0.0166	-0.328	-0.625	-0.776
0.02	-0.246	-0.48	-0.833
0.0233	-0.183	-0.36	-0.859
0.0266	-0.138	-0.271	-0.688
0.03	-0.101	-0.208	-0.543
0.0333	-0.075	-0.157	-0.416
0.05	-0.018	-0.037	-0.113
0.0666	-0.006	-0.012	-0.044
0.0833	0	0	-0.025
0.1	0.006	0	-0.012
0.1166	-0.006	0	-0.012
0.1333	0	0	-0.012
0.15	0	0.006	-0.012
0.1666	-0.037	-0.107	-0.012
0.1833	-0.031	0.012	-0.012
0.2	-0.018	0.082	-0.012
0.2166	-0.018	0.101	-0.012
0.2333	-0.018	0.094	-0.012
0.25	-0.018	0.101	-0.006
0.2666	-0.018	0.126	-0.006
0.2833	-0.018	0.145	-0.012
0.3	-0.012	0.157	-0.006
0.3166	-0.012	0.17	-0.006
0.3333	-0.006	0.189	-0.012
0.4166	-0.006	0.246	-0.012
0.5	0	0.303	-0.006
0.5833	0.006	0.334	-0.012
0.6666	0.006	0.328	-0.012
0.75	0.012	0.328	-0.012
0.8333	0.018	0.328	-0.006
0.9166	0.018	0.328	0
1	0.025	0.328	-0.006
1.0833	0.025	0.328	-0.006
1.1666	0.025	0.328	-0.006
1.25	0.031	0.328	-0.006
1.3333	0.031	0.328	-0.006
1.4166	0.031	0.328	-0.006
1.5	0.031	0.328	-0.006
1.5833	0.031	0.328	-0.006
1.6666	0.025	0.328	-0.006
1.75	0.025	0.328	-0.006
1.8333	0.025	0.328	-0.006
1.9166	0.025	0.328	-0.006
2	0.031	0.328	-0.006


MW-01 RISING HEAD TEST (2)
K = 0.06677 cm/sec
y0 = 19.48 cm
100.
10.
1.
Displacement (cm)
0.
2.4
4.8
7.2
9.6
12.
Time (sec)

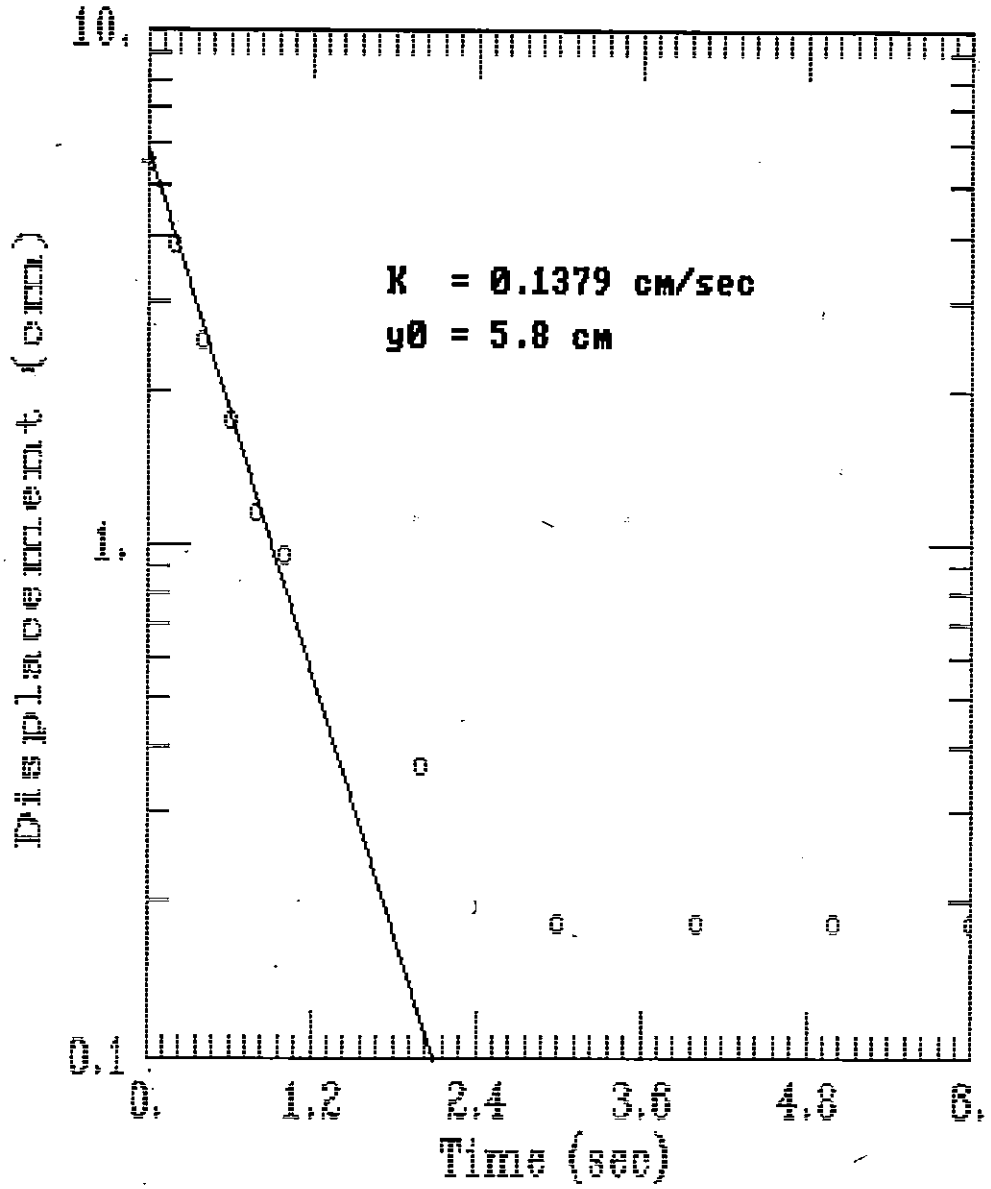

MW-2B RISING HEAD TEST (2)
K = 0.1067 cm/sec
y0 = 19.86 cm
Displacement (cm)
100.
10.
1.
0.1
0.01
0.
1.8
3.6
5.4
7.2
9.
Time (sec)

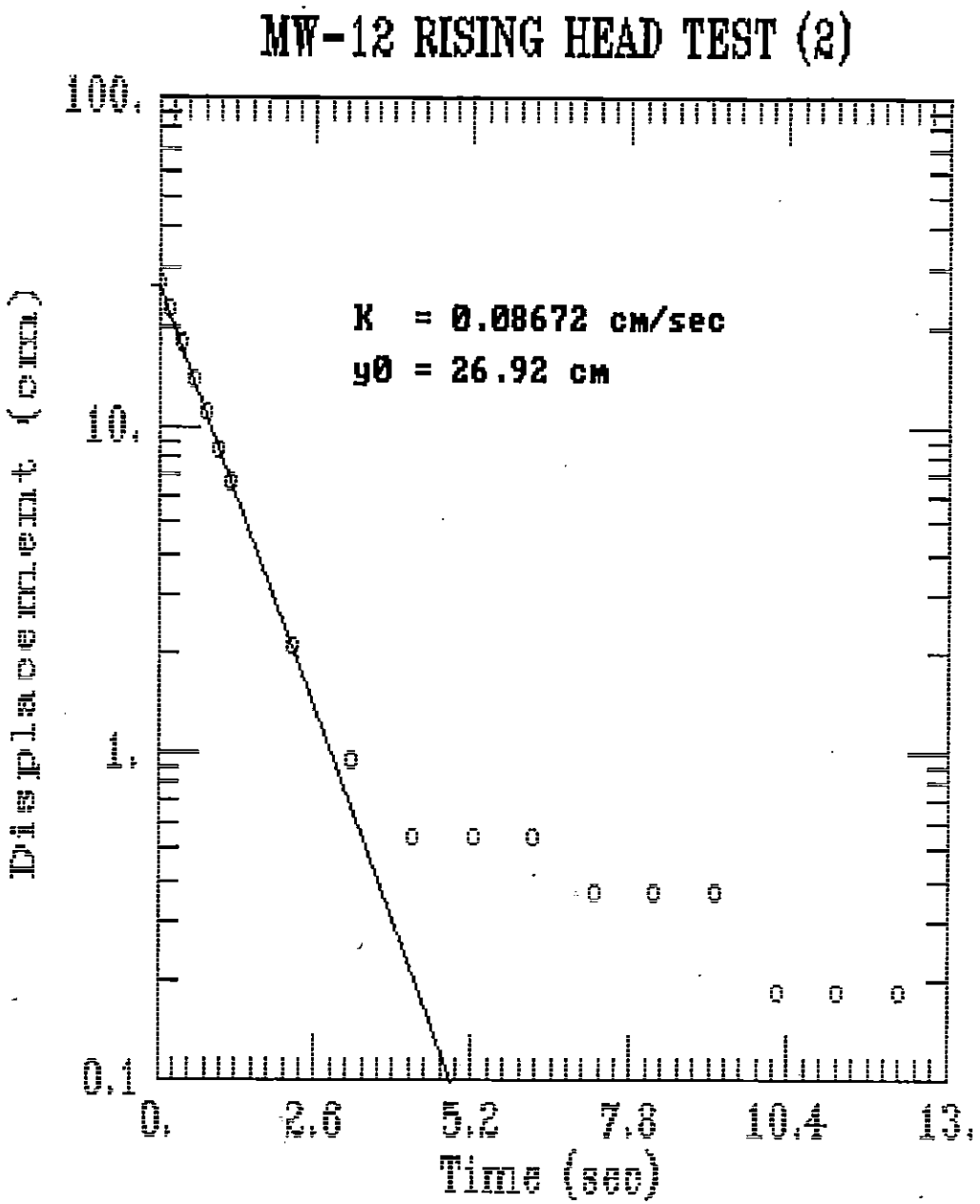

MW-03 RISING HEAD TEST (1)
K = 0.06906 cm/sec
y0 = 13.46 cm
100.
10.
1.
0.1
Displacement (cm)
0.
1.8
3.6
5.4
7.2
9.
Time (sec)

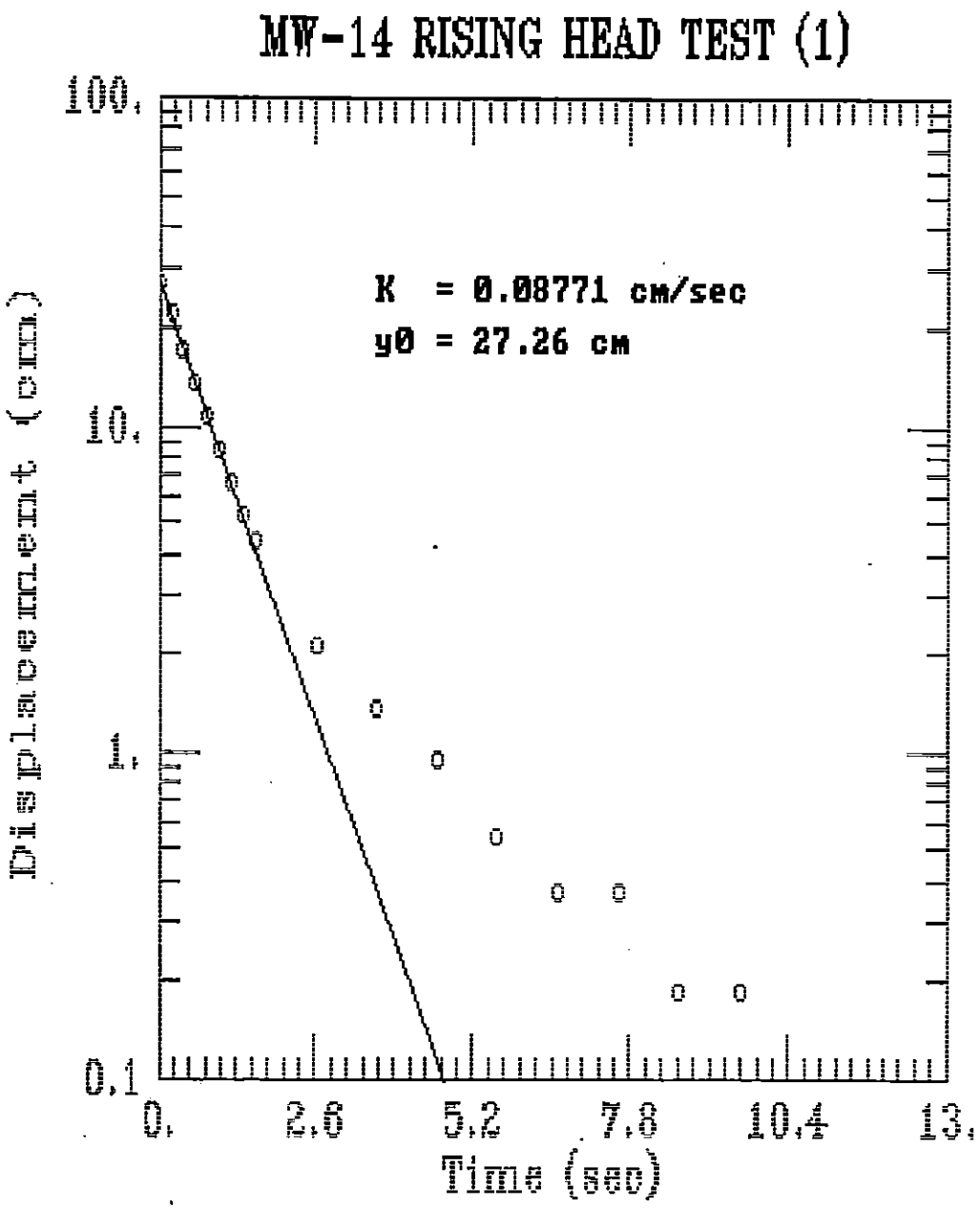
MW-03 RISING HEAD TEST (2)

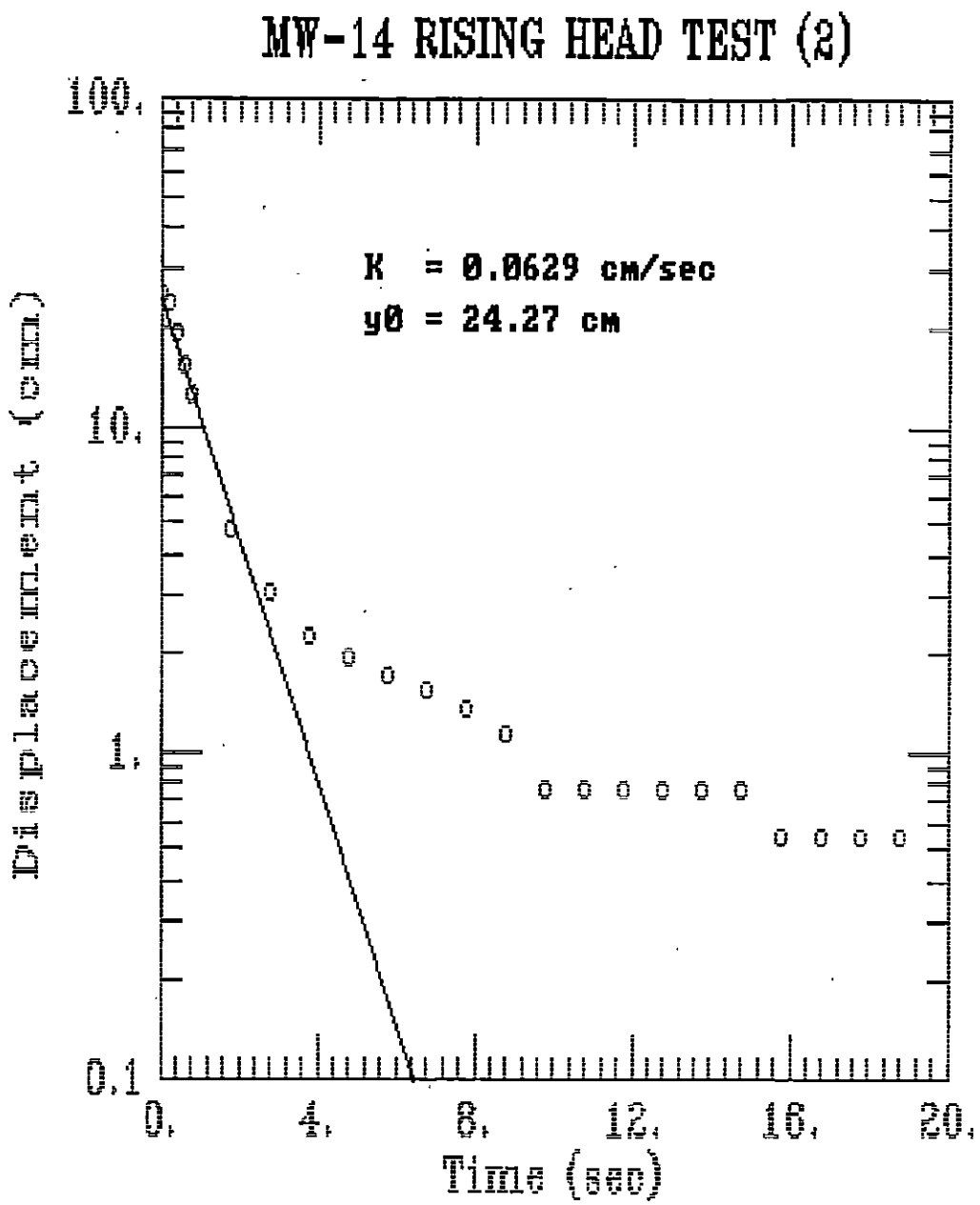


MW-4B RISING HEAD TEST (1)




MW-12 RISING HEAD TEST (2)
K = 0.08672 cm/sec
y0 = 26.92 cm
100.
10.
1.
0.1
Displacement (cm)
0.
2.6
5.2
7.8
10.4
13.
Time (sec)


MW-14 RISING HEAD TEST (1)
K = 0.08771 cm/sec
y0 = 27.26 cm
100.
10.
1.
0.1
Displacement (cm)
0.
2.6
5.2
7.8
10.4
13.
Time (sec)


MW-14 RISING HEAD TEST (2)
K = 0.0629 cm/sec
y0 = 24.27 cm
100.
10.
1.
0.1
0.
4.
8.
12.
16.
20.
Time (sec)

APPENDIX A-7

TOTAL PETROLEUM HYDROCARBONS SOIL DATA

TPH DATA LISTING

ISIS CODE	DEPTH	TPH, mg/kg	% solids
SHBS00100201XX	2–4	--	91
SHBS00100601XX	6–8	--	94
SHBS00101001XX	10–12	455	93
SHBS00101401XX	14–16	--	94
SHBS00101801XX	18–20	--	94
SHBS00102201XX	22–24	--	95
SHBS00102601XX	26–28	--	95
SHBS00103201XX	32–34	--	97
SHBS00103401XX	34–36	--	95
SHBS00103601XX	36–38	--	94
SHBS00200001XX	0–2	--	94
SHBS00200401XX	4–6	12600	98
SHBS00201201XX	12–14	--	98
SHBS00201601XX	16–18	--	98
SHBS00202001XX	20–22	--	93
SHBS00202401XX	24–26	--	96
SHBS00202801XX	28–30	--	98
SHBS00203201XX	32–34	--	98
SHBS00203401XX	34–36	--	94
SHBS00300201XX	2–4	3700	92
SHBS00300601XX	6–8	7120	91
SHBS00301001XX	10–12	12100	92
SHBS00301401XX	14–16	--	96
SHBS00301801XX	18–20	--	96
SHBS00302201XX	22–24	--	95
SHBS00302601XX	26–28	--	98
SHBS00303001XX	30–32	--	97
SHBS00303401XX	34–36	976	86
SHBS00400201XX	2–4	5670	96
SHBS00400401XX	4–6	3540	93
SHBS00400801XX	8–10	--	93
SHBS00401201XX	12–14	--	96
SHBS00401601XX	16–18	--	94
SHBS00402001XX	20–22	--	97
SHBS00402401XX	24–28	--	97
SHBS00402801XX	28–30	--	99
SHBS00403201XX	32–34	--	97
SHBS00403401XX	34–36	--	87
SHBS00500001XX	0–2	6180	97
SHBS00500201XX	2–4	8410	97
SHBS00500401XX	4–6	--	98

SHBS00500601XX	6–8	--	99
SHBS00500801XX	8–10	--	99
SHBS00501201XX	12–14	--	99
SHBS00501601XX	16–18	--	99
SHBS00502001XX	20–22	--	97
SHBS00502401XX	24–28	--	97
SHBS00502801XX	28–30	--	99
SHBS00503201XX	32–34	--	96
SHBS00503401XX	34–36	--	85
SHBS00600201XX	2–4	6450	87
SHBS00600401XX	4–6	--	97
SHBS00600801XX	8–10	--	97
SHBS00601201XX	12–14	--	97
SHBS00601601XX	16–18	730	97
SHBS00602001XX	20–22	--	93
SHBS00602401XX	24–28	--	96
SHBS00602801XX	28–30	--	93
SHBS00603401XX	34–36	--	82
SHBS00700001XX	0–2	1210	92
SHBS00700201XX	2–4	2130	89
SHBS00700401XX	4–6	--	84
SHBS00700801XX	8–10	--	97
SHBS00701201XX	12–14	--	95
SHBS00701601XX	16–18	--	94
SHBS00702001XX	20–22	--	95
SHBS00702401XX	24–28	--	94
SHBS00702801XX	28–30	--	97
SHBS00703201XX	32–34	--	94
SHBS00800001XX	0–2	--	96
SHBS00800201XX	2–4	--	97
SHBS00800401XX	4–6	--	96
SHBS00800601XX	6–8	--	95
SHBS00800801XX	8–10	--	96
SHBS00801201XX	12–14	--	97
SHBS00801601XX	16–18	--	97
SHBS00802001XX	20–22	--	96
SHBS00802401XX	24–28	--	98
SHBS00802801XX	28–30	--	98
SHBS00803001XX	30–32	--	83
SHBS00900201XX	2–4	--	84
SHBS00900601XX	6–8	--	97
SHBS00901001XX	10–12	--	93
SHBS00901401XX	14–16	--	97
SHBS00901801XX	18–20	--	97

SHBS00902201XX	22–24	--	96
SHBS00902601XX	26–28	--	93
SHBS00903001XX	30–32	--	94
SHBS01000001XX	0–2	--	93
SHBS01000401XX	4–6	--	96
SHBS01000801XX	8–10	--	96
SHBS01001201XX	12–14	--	95.9
SHBS01001601XX	16–18	--	96
SHBS01002001XX	20–22	--	96
SHBS01002401XX	24–28	--	92
SHBS01002801XX	28–30	--	97
SHBS01003201XX	32–34	--	85

NOTE
-- below the detection limit of 60 mg/kg