DRAFT REPORT

PHASE II SITE INVESTIGATION REPORT

HIGH VOLTAGE TRANSMISSION RESEARCH CENTER 115 EAST NEW LENOX ROAD LENOX, MA

Prepared for
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1.1 PURPOSE

Woodward-Clyde International Americas (Woodward-Clyde) was asked by Wilson, Sonsini, Goodrich, & Rosati on behalf of Electric Power Research Institute (EPRI) to conduct a Phase II investigation at EPRI's High Voltage Transmission Research Center (HVTRC or Property) located at 115 East Lenox Road in Lenox, Massachusetts. The investigation was performed to assess the recognized environmental conditions that were identified during the Baseline Environmental Assessment (that was performed previously by Woodward-Clyde) and to evaluate the current baseline conditions at the Property. This Phase II Site Investigation Report documents the Phase II activities that were performed and presents the findings that were developed using Phase II data.

1.2 BACKGROUND

The HVTRC conducts research on overhead transmission lines. It was established in 1958 by General Electric. General Electric donated the Property to EPRI in 1985. General Electric continued to operate the facility until December 31, 1994 when operations were transferred to J. A. Jones. Historical operations conducted at the Property included storing of fuels and waste oils, using solvents during maintenance activities, and destructive testing of high voltage equipment including transformers and capacitors.

In 1995, Woodward-Clyde conducted a Baseline Environmental Assessment (Assessment) at the Property to investigate if hazardous substances or petroleum products may have been released by the former owner/operator. The results of that Assessment were presented in a report, *Baseline Environmental Assessment,* that was submitted to Wilson, Sonsini, Goodrich & Rosati in October 1995. The scope of work that was performed during the Phase II investigation was based on 1) data collected during the Baseline Environmental Assessment, 2) discussions held during a September 30, 1997 site meeting, and, 3) additional data provided to Woodward-Clyde by General Electric and J. A. Jones.

The recognized environmental conditions that were identified during the Baseline Environmental Assessment and investigated during Phase II are summarized below.

Recognized Environmental Condition No. 1 - Dry Well

Historically, two floor drains were used in the storage building located near the garage. These drains were sealed with expandable rubber plugs about 5 years ago. During the past, the drains discharged to a dry well located at the rear of the building. Maintenance of oil filled equipment was performed in the garage. Prior to sealing the drains, hazardous substances and/or petroleum products may have been released to the dry well. *During the Phase II investigation, soil and groundwater were sampled downgradient of the dry well to determine if these media were impacted by past releases. Additionally, soil within the dry well was sampled to determine if this soil was contaminated.*

Recognized Environmental Condition No. 2 - Equipment Staining - Several Areas of Site

Staining of the equipment, concrete pads, and gravel was observed in the switch yard during the site reconnaissance. Historically, PCB-containing equipment was used on the Property. PCBs were reported to be detected in soils sampled in the mid-1980s. *During the Phase II investigation, surficial soil was sampled near selected transformers and capacitors to determine if the soil has been impacted by releases from these equipment. Additionally, soil was sampled near the Property boundary to evaluate background PCB concentrations.*

Recognized Environmental Condition No. 3 - TCE in Groundwater

TCE was detected in groundwater sampled in the mid-1980s in monitoring wells located in the northwestern part of the Property. The source of TCE contamination was reported to be released from the EHV Building. Groundwater quality at the Property needs to be re-evaluated to determine if residual TCE exists or if new contaminants are present. *During Phase II, new monitoring wells were installed and sampled and existing monitoring wells were re-sampled to establish a new groundwater quality baseline.*

Recognized Environmental Condition No. 4 - Underground Storage Tanks (UST)

Two USTs were previously used on-site to store gasoline and compressor oil condensate. Both the 1000-gallon gasoline UST and the condensate UST (volume reported to be about 50-gallons) have been removed from the Property. Documentation on the installation, removal or closure of these USTs was not available for review. *During Phase II, subsurface soil was sampled near the former UST locations to determine if the soil has been impacted by historical releases from these USTs.*

Recognized Environmental Condition No. 5 - Kerosene Release

Kerosene used to fuel space heaters was stored in the rear of the UHV building. During a thunderstorm in July 1992, an aluminum box stored outside was blown against the fill pipe causing a break in the sweat joint. Kerosene was released to the ground surface. *During Phase II, soil and groundwater were sampled near the release area to evaluate current soil and groundwater quality.*

Recognized Environmental Condition No. 6 - PCBs at Bubble Site and Along Drainage Ditch

The Bubble Site, located on the west side of the river, used to house an impulse generator and capacitors which contained PCBs. Several of these capacitors were reported to have been buried in a drainage ditch located near the Bubble Site. PCBs were detected in soil sampled near the drainage ditch by Geraghty & Miller in 1985. *During Phase II, soil was sampled to determine if residual PCB-contamination was present in the shallow soils along the drainage ditch.*

1.3 PHASE II SCOPE OF WORK

A Phase II investigation was conducted to investigate the recognized environmental conditions that were identified and to better understand baseline environmental conditions at the Property. During the Phase II investigation, the following activities were conducted:

Prepared Work Plan and Reviewed Additional Data - Prior to preparing a work plan for this investigation, a site reconnaissance was conducted (on September 30, 1997) and new and existing information was reviewed. Using this information, a work plan was then prepared which documented the sampling strategies that were implemented and field protocols that were followed. A Health & Safety Plan was prepared as part of the work plan.

Sampled Surficial Soil - Surficial soil was sampled near selected transformers and capacitors, and in background areas not considered to have been impacted by past facility practices. Samples were collected at a depth of 0 to 6 inches below grade.

Advanced Borings and Sampled Subsurface Soil - Near the former USTs, along the drainage ditch, and downgradient of the dry well, borings were advanced and soil was sampled for chemical analysis. During drilling, soil samples were screened in the field for volatile organic compounds (VOCs) using a photionization detector and logged using the Unified Soil Classification System.

Installed Monitoring Wells - New monitoring wells were installed to evaluate groundwater quality near the dry well and the former kerosene release area. During installation of the monitoring wells, Woodward-Clyde provided oversight, documented the installation, and performed well development activities.

Re-developed Existing Monitoring Wells - Existing monitoring wells were re-developed prior to sampling. One well damaged by a snow plow was also refurbished.

Measured Water Levels and Sampled Groundwater - Prior to groundwater sampling, water levels were measured in all wells. New and existing monitoring wells were sampled approximately two weeks after the monitoring wells were developed.

Evaluated Data and Prepared Phase II Investigation Report - Data generated during the Phase II investigation was reduced and evaluated; analytical results were tabulated and compared to regulatory standards. The results and implications of this investigation are discussed in this report.

This report is presented in five sections. Section 2 describes the Property's physical setting. Section 3 describes the Phase II investigation that was conducted and presents the results that were obtained. Section 4 discusses the implications of the Phase II results and summarizes the main conclusions. Limitations are presented in Section 5.

This section presents a description of the Property's physical environment. Descriptions of selected site features (i.e., location and topography, site improvements, and surrounding land use) that were presented in the *Baseline Environmental Assessment* are summarized below. The discussion describing the local geology and hydrogeology is based on data collected during this Phase II investigation.

2.1 Location and Topography

The Property is located at 115 East New Lenox Road in Lenox and Pittsfield, Massachusetts, (Figure 1), approximately 1.5 miles east of Routes 7/20 and approximately 7.3 miles north of Route 90. It occupies 41.5 acres, 35.5 acres in Lenox and 6 acres in Pittsfield. The Property is bounded by the Housatonic River Valley State Wildlife Management area to the north, East New Lenox Road to the east, New Lenox Road to the south, and the Housatonic River to the west. According to the U.S. Geological Survey, the Property is located geographically at Universal Transverse Mercator (UTM) coordinates 46 955 75m north and 6 451 88m east/west, at an elevation of approximately 975 feet above mean sea level. The property slopes gently towards the east.

2.2 Site Improvements

The part of the Property used for high voltage transmission research is developed with six buildings, overhead lines, and a wide range of electrical generators and equipment (Figure 2). The buildings include a headquarters building, a garage, a storage building, a UHV Contamination Building, an EHV Building, and a magnetic field test residence. Several instrumentation trailers and shacks are used in the research testing areas. Electrical equipment (i.e., transformers, capacitors, diodes, and generators) used to conduct research on transmission line corona phenomena, insulation performance, and electric and magnetic fields, are located selected areas of the Property.

2.3 ENVIRONMENTAL SETTING

2.3.1 Land Use and Natural Resources

The Property is located in a rural area. Most of the Property (within the fenced testing area) is paved or overlain by gravel. Land use around the Property is agricultural, residential, or designated as State Wildlife Management area. The following Natural Resource Areas are located within 500 feet of the site:

- The Housatonic River forms the western boundary of the Property;
- Freshwater wetlands are located on the west side of the Property; and
- State open space and recreation facilities (Housatonic River Valley, State Wildlife Management area) are located south of the Property.

2.4 LOCAL GEOLOGY AND HYRDROGEOLOGY

During the Phase II investigation, field activities were performed to enhance our understanding the Property's physical environment. These activities included evaluating subsurface soil data and groundwater elevation data to refine the geologic and hydrogeologic model that was developed for the Property by other investigators.

Based on the subsurface data collected during the Phase II investigation, the Property is underlain by poorly sorted unconsolidated overburden deposits consisting of sands and silts with traces of gravel and clay. During this subsurface investigation, the deepest boring (WC-SB1) was advanced to a depth of about 16-feet below ground surface. Bedrock was not encountered in any of the borings advanced. The subsurface procedures that were used during this investigation are included in Appendix A. The borings logs that were generated during this investigation are included in Appendix B.

According to the United States Geological Survey (Bedrock Geological Map of Massachusetts, 1983), the Property is located within the lithotectonic subdivision known as the Taconic-Berkshire Zone. Bedrock near the Property is mapped as the Cheshire Quartzite and the members of the Dalton Formation. These Lower Cambrian (about 570 million years old) and Proterozoic (about 2500 million years old) rocks consist mainly of quartzite and schist. Near the Property, thrust faults and undifferentiated (movement unknown) faults have been mapped.

On December 10, 1997, groundwater levels were measured in each of the monitoring wells prior to sampling groundwater. Groundwater elevations in the shallow overburden ranged from approximately 950 to 972 feet above mean sea level (approximately 4 to 14 feet below grade). A groundwater elevation contour map is presented in Figure 2. On the east side of the river, groundwater in the shallow overburden is flowing in southwesterly towards the Housatonic River. On the west side of the river, groundwater is assumed to flow northeasterly towards the Housatonic River. (There was an insufficient number of monitoring wells on the west side of the Property to evaluate groundwater flow directions). Monitoring well construction details and groundwater elevation data are summarized in Table 1. Monitoring well diagrams summarizing the construction details for the new monitoring wells that were installed are included in Appendix C.

Between November 18 and December 10, 1997, soil and groundwater at the Property were sampled to evaluate current soil and groundwater quality at the Property and to assess the recognized environmental conditions that were identified during the Baseline Environmental Assessment. The sampling that was performed and the results that were obtained are described below. Before the sampling results can be meaningfully discussed, it is necessary to discuss how soil and groundwater are classified. The classification of soil and groundwater at the Property is discussed below.

3.1 IDENTIFICATION OF SOIL AND GROUNDWATER REPORTABLE CONCENTRATIONS

Similar to the federal Superfund regulations, Massachusetts has its own program to manage and clean up hazardous waste sites. The law that established Massachusetts' waste site cleanup program is founded in Chapter 21E of Massachusetts General Law. As required by 21E, the Massachusetts Department of Environmental Protection (DEP) developed the Massachusetts Contingency Plan (MCP) which outlines the roles and responsibilities in the cleanup process and implements the goals and standards included within Chapter 21E.

The Massachusetts Contingency Plan (MCP) has different reporting standards for both soil and groundwater, depending how these media are classified. To determine if a release requires reporting to the Massachusetts DEP, the analytical results are compared to Reportable Concentrations. Reportable Concentrations are thresholds that have been established under the Massachusetts Contingency Plan. Two categories of Reportable Concentrations have been developed for soil and groundwater. Soil can be categorized as RCS-1 or RCS-2. Reportable Concentrations of RCS-1 (the most conservative) are used when the soil sampled is located within 500-feet of residential properties, schools, playgrounds or parks. Depending on where soil was sampled on-site, different Reporting Concentrations would apply. Groundwater can be categorized as RCGW-1 or RCGW-2. Reportable Concentrations of RCGW-1 (the most conservative) is used when the groundwater is sampled from within a groundwater resource area. Based on information generated by the DEP, groundwater at the Property is considered to be RCGW-2. When Reportable Concentrations are exceeded, the owner/operator is either required to notify the DEP and conduct the additional investigations required by the MCP or implement preliminary response actions to address selected types of releases.

3.2 THE PHASE II INVESTIGATION

The sampling that was performed during the Phase II investigation along with the sampling results are discussed below. The subsurface investigations procedures that were followed are included in Appendix A. The analytical laboratory reports are included in Appendix D.

3.2.1 Recognized Environmental Condition No. 1 - Dry Well

Historically, two floor drains were used in the storage building located just north of the garage (Figure 2). Maintenance of oil filled equipment was performed in the storage

building. Prior to sealing these drains, releases of petroleum products and/or hazardous substances may have occurred within this building. The floor drains discharged to a dry well located at the rear of the building. During the Phase II investigation, soil and groundwater were sampled downgradient of the storage building to assess if potential releases from the dry well may have migrated. Additionally, soil within the dry well was sampled to evaluate current soil quality. Soil and groundwater samples were analyzed for total petroleum hydrocarbons (TPH), volatile organic compounds (VOCs) and Priority Pollutant Metals (metals).

In the subsurface soil that was sampled from boring SB-1, no TPH or VOCs were detected. Nine metals were detected in sample SB-1 at concentrations ranging from less than 1 mg/kg to 43.7 mg/kg (Table 2). In the groundwater that was sampled from monitoring well WC-MW-1, no TPH, VOCs or dissolved metals were detected (Table 3). In the soil that was sampled from within the dry well (WC-SD1), TPH was detected at a concentration of 53,000 mg/kg. Nine VOCs were detected in sample WC-SD1. Each of the VOCs had concentrations of less than 1 mg/kg. Eight metals were detected in sample WC-SD1. The concentrations ranged from less than 1 mg/kg to 149 mg/kg (Table 4).

TPH was detected in the soil sampled from the dry well at concentrations which exceed Reportable Concentrations. The Reportable Concentrations for TPH detected in soil is 200 mg/kg for soil categorized as RCS-1 and 2000 mg/kg for soil categorized as RCS-2. *If the quantity of impacted soil above Reportable Concentrations is greater than two cubic yards, the owner/operator would be required to notify MADEP of this release.* The sampling locations are shown in Figure 2.

3.2.2 Recognized Environmental Condition No. 2 - Equipment Staining - Several Areas of Site

Staining of the equipment, concrete pads, and gravel was observed in the switch yard during the site reconnaissance. Historically, PCB-containing equipment was used on the Property. PCBs were reported to be detected in soils sampled in the mid-1980s. During Phase II investigation, surficial soil was sampled near selected transformers and capacitors, and from background areas located near the Property boundary to determine if the soil is contaminated with PCBs. Soil was sampled from 18 surficial locations. All of the samples were analyzed for PCBs; four of the soil samples were analyzed for TPH.

PCBs were detected in only three of the surficial soil lcoations sampled. PCBs were detected in soil sample WC-SS12 at a concentration of 1.2 mg/kg. This soil sample WC-SS12 was collected near the center transformer shed located southwest of Tower 1. PCBs were also detected in soil samples WC-SS14 and WC-SS-15 that were collected near the impulse generator located northwest of the UHV Building. PCBs were detected at 0.7 mg/kg in both samples. PCBs were not detected in the other fifteen soils that were collected throughout the facility, including the background locations that were sampled north of the switch yard.

TPH was detected in three of the four samples that were analyzed for TPH. TPH was detected in samples WC-SS1 (located near the west phase breaker in the switch yard), WC-SS5 (located near the 3-phase regulating transformer), and in WC-SS6 (located near the auto-transformer). The concentrations ranged from 1320 mg/kg to 12,400 mg/kg. The sampling locations are shown in Figure 2; the sampling results are presented in Table-5.

PCBs were not detected at concentrations which exceed Reportable Concentrations. The Reportable Concentrations for soil categorized as RCS-1 and RCS-2 is 2 mg/kg. *TPH was detected at concentrations which exceed Reportable Concentrations.* The Reportable Concentrations for TPH detected in soil is 200 mg/kg for soil categorized as RCS-1 and 2000 mg/kg for soil categorized as RCS-2. In two of the samples collected, the TPH concentrations were significantly above the Reportable Concentration for soil categorized as RCS-2.

3.2.3 Recognized Environmental Condition No. 3 - TCE in Groundwater

TCE was detected in groundwater sampled in the mid-1980s in monitoring wells located in the northwestern part of the Property. The source of TCE contamination was reported to be released from the EHV Building. During Phase II, groundwater from the eight existing monitoring wells located on-site were re-sampled to determine if residual TCE exists or if new contaminants are present. Groundwater samples were analyzed for TPH and VOCs. (Groundwater was also sampled from the new monitoring that were installed during Phase II. These new wells were installed to evaluate groundwater quality at Recognized Conditions 1 and 5. The sampling results from these new wells are discussed in those respective sections).

TPH was not detected in any of the existing monitoring wells that were sampled. Only one VOC was detected in the groundwater sampled from monitoring well MW-3 (located near Tower 2). Methyl tertiary butyl ether was detected in groundwater sample MW-3 at a concentration of 0.0090 mg/l. VOCs were not detected in any of the other existing monitoring wells that were sampled.

Methyl tertiary butyl ether was detected at a concentration of 0.0090 mg/l in the groundwater that was sampled from monitoring well MW-3. The Reportable Concentration for this compound is 0.70 mg/l for groundwater categorized as RCGW-1 and 50 mg/l for groundwater categorized as RCGW-2. *The concentration of methyl tertiary butyl ether detected in groundwater sample MW-3 was below Reportable Concentrations.* The sampling locations are shown in Figure 2; the sampling results are presented in Table-3.

3.2.4 Recognized Environmental Condition No. 4 - Underground Storage Tanks (UST)

Two USTs were previously used on-site to store gasoline and compressor oil condensate. Both the 1000-gallon gasoline UST and the condensate UST (volume estimated by facility personnel to be approximately 50 gallons) have been removed from the Property. Documentation on the installation, removal or closure of these USTs was not available for review. During Phase II, subsurface soil was sampled near these tanks to determine if the

soil has been impacted by historical releases from these USTs. Soil sampled from borings advanced near the former gasoline UST was analyzed for TPH and VOCs. Soil sampled near the condensate UST was analyzed for TPH and VOCs, and metals.

Soil from three borings advanced near the gasoline UST was sampled at depths approximately 9 - 10 feet below grade (just above the water table). Only TPH was detected at a concentration of 88.3 mg/kg in sample WC-SB12. VOCs and TPH were not detected in the other soils (WC-SB13 and WC-SB14) sampled near the gasoline UST.

The former condensate UST was located in the facility switch yard. During Phase II, shallow soil (depth of 3.5 to 4.0-feet below grade) was sampled at the location identified by facility personnel. Because this location was not accessible to either a drill rig or portable drilling equipment, the soil was sampled using a hand auger. Only one sample could be collected from within this tight space. In sample WC-SB15, no TPH or VOCs were detected. Seven metals were detected in sample WC-SB15. The concentrations ranged from less than 1 mg/kg to about 51 mg/kg.

TPH was detected in one soil sample near the former gasoline UST. Seven metals were detected in the soil sampled near the former condensate UST. *None of the analytes detected exceed Reportable Concentrations.* The sampling locations are shown in Figure 3; the sampling results are presented in Table-2.

3.2.5 Recognized Environmental Condition No. 5 - Kerosene Release

Kerosene used to fuel space heaters was stored in the rear of the UHV building. During a thunderstorm in July 1992, an aluminum box stored outside was blown against the fill pipe causing a break in the sweat joint. Kerosene was released to the ground surface. During Phase II, soil and groundwater were sampled downgradient of the release area to evaluate current soil and groundwater quality. Soil and groundwater samples were analyzed for TPH and VOCs.

Soil from two borings advanced downgradient of the release area was sampled at depths of approximately 3 - 5 feet below grade (just above the water table). No TPH or VOCs were detected in either of the soil samples (WC-SB2 and WC-SB3) collected. Groundwater was sampled from two monitoring wells (WC-MW2 and WC-MW3) that were installed to investigate this release. TPH was not detected in either of the groundwater samples. VOCs, however, were detected in both samples. In sample WC-MW2, naphthalene and 1,2,4-trimethylbenzene were detected at concentrations of 0.0062 and 0.0055 mg/l. In groundwater sample WC-MW3, seven VOCs were detected. The concentrations ranged from 0.0055 to 0.0243 mg/l.

VOCs were detected in both groundwater samples WC-MW2 and WC-MW3. *One VOC was detected at a concentration which exceeds Reportable Concentrations for groundwater categorized as RCGW-1.* Benzene was detected in groundwater sample WC-MW3 at 0.0056 mg/l. The Reportable Concentration for benzene is 0.0050 mg/l. The sampling locations are shown in Figure 3; the sampling results are presented in Table-3.

3.2.6 Recognized Environmental Condition No. 6 - PCBs at Bubble Site and Along Drainage Ditch

The Bubble Site located on the west side of the river used to house an impulse generator and capacitors which contained PCBs. Several capacitors were reported to be buried in the drainage ditch located near the Bubble Site. These capacitors were excavated by Geraghty & Miller in 1984. PCBs were detected at low concentrations in the soil samples that were collected at that time by Geraghty & Miller. During Phase II, shallow soils along the drainage ditch were sampled to determine if residual PCB-contamination was present.

Eight shallow borings (WC-SB4 through WC-SB11) were advanced along the length of the drainage ditch. From each boring that was advanced, soil was sampled at two depths: 2.5–3.5 and 4.5–5.5-feet below grade (the approximate depths that the capacitors were reported to have been found). All soil samples were analyzed for PCBs. *PCBs were not detected in any of the soil samples collected along the drainage ditch.*

4.1 DISCUSSION

The major findings of this Phase II investigation are discussed below.

4.1.1 Recognized Environmental Condition No. 1 - Dry Well

TPH was detected in the soil sampled (WC-SD1) from the dry well at concentrations which exceed Reportable Concentrations. TPH was detected at a concentration of 53,000 mg/kg. The Reportable Concentrations for TPH detected in soil is 200 mg/kg for soil categorized as RCS-1 and 2000 mg/kg for soil categorized as RCS-2. VOCs and metals detected in this sample did not exceed Reportable Concentrations. If the quantity of impacted soil that exceed Reportable Concentrations is greater than two cubic yards, then the owner/operator is required to conduct preliminary response actions or notify DEP and conduct the additional investigations required by the MCP. Based on the observations (size of dry well, volume of soil in well, etc.) made during sampling, it does not appear that the quantity of impacted soil within the dry well exceeds two-cubic yards. Although this release is not considered to be a reportable release, the MCP does require the owner/operator to address all releases that pose a risk to human health or the environment. Very high concentrations of TPH were detected in the soil sampled from the dry well. Because this contaminated soil may be impacting the soil and groundwater beneath the dry well and potentially posing a threat, it is recommended that the contaminated soil from within the dry well be excavated, properly managed and disposed of offsite.

In the subsurface soil that was sampled downgradient of the dry well, no TPH or VOCs were detected. The nine metals that were detected in sample SB-1 were well below Reportable Concentrations. In the groundwater that was sampled downgradient of the dry well, no TPH, VOCs or dissolved metals were detected.

4.1.2 Recognized Environmental Condition No. 2 - Equipment Staining - Several Areas of Site

During Phase II, a biased surficial sampling program was implemented. Surficial soil was sampled at several locations throughout the Property. In general, most of the soil was sampled near equipment that used PCBs historically and exhibited visual staining. PCBs were detected in only three of the eighteen locations that were sampled. None of the detected concentrations exceed Reportable Concentrations. Based on the Phase II sampling results, PCB-contamination in the surficial soil does not appear to be a significant issue at the HVTRC.

TPH was detected in soils at concentrations which exceed Reportable Concentrations. TPH was detected in three of the four samples that were submitted for TPH analysis. TPH was detected in samples WC-SS1 (located near the west phase breaker in the switch yard), WC-SS5 (located near the 3-phase regulating transformer), and in WC-SS6 (located near the auto-transformer). In two of the samples collected, the TPH concentrations were significantly above the Reportable Concentrations for soil categorized as RCS-1 and RCS-2. If the quantity of impacted soil that exceeds Reportable Concentrations is greater than two cubic yards, then the owner/operator is required to conduct preliminary response actions to address

the release(s) or notify DEP and conduct the additional investigations required by the MCP to delineate the extent of contamination, assess the risk to human health or the environment, identify potential cleanup options, and implement the cleanup options selected. If DEP is notified of the release, notification must be given within 120-days of obtaining knowledge of the release. One strategy to address these small pockets of TPH-contamination would be to implement a Limited Removal Action (LRA). LRAs can be performed at sites where a 120-day notification is triggered, the volume of contaminated soil is small (less than 100 cubic yards), and the sites do not pose a serious risk to human health of the environment. In conducting LRAs, notification of the release or implementation of the cleanup is not given to the DEP. Based on our knowledge of the Property, it is likely that two-cubic yards of TPH-contaminated soil could be exceeded in selected areas of the Property.

4.1.3 Recognized Environmental Condition No. 3 - TCE in Groundwater

During Phase II, groundwater sampled from the existing monitoring wells was analyzed for TPH and VOCs. TPH was not detected in the groundwater sampled from the existing monitoring wells. Only one VOC was detected in the groundwater sampled from monitoring well MW-3. Methyl tertiary butyl ether was detected at a concentration below the Reportable Concentration for groundwater categorized as RCGW-1 and RCGW-2. The TCE that was detected in the 1980s was not detected during this Phase II investigation. Based on the data collected during the Phase II investigation, it does not appear that current groundwater quality has been significantly impacted by facility operations. (Groundwater quality associated with the kerosene release is addressed in the discussion of Recognized Condition - 5).

4.1.4 Recognized Environmental Condition No. 4 - Underground Storage Tanks (UST)

During Phase II, subsurface soil was sampled near the former gasoline and compressor oil condensate USTs to determine if the soil has been impacted by historical releases from these USTs. Soil sampled from borings advanced near the former gasoline UST was analyzed for TPH and VOCs. Soil sampled near the condensate UST was analyzed for TPH and VOCs, and metals. TPH was detected in one soil sample collected near the former gasoline UST. Seven metals were detected in soil sampled near the former condensate UST. None of analytes detected exceed Reportable Concentrations. Based on the data collected during the Phase II investigation, the subsurface soils near the former USTs do not appear to have been significantly impacted by past releases.

4.1.5 Recognized Environmental Condition No. 5 - Kerosene Release

During Phase II, soil and groundwater were sampled downgradient of the kerosene release area to evaluate current soil and groundwater quality. Soil and groundwater samples were analyzed for TPH and VOCs. No TPH or VOCs were detected in either of the soils sampled. TPH was not detected in either of the groundwater samples collected. VOCs were detected in both groundwater samples WC-MW2 and WC-MW3. No VOCs were detected at concentrations which exceed Reportable Concentrations for groundwater categorized as RCGW-2.

4.1.6 Recognized Environmental Condition No. 6 - PCBs at Bubble Site and Along Drainage Ditch

During Phase II, shallow soils along the drainage ditch were sampled to determine if residual PCB-contamination was present. Eight shallow borings were advanced along the length of the drainage ditch. From each boring that was advanced, soil was sampled at two depths: 2.5–3.5 and 4.5–5.5-feet below grade (the approximate depths that the capacitors were reported to have been found). All soil samples were analyzed for PCBs. PCBs were not detected in any of the soil samples collected along the drainage ditch. Based on the data collected during the Phase II investigation, it does not appear that residual PCB-contamination is currently impacting soil quality along the drainage ditch.

4.2 CONCLUSIONS

The main conclusions that were drawn from this Phase II investigation are summarized below.

- The soil sampled from the dry well exceeds Reportable Concentrations for TPH. Because the volume of contaminated soil within the dry well is estimated at less than two-cubic yards, this release does not require reporting to DEP. If a release poses a risk to human health or the environment, the owner/operator is required to address the release. Given that the concentrations in the soil are significantly higher than the Reportable Concentrations, this release may pose a threat to the environment. It is recommended that this soil be excavated, properly managed, and disposed of off-site.

- PCB-contamination does not appear to be widespread throughout the Property. PCBs were detected in only three of the 18 samples that were collected. All three detected concentrations were below Reportable Concentrations.

- TPH was detected at concentrations which exceed Reportable Concentrations. TPH was detected in samples WC-SS1 (located near the west phase breaker in the switch yard), WC-SS5 (located near the 3-phase regulating transformer), and in WC-SS6 (located near the auto-transformer). In two of the samples collected, the TPH concentrations were significantly above the Reportable Concentrations for soil categorized as RCS-1 and RCS-2. If the quantity of impacted soil that exceeds Reportable Concentrations is greater than two cubic yards, the owner/operator is required to either notify MADEP of this release and to perform the additional investigations under the MCP or conduct preliminary response actions to address the release. Based on our knowledge of the Property, it is likely that two-cubic yards of TPH-contaminated soil could be exceeded. It is recommended that an LRA be conducted to address to these releases rather than conducting the investigations required by the MCP.

- Groundwater quality was re-evaluated by re-sampling existing monitoring wells located on-site. The groundwater data indicate that current groundwater quality has

not been significantly impacted by facility operations. No TPH was detected in any of the existing monitoring wells. Only one VOC was detected in groundwater sampled from these wells. The concentration of this detected analyte was less than Reportable Concentration. The TCE detected in the mid-1980s was not detected during Phase II.

- Subsurface soil sampled near the former USTs does not appear to be impacted by past releases. Analytes that were detected were well below Reportable Concentrations.

- Subsurface soil sampled downgradient of the kerosene release does not appear to be impacted by the release. No TPH or VOCs were detected in either of the soils sampled. Groundwater sampled downgradient of the kerosene release does not appear to be significantly impacted by the release. Although VOCs were detected in both groundwater samples, the concentrations detected were below Reportable Concentrations for groundwater categorized as RCGW-2.

- PCB-contamination detected by other investigators along the drainage ditch on the western side of the river was not confirmed during this investigation. PCBs were not detected in any of the soils that were sampled at this location.

Woodward-Clyde performed services for this project in accordance with our Agreement 4TS3667 (Account No. 6424/4086). No guarantees are either expressed or implied.

There is no investigation which is thorough enough to preclude the presence of materials on the Property which presently, or in the future, may be considered hazardous. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants present and considered to be acceptable may, in the future, become subject to different regulatory standards and require remediation.

Where records indicate that prior remedial work or tank removals have occurred, there is a risk that the work may not have been performed correctly or completely. In these cases, if the regulatory agency or LSP of record for the site has approved the work done, we have assumed that the work was done correctly and completely.

Opinions and judgments expressed herein, which are based on our understanding and interpretation of current regulatory standards, should not be construed as legal opinions. This document and information contained herein have been prepared solely for the use of EPRI and Wilson, Sonsini, Goodrich & Rosati. No third party shall have the right to rely on Woodward-Clyde opinions rendered in connection with the services performed or in this document without Woodward-Clyde's written consent and the third party's agreement to be bound to the same conditions and limitations as client.

TABLES

Well	Date installed	North UTM coordinate	East UTM coordinate	Grade elevation, ft.	Top of Casing ft.	Top of PVC elevation, ft.	Depth to Bottom of Well from top of PVC, ft.	Elevation of bottom of well	Screened Interval, ft bgs.	Depth to Water from PVC, ft.	Groundwater elevation, ft. 12/10/97
MW-1	2/6/85	4,974.4851	8,197.1932	982.40	985.02	985.02	34.80	950.22	25-35	12.62	972.40
MW-2	2/6/85	4,689.1836	7,310.8342	954.00	956.43	956.23	15.64	940.59	5-15	6.11	950.12
MW-3	2/6/85	4,929.1556	7,161.0461	956.50	958.22	957.92	16.40	941.52	5-15	6.83	951.09
MW-4	2/5/85	5,248.5227	7,092.5738	960.30	962.03	961.93	15.67	946.26	5-15	10.61	951.32
MW-5	2/7/85	4,067.1769	6,463.8376	960.00	961.82	961.74	15.71	946.03	5-15	8.26	953.48
MW-6	10/15/84	4,327.4243	6,521.3660	952.00	NA	954.3	NA	NA	3.2-4.7	NA	NA
MW-7	2/4/85	5,248.2621	7,467.1504	968.10	970.20	970.18	20.64	949.54	10-20	15.97	954.21
MW-8	2/5/85	5,337.5479	7,230.1836	962.20	966.20	965.74	15.52	950.22	5-15	13.07	952.67
MW-9	2/5/85	5,139.4432	7,169.8436	958.70	960.83	960.7	15.00	945.70	5-15	8.45	952.25
WCMW-1	11/20/97	5,021.6220	7,722.6307	967.20	969.71	968.71	20.18	948.53	9-19	14.77	953.94
WCMW-2	11/20/97	4,693.8028	7,528.0581	955.50	959.89	959.87	18.02	941.85	3-13	8.22	951.65
WCMW-3	11/20/97	4,699.5808	7,462.9595	956.80	960.31	960.12	18.70	941.42	5-15	9.65	950.47

All wells were 2-inch internal diameter schedule 40 PVC with 10 slot screens.

TABLE 1 - Groundwater Monitoring Well Data
High Voltage Transmission Research Center
115 Lenox Road
Lenox, Massachusetts

ANALYTE	Boring / Date Sampled / Sample Depth	WC-SB1 11/18/97 10.5'-11.5' mg/kg	WC-SB2 11/18/97 2.5'-3.5' mg/kg	WC-SB3 11/18/97 4.5'-5.5' mg/kg	WC-SB12 11/19/97 10'-11' mg/kg	WC-SB13 11/19/97 9'-10' mg/kg	WC-SB14 11/19/97 9'-10' mg/kg	WC-SB15 11/20/97 3.5'-4' mg/kg	Reportable Concentrations RCS-1 mg/kg	RCS-1 mg/kg
Total Petroleum Hydrocarbons (TPH), Method 8100		ND	ND	ND	88.3 A	ND	ND	ND	200	200
Volatile Organics, Method 8260		ND	ND	ND	ND	NT	ND	ND	N/A	N/A
Priority Pollutant Metals, Method 6010			NT	NT	NT	NT	NT			
	arsenic	3.410						3.18	30	30
	beryllium	0.293						ND	0.7	0.8
	chromium	5.960						5.80	1000	2500
	copper	14.000						13.10	1000	1000
	nickel	11.500						10.60	300	700
	lead	11.400						5.76	300	600
	antimony	0.681						0.65	10	40
	zinc	43.700						51.10	2500	2500
	mercury	0.176						ND	10	60

A - Identified as C30 - C32 chain hydrocarbon.
ND - Not detected
NT - Not tested
N/A - Not Applicable

TABLE 2 - Subsurface Soil Analytical Results
High Voltage Transmission Research Center
115 New Lenox Road
Lenox, Massachusetts

Monitoring Well No. / Date Sampled / ANALYTE	WCMW-1 12/10/97 mg/l	WCMW-2 12/10/97 mg/l	WCMW-3 12/10/97 mg/l	MW-1 12/10/97 mg/l	MW-2 12/10/97 mg/l	MW-3 12/10/97 mg/l	MW-4 12/10/97 mg/l	MW-5 12/10/97 mg/l	MW-7 12/10/97 mg/l	MW-8 12/10/97 mg/l	MW-9 12/10/97 mg/l	Reportable Concentrations RCGW-1 mg/l	RCGW-2 mg/l
Volatile Organics													
benzene	ND	ND	0.0056	ND	ND	ND	ND	ND	ND	ND	ND	0.005	2.0
ethyl benzene	ND	ND	0.0065	ND	ND	ND	ND	ND	ND	ND	ND	0.7	4
o-xylene	ND	ND	0.0210	ND	ND	ND	ND	ND	ND	ND	ND	6	6
m+p-xylene	ND	ND	0.0123	ND	ND	ND	ND	ND	ND	ND	ND	6	6
methyl tertiary butyl ether	ND	ND	ND	ND	ND	0.0090	ND	ND	ND	ND	ND	0.7	50
napthalene	ND	0.0062	0.0055	ND	ND	ND	ND	ND	ND	ND	ND	0.02	6
1,2,4 -trimethylo benzene	ND	0.0055	0.0243	ND	ND	ND	ND	ND	ND	ND	ND	10	100
1,3,5 -trimethylo benzene	ND	ND	0.0089	ND	ND	ND	ND	ND	ND	ND	ND	0.1	1
Total Petroleum Hydrocarbons (TPH)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2	1
Priority Pollutant Metals	ND	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	N/A	N/A

Volatile organic compounds analyzed by EPA Method 8260, mg/l.
Total petroleum hydrocarbons (TPH) analyzed by EPA Modified Method 8100, mg/l.
Priority pollutant metals analyzed by EPA Method 6010, mg/l.

ND - Not detected
NT - Not tested
NA - Not applicable
* The Reportable Concentration for o-xylene and p-xylene is 6 mg/l (for each isomer); a total concentration was reported m+p-xylene.

TABLE 3 - Groundwater Analytical Results
High Voltage Transmission Research Center
115 New Lenox Road
Lenox, Massachusetts

ANALYTE	Sample Number Sample Depth Date Sampled Method	WC-SD1 0-6" 11/19/97 (mg/kg)	Reportable Concentration RCS-1 (mg/kg)	 RCS-2 (mg/kg)
Total Petroleum Hydrocarbons (TPH)	8100 mg/kg	**53000 A**	200	2,000
Volatile Organics	8260 ppm			
Isopropyl benzene		0.048	1000	10000
ethyl benzene		0.056	80	500
p-isopropyltoluene		0.181	500	500
o-xylene		0.195	500	500
m+p-xylene		0.204	500	1000
napthalene		0.174	4	1000
n-propylbenzene		0.094	100	1000
sec-butylbenzene		0.100	100	1000
1,2,4 -trimethyl benzene		0.859	100	1000
1,3,5 -trimethyl benzene		0.691	10	100
Priority Pollutant Metals	6010 mg/kg			
arsenic		6.480	30	30
chromium		10.400	1000	2500
copper		38.800	1000	10000
nickel		12.100	300	700
lead		38.100	300	600
antimony		1.040	10	40
zinc		149.000	2500	2500
mercury		0.123	10	60

Bold - Analytical results exceed Reportable Concentrations for soil categorized as RCS-1 and RCS-2
A - Identified as C18 - C32 chain hydrocarbon.
ND - Not detected
NT - Not tested

TABLE 4 - Soil Analytical Results
High Voltage Transmission Research Center
115 New Lenox Road
Lenox, Massachusetts

Sample Number	Sample Location	Sample Depth	Analyte Method / Date Sampled	TPH 8100 mg/kg		PCBs 8080 mg/kg	Reportable Concentration TPH mg/kg RCS-1	TPH mg/kg RCS-2	PCBs mg/kg RCS-1	PCBs mg/kg RCS-2
WC-SS1	North side of west phase breaker	0-6"	11/20/97	**1,320**	A	ND	200	2000	2	2
WC-SS2	South side of west phase breaker	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS3	North end of 25KVA transformer	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS4	South end of 25KVA transformer	0-6"	11/20/97	ND		ND	200	2000	2	2
WC-SS5	North side of 3-phase regulating transformer	0-6"	11/20/97	***4,190***	A	ND	200	2000	2	2
WC-SS6	North of autotransformer	0-6"	11/20/97	***12,400***	A	ND	200	2000	2	2
WC-SS7	North of isolation transformer	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS8	Northeast corner of former transformer storage area	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS9	West of west transformer shed	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS10	South side of west transformer shed	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS11	Northeast side of center transformer shed	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS12	Southwest corner of center transformer shed	0-6"	11/20/97	NT		1.2 B	200	2000	2	2
WC-SS13	East side of center transformer shed	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS14	North side of impulse generator	0-6"	11/20/97	NT		0.7 C	200	2000	2	2
WC-SS15	South side of impulse generator	0-6"	11/20/97	NT		0.7 C	200	2000	2	2
WC-SS16	West side of east transformer	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS17	On bluff north of main building	0-6"	11/20/97	NT		ND	200	2000	2	2
WC-SS18	On bluff northwest of west phase breaker	0-6"	11/20/97	NT		ND	200	2000	2	2

Bold - Analytical result exceeds the RCS-1 threshold for TPH.
Bold and italics - Analytical result exceeds the RCS-1and RCS-2 thresholds for TPH.
A - Identified as C18 - C32 chain hydrocarbon.
B - Identified as Aroclor 1248
C - Identified as Aroclor 1260
ND - Not detected
NT - Not tested

TABLE 5 - Soil Analytical Results
High Voltage Transmission Research Center
115 New Lenox Road
Lenox, Massachusetts

Boring	Sample Number	Date Sampled	Sample Depth	PCBs by Method 8080 mg/kg	Reportable Concentration	
					RCS-1 (mg/kg)	RCS-2 (mg/kg)
WC-SB4	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB5	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB6	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB7	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB8	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB9	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB10	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB11	A	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	B	11/19/97	4.5-5.5 ft.	ND	2.0	2.0

ND - Not detected

TABLE 6 - Subsurface Soil Analytical Results
High Voltage Transmission Research Center
115 New Lenox Road
Lenox, Massachusetts

FIGURES

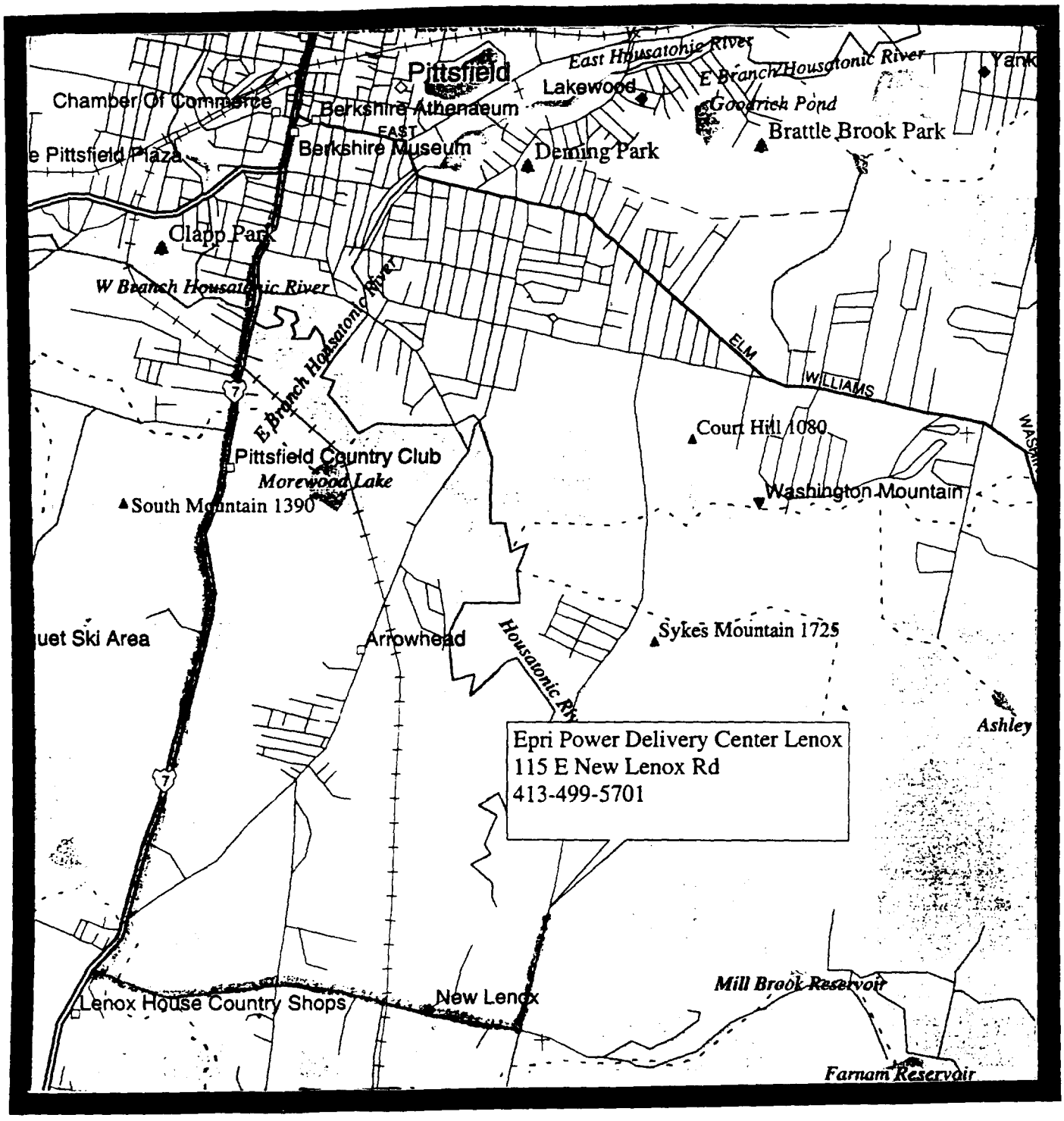

Figure 1
SITE LOCATION MAP

TARGET SHEET

THE MATERIAL DESCRIBED BELOW
WAS NOT SCANNED BECAUSE:

(X) OVERSIZED MAP

() NON-PAPER MEDIA

() OTHER:

DOC ID: 213199
DATE: 01/01/1998
TITLE: PHASE 2 SITE INVESTIGATION REPORT, HIGH VOLTAGE TRANSMISSION RESEARCH CENTER, 115 EAST NEW LENOX ROAD, LENOX, MASSACHUSETTS
DESCRIPTION: FIGURE 2: GROUNDWATER ELEVATION CONTOUR MAP, ELECTRIC POWER RESEARCH INSTITUTE (EPRI), HIGH VOLTAGE TEST AND RESEARCH CENTER (HVTRC), 115 EAST NEW LENOX ROAD, LENOX, MASSACHUSETTS

THE OMITTED MATERIAL IS AVAILABLE FOR REVIEW
BY APPOINTMENT
AT THE EPA NEW ENGLAND SUPERFUND RECORDS CENTER,
BOSTON, MA

APPENDIX A

Subsurface Investigation Procedures

APPENDIX A
SUBSURFACE INVESTIGATION PROCEDURES

Surface Soil Sampling

During the Phase II investigation, surficial soil was sampled at selected locations throughout the Property. One sample was sample (WC-SD1) was collected from the dry well located in the rear of the storage building. Eighteen additional samples (WC-SS1 to WC-SS18) were collected at selected locations (mostly near equipment which formerly contained PCBs). Surficial soil samples submitted for chemical analysis were transferred to laboratory supplied sample containers using laboratory cleaned stainless-steel sampling spoons. A dedicated, pre-cleaned spoon was used to collect each sample.

The surficial soil sampled from the dry well was analyzed for Volatile Organic Compounds (VOCs) using EPA Method 8260, Total Petroleum Hydrocarbons (TPH) using EPA Modified Method 8100, and Priority Pollutant Metals (metals) using EPA Method 6010. The other samples were analyzed for TPH and PCBs. Complete laboratory reports are included in Appendix D. The laboratory analysis was conducted by Toxicon Laboratories located in Bedford, Massachusetts.

Drilling and Soil Sampling

Fourteen soil borings (WC-SB1 through WC-SB14) were advanced at selected locations using an Acker truck-mounted drill rig equipped with a 4.5-inch inside diameter hollow stem augers. In addition, one soil boring (WC-SB15) was advanced using a hand auger. Drilling was performed by Environmental Compliance Services, Inc. located in Agawam, Massachusetts. Borehole logging, soil screening, and soil sampling were performed by Woodward-Clyde personnel. Boring logs are included in Appendix B. For most borings, soil was sampled continuously using split-spoon samplers.

During sampling, all split-spoon samplers were washed with Liquinox® (a phosphate-free laboratory detergent) and rinsed with tap water. Soil samples submitted for chemical analysis were transferred from the split-spoons to laboratory supplied sample containers using laboratory cleaned stainless-steel sampling spoons. In general, subsurface soil sampled for chemical analysis was collected from the depths specified in the work plan.

Soil sampled from all borings were screened in the field for total volatile organic vapors (TOVs) using an Hnu Systems model DL-101 photoionization detector (PID) equipped with a 10.2 ev lamp. The PID was calibrated to a benzene standard using a 100 parts per million (ppm) mixture of isobutylene in air. No elevated PID readings were observed in any of the soil samples.

Soil samples from borings WC-SB1 to WC-SB3 and WC-SB12 to WC-SB15 were analyzed for VOCs and TPH. Soil from borings WC-SB1 and WC-SB15 were also analyzed for metals. Soil from borings WC-SB4 to WC-SB11 were analyzed for PCBs (using EPA Method 8080). All laboratory analysis was performed by Toxicon Laboratories located in Bedford, Massachusetts.

Monitoring Well Installation

Three soil borings, WC-SB1 through WC-SB3, were completed as groundwater monitoring wells (WC-MW1 through WC-MW3). The monitoring wells were constructed using 2-inch diameter, 10-slot, schedule 40 PVC well screens and risers. A filter pack of Morie sand was placed around the well screen generally to a level of 1 to 3-ft. above the well screen. A seal of bentonite chips, generally 0.5 to 2-ft. thick was placed above the filter pack. The bentonite chips were hydrated by pouring several gallons of potable water onto the chips. The balance of the annular space was backfilled and grouted with cement. All monitoring wells were finished with a protective steel casing that extends above grade. All wells were constructed using a 10-ft. length of well screen that intersected the water table. Monitoring well installation logs are included in Appendix C.

Monitoring Well Development

Eleven groundwater monitoring wells including WC-MW1 to WC-MW3 and eight previously existing groundwater monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-7, MW-8 and MW-9) were developed to improve the hydraulic communication between the wells and the surrounding formation.

After the new monitoring wells were installed, the existing wells (except MW-8) located on-site were developed. These existing monitoring wells were developed using bailers, Whaler pumps, and 1-inch diameter polyethylene tubing. Because the protective steel casing for this monitoring well was damaged previously by a snow plow, it could not be developed at the time the other wells were developed. The protective casing was replaced and the well was developed prior to sampling. Additionally, the PVC riser of MW-9 was constricted below grade which prevented inserting a 1-inch diameter bailer and a Whaler pump into the well. Prior to sampling, this well was developed using a 0.5-inch diameter bailer.

During development, the bailer was lifted and lowered within the screened interval to surge the monitoring well. After surging, the Whaler pump was then used to evacuate groundwater from within the screened interval. Fine particles (silt and clay) generated during surging were removed during pumping. The monitoring wells were considered developed when either a significant reduction in turbidity was observed or the wells were pumped dry.

Groundwater Sampling

The new monitoring wells and the existing monitoring wells (except MW-6) were sampled approximately 2-weeks after the wells were developed. Monitoring well MW-6 was not sampled. During the site reconnaissance, this well was observed not to be properly constructed. This well did not have a protective casing or a surface seal. Groundwater sampled from this well would be suspect. Prior to sampling, the monitoring wells were first evacuated using dedicated 1-inch polyethylene bailers. The groundwater samples were collected using pre-cleaned disposable polyethylene bailers equipped with a polypropylene cord. Field parameters (pH, specific conductivity, temperature, turbidity, and dissolved oxygen) were measured before purging, after purging and after sample collection using a Horiba U-10 multi-parameter probe. Groundwater samples from the monitoring wells were analyzed for VOCs and TPH. The groundwater sample from groundwater monitoring well WC-MW1 was also analyzed for metals. The laboratory analysis was conducted by Toxicon Laboratories located in Bedford, Massachusetts. Complete laboratory reports are included in Appendix D.

Surveying

The new monitoring wells were surveyed by Hill Engineers Architects Planners, Inc., of Dalton, Massachusetts. Assumed horizontal and vertical datums were established on-site. The locations were reported as Northings and Eastings. The elevations of the ground surface, top of steel casing, and the top of the inside PVC riser, were surveyed and reported to the nearest 0.01 ft. Well construction details are summarized in Table 1.

Groundwater Level Measurements

Groundwater levels were measured on December 10, 1997, prior to groundwater sampling. For each well, the depth to groundwater was measured from the surveyed point on the top of the PVC riser pipe using an electronic water level indicator. Groundwater elevation data are summarized in Table 1.

APPENDIX B

Boring Logs

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB8

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523 LOCATION: LENOX, MA		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST. 2 UNDIST. 0 CORE 0	
CASING HAMMER: NA WEIGHT: NA	DROP: NA	ENV. SAMPLES: 2 (WC-SB8A) (WC-SB8B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov. (ft)	Samples: Penetr. Resist. BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
		0											
Augered 0 - 2 ft.													
SP-SM - Loose, brown fine - med. SAND, some fine gravel, some silt, dry		1											
		2											
SM - Very loose, lt. brown, fine SAND some silt, dry.						2							Environmental sample for PCB's (8080) WC-SB8A (2.5 - 3.5 ft.)
	X	3		8A	1.8	2	1145	0.7	0.7	1145			
	X					4							
		4				5							
SM - Loose, brown, fine SAND, some silt, mottled, dry						6							Environmental sample for PCB's (8080) WC-SB8B (4.5 - 5.5 ft.)
	X	5		8B	1.8	6	1150	0.7	0.7	1150			
	X					7							
		6				11							
Boring completed at 6.0 ft.													
		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB9

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST. 2 UNDIST 0 CORE 0	
CASING HAMMER: NA WEIGHT: NA	DROP: NA	ENV. SAMPLES: 2 (WC-SB9A) (WC-SB9B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Recov (ft)	Penetr. Resist. BL/6in	Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 2 ft.		0											
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											
		2											
SM - Loose, lt. brown, silty- fine SAND, dry.		3		9A	1.4	4 4 4 4	1217	0.7	0.7	1217			Environmental sample for PCB's (8080) WC-SB9A (2.5 - 3.5 ft.)
		4											
SM - Loose, lt. brown, silty- fine SAND, dry.		5		9B	1.3	6 5 6 7	1222	0.7	0.7	1222			Environmental sample for PCB's (8080) WC-SB9B (4.5 - 5.5 ft.)
		6											
Boring completed at 6.0 ft.		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB10

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST. 2 UNDIST 0 CORE 0	
CASING HAMMER: NA / WEIGHT: NA	DROP: NA	ENV. SAMPLES: 2 (WC-SB10A) (WC-SB10B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER: WEIGHT 140 lb.	DROP 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov. (ft)	Samples: Penetr. Resist. BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 2 ft.		0											* = battery low on HNU
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											no readings recorded
		2											
SM - Loose, lt. brown - brown, silty-fine SAND, mottled, dry.		3		10A	1.7	4 4 3 5	1235	*	*				Environmental sample for PCB's (8080) WC-SB10A (2.5-3.5 ft)
		4											
SM - Loose, lt. brown - brown, silty-fine SAND, mottled, dry.		5		10B	1.5	5 5 6 7	1240	*	*				Environmental sample for PCB's (8080) WC-SB10B (4.5-5.5 ft)
		6											
Boring completed at 6.0 ft.		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB11

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST 2 UNDIST. 0 CORE 0	
CASING HAMMER: NA / WEIGHT: NA	DROP: NA	ENV. SAMPLES: 2 (WC-SB11A) (WC-SB11B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov. (ft)	Samples: Penetr. Resist. BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 2 ft.		0											
													* = battery low on HNU
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											no readings recorded.
		2											
SM - Loose, lt. brown, silty - fine SAND,dry.		3		11A	1.2	5 4 5 5	1256	*	*				Environmental sample for PCB's (8080) WC-SB11A (2.5-3.5 ft)
		4											
SM - Loose, brown, silty - fine SAND, dry.		5		11B	1.5	7 9 9 11	1305	*	*				Environmental sample for PCB's (8080) WC-SB11B (4.5-5.5 ft)
		6											
Boring completed at 6.0 ft.		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB12

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): 11.00 ft.
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 12.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfilled	
CASING: NA		SOIL SAMPLES: DIST. 1 UNDIST 0 CORE 0	
CASING HAMMER: NA / WEIGHT: NA	DROP: NA	ENV. SAMPLES: 1 (WC-SB12)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: East of former gasoline UST	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr Resist BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	PID (HNU)/ FID READINGS (PPM): Ambient Air	PID (HNU)/ FID READINGS (PPM): Time	PID (HNU)/ FID READINGS (PPM): Head Space	PID (HNU)/ FID READINGS (PPM): Date Time	REMARKS
Augered 0 - 10 ft.		0						*	*				* = battery low on HNU no readings recorded.
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											
		2											
		3											
		4											
		5											
		6											
		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB1 (WC-MW1)

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/18/97	DATE COMPLETED: 11/18/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc	FOREMAN: Stoch	GROUND ELEVATION (FT MSL):	WATER DEPTH (FT BGS): 11.75 ft.
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 19.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: WC-MW1 installed	
CASING: NA		SOIL SAMPLES: DIST 8 UNDIST 0 CORE 0	
CASING HAMMER: NA / WEIGHT: NA	DROP: NA	ENV SAMPLES: 1 (WC-SB1)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: South west of storage building drywell	
SAMPLER HAMMER: WEIGHT 140 lb.	DROP 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr Resist BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
SP - Loose, brown fine SAND, trace fine gravel, dry		0				4							
						4							
		1			1.2		1010	1.0	1.0	1010			
						4							
		2				4							
SM - Loose, lt. brown, fine SAND, trace silt, dry						5							
		3			1.5	6	1011	1.0	1.0	1011			
						9							
		4				8							
SM - Loose lt. brown fine SAND, some silt, grading to gray fine SAND, some silt, dry.						5							
		5			2.0	8	1030	1.0	1.0	1030			
						9							
		6				12							
SM - lt. brown - gray, mottled, fine SAND, some silt, dry						5							
		7			2.0	6	1041	1.0	1.0	1041			
						6							
		8				8							
SM - Loose, lt. brown, fine SAND, some silt, moist						5							
		9			1.3	4	1050	1.0	1.0	1050			
						6							
		10				8							

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB1 (WC-MW1)

DESCRIPTION	Sample Interval	Depth (ft bgs)	Water Table	Samples: Number	Samples: Recov. (ft)	Samples: Penetr. Resist. BL/6in	Samples: Time	HNU / PID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
SM - Very loose, lt. brown, fine SAND, some silt, moist, wet at 11.75 ft.		- 11 -			1.0	3 3 3 3	1005	1.0	1.0	1005			Environmental sample for VOC's (8260), P.P. Metals and TPHC WC-SB1 (10.5-11.5 ft.)
SM - Very loose, brown, fine SAND, some silt, saturated		- 13 -			1.0	3 3 5 2	1110	1.0	1.0	1110			
SM - Very loose, brown, fine SAND, some silt, saturated		- 15 -			1.0	1 1 1 1	1120	1.0	1.0	1120			
Boring completed at 19.0 ft.		- 20 -											
		- 21 -											
		- 22 -											
		- 23 -											
		- 24 -											

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ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB2 (WC-MW2)

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/18/97	DATE COMPLETED: 11/18/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Stoch	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): 4.0 ft.
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 13.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: WC-MW2 installed	
CASING: NA		SOIL SAMPLES: DIST. 3 UNDIST. 0 CORE 0	
CASING HAMMER: NA WEIGHT: NA	DROP: NA	ENV. SAMPLES: 1 (WC-SB2)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Southeast of Fog Chamber (kerosene spill area).	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr Resist BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
SP - Very loose, brown fine SAND, some M. sand trace fine gravel, trace silt, dry		0			1.6	2, 3, 3, 3	1318	0.6	0.6	1318			
SM - Loose, brown - lt. brown, fine SAND, some silt, trace clay, trace M. sand, moist, wet at tip.		2			1.7	3, 5, 4, 3	1320	0.7	0.6	1320			Environmental sample for VOC's (8260) and TPHC. WC-SB2 (2.5 - 3.5 ft.)
SM - Very loose, gray, silty fine SAND, saturated		4	▼		0.3	1, 1, 1, 1	1343	0.7	0.6	1343			
6 - 13 ft (drill cuttings): brown and gray silty-fine SAND, saturated		6											
		8											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB2 (WC-MW2)

DESCRIPTION	Sample Interval	Depth (ft bgs)	Water Table	Samples: Number	Samples: Recov. (ft)	Samples: Penetr. Resist. BL/6in	Samples: Time	HNU / PID READINGS (PPM): Sample	HNU / PID READINGS (PPM): Ambient Air	HNU / PID READINGS (PPM): Time	HNU / PID READINGS (PPM): Head Space	HNU / PID READINGS (PPM): Date / Time	REMARKS
6 - 13 ft (drill cuttings): brown and gray silty-fine SAND, saturated		11 12 13											
Boring completed at 13.0 ft.		14 15 16 17 18 19 20 21 22 23 24											

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ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB3 (WC-MW3)

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523 LOCATION: LENOX, MA		DATE STARTED: 11/18/97	DATE COMPLETED: 11/18/97
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Stoch	GROUND ELEVATION (FT MSL):	WATER DEPTH (FT BGS): 6.0 ft
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 15.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: WC-MW3 installed	
CASING: NA		SOIL SAMPLES: DIST 4 UNDIST. 0 CORE 0	
CASING HAMMER: NA WEIGHT: NA	DROP: NA	ENV. SAMPLES: 1 (WC-SB3)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Southwest of Fog Chamber (kerosene spill area).	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr Resist BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
SP-SM - Loose, brown fine - med. SAND, some fine gravel, grading to lt. brown fine SAND, some silt, dry		0			1.6	4 5 3 4	1514	0.6	0.6	1514			
SM - Loose, lt. brown, fine SAND some silt, trace fine gravel, dry.		2 3 4			1.6	3 5 6 6	1516	*	*	1516			* = HNU batt. low no readings recorded
SM - Loose, lt. brown, fine SAND some silt, wet at tip.		5 6	▼		1.7	4 4 4 4	1530	*	*	1530			Environmental sample for VOC's (8260) and TPHC. WC-SB3 (4.5 - 5.5 ft.)
SM - Very loose, Dk. brown - gray fine SAND, some silt, saturated.		7 8			1.7	2 2 4 4	1538	*	*	1538			
8 - 15 ft (drill cuttings): brown and gray fine SAND and silt, saturated		9 10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB3 (WC-MW3)

DESCRIPTION	Sample Interval	Depth (ft bgs)	Water Table	Samples				HNU / PID READINGS (PPM)					REMARKS
				Number	Recov. (ft)	Penetr. Resist BL/6in	Time	Sample	Ambient Air	Time	Head Space	Date Time	
8 - 15 ft (drill cuttings): brown and gray fine SAND and silt, saturated		11 12 13 14 15											
Boring completed at 15.0 ft.		16 17 18 19 20 21 22 23 24											

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ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB4

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST. 2 UNDIST. 0 CORE 0	
CASING HAMMER: NA / WEIGHT: NA	DROP: NA	ENV. SAMPLES: 2 (WC-SB4A) (WC-SB4B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Recov. (ft)	Penetr. Resist. BL/6in	Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 2 ft.		0											
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											
		2											
SM - Very loose, lt. brown, fine SAND some silt, dry.		3		4A	1.9	1 3 2 3	1001	0.7	0.7	1001			Environmental sample for PCB's (8080) WC-SB4A (2.5 - 3.5 ft.)
		4											
SM - Very loose, brown - gray, mottled, silty - fine SAND, dry		5		4B	1.6	2 3 4 3	1010	0.7	0.7	1010			Environmental sample for PCB's (8080) WC-SB4B (4.5 - 5.5 ft.)
		6											
Boring completed at 6.0 ft.		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB5

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523 LOCATION: LENOX, MA		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST. 2 UNDIST 0 CORE 0	
CASING HAMMER: NA WEIGHT: NA	DROP: NA	ENV SAMPLES: 2 (WC-SB5A) (WC-SB5B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr Resist BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 2 ft.		0											
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											
		2											
SM - Very loose, ft. brown, fine SAND some silt, dry.		3		5A	1.9	3 3 3 3	1025	0.7	0.7	1025			Environmental sample for PCB's (8080) WC-SB5A (2.5 - 3.5 ft.)
		4											
SM - Very loose, ft. brown, mottled, silty - fine SAND, dry		5		5B	1.9	5 6 8 9	1030	0.7	0.7	1030			Environmental sample for PCB's (8080) WC-SB5B (4.5 - 5.5 ft.)
		6											
Boring completed at 6.0 ft.		7											
		8											
		9											
		10											

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ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB6

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST 2 UNDIST 0 CORE 0	
CASING HAMMER: NA WEIGHT: NA	DROP: NA	ENV. SAMPLES: 2 (WC-SB6A) (WC-SB6B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr. Resist BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 2 ft.		0											
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											
		2											
SM - Very loose, brown, fine SAND some silt, dry.						4							
		3		6A	0.6	3	1045	0.7	0.7	1045			Environmental sample for PCB's (8080) WC-SB6A (2.5 - 3.5 ft.)
						3							
		4				3							
SM - Loose, brown, mottled, silty - fine SAND, dry						4							No recovery in 4 - 6 ft. spoon, moved location and resampled 4 - 6 ft.
		5		6B	1.2	4	1110	0.7	0.7	1110			Environmental sample for PCB's (8080) WC-SB6B (4.5 - 5.5 ft.)
						6							
		6				8							
Boring completed at 6.0 ft.		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB7

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST. 2 UNDIST. 0 CORE 0	
CASING HAMMER: NA / WEIGHT: NA	DROP: NA	ENV. SAMPLES: 2 (WC-SB7A) (WC-SB7B)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: Along former drainage ditch	
SAMPLER HAMMER: WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr. Resist BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 2 ft.		0											
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											
		2											
SM - Very loose, brown, fine SAND some silt, dry.		3		7A	1.6	3 3 4 3	1125	0.7	0.7	1125			Environmental sample for PCB's (8080) WC-SB7A (2.5 - 3.5 ft.)
		4											
SM - Loose, brown, fine SAND, some silt, dry		5		7B	1.6	4 4 6 8	1131	0.7	0.7	1131			Environmental sample for PCB's (8080) WC-SB7B (4.5 - 5.5 ft.)
		6											
Boring completed at 6.0 ft.		7											
		8											
		9											
		10											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB12

DESCRIPTION	Sample Interval	Depth (ft bgs)	Water Table	Samples Number	Samples Recov (ft)	Samples Penetr Resist BL/6in	Samples Time	HNU / PID READINGS (PPM) Sample	HNU / PID READINGS (PPM) Ambient Air	HNU / PID READINGS (PPM) Time	HNU / PID READINGS (PPM) Head Space	HNU / PID READINGS (PPM) Date Time	REMARKS
SM - Loose, brown, fine SAND		-				6							Environmental sample
some silt, moist,													for VOC's (8260) and
wet at 11.00 ft.		- 11 -	▼		1.5	7	1420	*	*				TPHC (modified 8100)
						9							WC-SB12 (10 -11 ft.)
		- 12 -				11							
Boring completed at 12.0 ft.													
		- 13 -											
		- 14 -											
		- 15 -											
		- 16 -											
		- 17 -											
		- 18 -											
		- 19 -											
		- 20 -											
		- 21 -											
		- 22 -											
		- 23 -											
		- 24 -											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB13

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc.	FOREMAN: Nick	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): 10.00 ft.
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 11.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfilled	
CASING: NA		SOIL SAMPLES: DIST. 1 UNDIST. 0 CORE 0	
CASING HAMMER: NA WEIGHT: NA	DROP: NA	ENV. SAMPLES: 1 (WC-SB13)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: South of former gasoline UST	
SAMPLER HAMMER WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr. Resist. BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
Augered 0 - 9.0 ft.		0						*	*				* = battery low on HNU no readings recorded.
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											
		2											
		3											
Gravel or boulder at 4 - 5 ft.		4											
		5											
		6											
		7											
		8											
		9											
SM - Very loose, brown, fine SAND some silt, moist,						3							
wet at 10.50 ft.		10			1.6	3	1500	*	*				

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB13

DESCRIPTION	Sample Interval	Depth (ft bgs)	Water Table	Samples: Number	Samples: Recov. (ft)	Samples: Penetr Resist BL/6in.	Samples: Time	HNU / PID READINGS (PPM): Sample	Ambient Air	Time	Head Space	Date Time	REMARKS
SM - Very loose, brown, fine SAND some silt, moist, wet at 10.50 ft.		11	▼			2 3		*	*				Environmental sample for VOC's (8260) and TPHC (modified 8100) WC-SB13 (9 -10 ft.)
Boring completed at 11.0 ft.		12 13 14 15 16 17 18 19 20 21 22 23 24											

WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB14

PROJECT NAME/NUMBER: EPRI - HVTRC / 7E15523		DATE STARTED: 11/19/97	DATE COMPLETED: 11/19/97
LOCATION: LENOX, MA			
DRILLING CONTRACTOR: Environmental Compliance Services, Inc	FOREMAN: Nick	GROUND ELEVATION (FT. MSL):	WATER DEPTH (FT BGS): Not encountered
DRILLING EQUIPMENT: Acker Truck Mounted Drill Rig / Hollow stem auger		COMPLETION DEPTH (FT BGS): 6.0	ROCK DEPTH (FT BGS): Not Encountered
TYPE BIT: Cutter Head	SIZE AND TYPE CORE BARREL: NA	COMPLETION METHOD: Backfill	
CASING: NA		SOIL SAMPLES: DIST. 1 UNDIST. 0 CORE 0	
CASING HAMMER: NA / WEIGHT: NA	DROP: NA	ENV. SAMPLES: 1 (WC-SB14)	
SAMPLER: 2-inch OD Split Spoons		BORING LOCATION: West of former gasoline UST	
SAMPLER HAMMER / WEIGHT: 140 lb.	DROP: 30 inch	INSPECTOR: E. M. Hastings	

DESCRIPTION	Sample Interval	Depth (FT BGS)	Water Table	Samples: Number	Samples: Recov (ft)	Samples: Penetr. Resist. BL/6in	Samples: Time	PID (HNU)/ FID READINGS (PPM): Sample	PID (HNU)/ FID READINGS (PPM): Ambient Air	PID (HNU)/ FID READINGS (PPM): Time	PID (HNU)/ FID READINGS (PPM): Head Space	PID (HNU)/ FID READINGS (PPM): Date Time	REMARKS
Augered 0 - 8 ft.		0											
								*	*				* = battery low on HNU
SP-SM - Loose, brown fine - med. SAND, some fine gravel,some silt, dry		1											no readings recorded.
		2											
		3											
		4											
		5											
		6											
		7											
		8											
SM - Very loose, brown, fine SAND some silt, moist		9			1.2	3 2 2 4	1530	*	*				Environmental sample for VOC's (8260) and TPHC (modified 8100) WC-SB14 (9 -10 ft.)
Boring completed at 10.0 ft.		10											

APPENDIX C

Well Construction Reports

WOODWARD-CLYDE CONSULTANTS
Consulting Engineers, Geologists and Environmental Scientists

CONSTRUCTION OF WELL / PIEZOMETER **WC-MW1**

Project name & location	*Well permit No.*	*Elevation datum*
EPRI - HVTRC / LENOX, MA	NA	
Drilling company	***Surveyor***	***Ground elevation***
Environmental Compliance Services, Inc.	Hill Engineers, Dalton MA	967.20 ft
Date and time of completion	***Longitude***	***Top of protective steel casing elevation***
11/18/97	7,722.6307 East UTM	969.71 ft
Inspector	***Latitude***	***Top of riser pipe elevation***
E. M. Hastings	5,021.6220 North UTM	968.71 ft

A = Top of Riser
B = Ground Surface
C = Top of Bentonite Seal
D = Top of Sand Pack
E = Top of Screen
F = Bottom of Screen
G = Bottom of PVC/Steel
H = Bottom of Borehole

	ELEV. (ft above MSL)	DEPTHS (ft below ground)	
	A	INPUT	
PVC STICKUP (ft) 1.51 ft			PROTECTIVE STEEL CAP WITH LOCK
			RISER CAP
GENERALIZED SOIL DESCRIPTION	**B**	0	GROUND SURFACE
See boring log WC-SB1			PROTECTIVE STEEL CASING CEMENTED
			RISER PIPE: 2 inch ID, schedule 40 threaded PVC
			ANNULUS GROUTED WITH Portland cement
	C	5	SEAL:
	D	7	Bentonite pellets
	E	9	
			SCREEN: 10 ft of 2 inch ID, schedule 40 threaded PVC, 0.01 inch slot
			SAND/GRAVEL PACK: #2 Morie sand
	F	19	BOTTOM OF SCREEN
	G	19	BOTTOM CAP
	H	19	BOTTOM OF BOREHOLE

DIAMETER OF BOREHOLE: 4.25

REMARKS (Installation, development) :

WOODWARD-CLYDE CONSULTANTS
Consulting Engineers, Geologists and Environmental Scientists

CONSTRUCTION OF WELL / PIEZOMETER **WC-MW2**

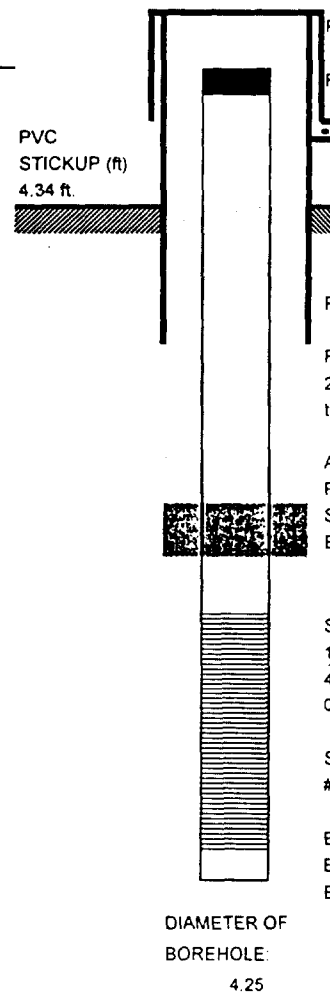
Project name & location EPRI - HVTRC / LENOX, MA	***Well permit No.*** NA	***Elevation datum***
Drilling company Environmental Compliance Services, Inc.	***Surveyor*** Hill Engineers, Dalton MA	***Ground elevation*** 955.50 ft
Date and time of completion 11/18/97	***Longitude*** 7,528.0581 East UTM	***Top of protective steel casing elevation*** 959.89 ft
Inspector E. M. Hastings	***Latitude*** 4,693.8028 North UTM	***Top of riser pipe elevation*** 959.87 ft

A = Top of Riser
B = Ground Surface
C = Top of Bentonite Seal
D = Top of Sand Pack
E = Top of Screen
F = Bottom of Screen
G = Bottom of PVC/Steel
H = Bottom of Borehole

	ELEV (ft above MSL)	DEPTHS (ft below ground)
	A	INPUT
	B	0
	C	1.5
	D	2
	E	3
	F	13
	G	13
	H	13

GENERALIZED SOIL DESCRIPTION

See boring log WC-SB2



PROTECTIVE STEEL CAP WITH LOCK

RISER CAP

GROUND SURFACE

PROTECTIVE STEEL CASING CEMENTED

RISER PIPE:
2 inch ID, schedule 40
threaded PVC

ANNULUS GROUTED WITH
Portland cement

SEAL:
Bentonite pellets

SCREEN:
10 ft of 2 inch ID, schedule
40 threaded PVC,
0.01 inch slot

SAND/GRAVEL PACK
#2 Morie sand

BOTTOM OF SCREEN

BOTTOM CAP

BOTTOM OF BOREHOLE

DIAMETER OF BOREHOLE:
4.25

REMARKS (Installation, development) :

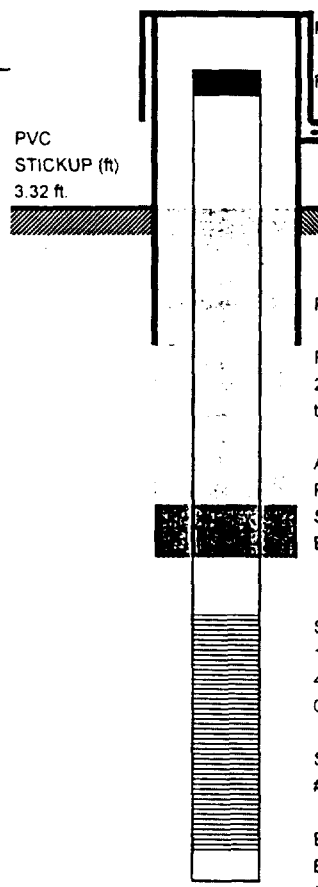
WOODWARD-CLYDE CONSULTANTS
Consulting Engineers, Geologists and Environmental Scientists

CONSTRUCTION OF WELL / PIEZOMETER **WC-MW3**

Project name & location	*Well permit No.*	*Elevation datum*
EPRI - HVTRC / LENOX, MA	NA	
Drilling company	***Surveyor***	***Ground elevation***
Environmental Compliance Services, Inc.	Hill Engineers, Dalton MA	956.80 ft
Date and time of completion	***Longitude***	***Top of protective steel casing elevation***
11/18/97	7,462.9595 East UTM	960.31 ft
Inspector	***Latitude***	***Top of riser pipe elevation***
E. M. Hastings	4,699.5808 North UTM	960.12 ft

A = Top of Riser
B = Ground Surface
C = Top of Bentonite Seal
D = Top of Sand Pack
E = Top of Screen
F = Bottom of Screen
G = Bottom of PVC/Steel
H = Bottom of Borehole

	ELEV. (ft above MSL)	DEPTHS (ft below ground)	
		A	INPUT
			PVC STICKUP (ft) 3.32 ft.
GENERALIZED SOIL DESCRIPTION		B	0 GROUND SURFACE
See boring log WC-SB3			PROTECTIVE STEEL CASING CEMENTED
			RISER PIPE: 2 inch ID, schedule 40 threaded PVC
			ANNULUS GROUTED WITH: Portland cement
		C	2 SEAL:
		D	3 Bentonite pellets
		E	5 SCREEN: 10 ft of 2 inch ID, schedule 40 threaded PVC, 0.01 inch slot
			SAND/GRAVEL PACK: #2 Morie sand
		F	15 BOTTOM OF SCREEN
		G	15 BOTTOM CAP
		H	15 BOTTOM OF BOREHOLE



REMARKS (Installation, development) :

APPENDIX D

Analytical Laboratory Report

Received: 11/20/97 12/02/97 13:18:35

REPORT TO: WOODWARD - CLYDE CONSULTANTS
ONE CRANBERRY HILL
LEXINGTON, MA. 02173
617-863-0667 FAX: 863-0807
ATTEN MARK HOULDAY

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
CERTIFIED BY
ATTEN PAUL LEZBERG
PHONE (617)275-3330 CONTACT JOHNM

CLIENT WOODWARD SAMPLES 20
COMPANY WOODWARD - CLYDE CONSULTANTS
FACILITY ONE CRANBERRY HILL
LEXINGTON, MA. 02173

MA CERT # M-MA064: TRACE METALS, SULFATE, CYANIDE, RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID EPRI/LENOX, MA
TAKEN 11/18-19/97
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

VERIFIED BY:
CERT # M-MA064

SAMPLE IDENTIFICATION

01	WC-SB1
02	WC-SB1
03	WC-SB2
04	WC-SB3
05	WC-SB4A
06	WC-SB4B
07	WC-SB5A
08	WC-SB5B
09	WC-SB6A
10	WC-SB6B
11	WC-SB7A
12	WC-SB7B
13	WC-SB8A
14	WC-SB8B
15	WC-SB9A
16	WC-SB9B
17	WC-SB10A
18	WC-SB10B
19	WC-SB11A
20	WC-SB11B

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
EPETS	EXTRACTION GC PET SOIL
GC PET	PETROLEUM SCAN BY GC
MEX HG	METALS, EXT. FOR MERCURY
MEX TS	METALS, TOTAL EXT., SOIL
PCB S	PCB - SW846-8080
PP13	METALS, 13 PRI.POLL.

Received: 11/20/97 Results by Sample

SAMPLE ID WC-SB1 FRACTION 01A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/18/97 11:00:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 11/24/97
DATE RUN 11/25/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

Received: 11/20/97 Results by Sample

SAMPLE ID WC-SB1 FRACTION 01A TEST CODE PP13 NAME METALS,13 PRI.POLL.
Date & Time Collected 11/18/97 11:00:00 Category SOIL

13 PRIORITY POLLUTANT METALS

	RESULT	LIMIT
Silver	ND	0.27
Arsenic	3.41	0.27
Beryllium	0.293	0.27
Cadmium	ND	0.27
Chromium	5.96	0.27
Copper	14.0	0.27
Nickel	11.5	0.27
Lead	11.4	0.27
Antimony	0.681	0.27
Selenium	ND	0.27
Thallium	ND	0.48
Zinc	43.7	0.27
Mercury	0.176	0.093

Notes and Definitions for this Report:

EXTRACTED 11/26/97
DATE RUN 12/01/97
ANALYST VR
INSTRUMENT ICP
DIL. FACTOR 1
UNITS mg/Kg

ND = Not detected at detection limit

SAMPLE ID WC-SB1 FRACTION 02A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/18/97 11:00:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 11/29/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SB2 FRACTION 03A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/18/97 13:20:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 11/29/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SB2 FRACTION 03A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/18/97 13:20:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 11/24/97
DATE RUN 11/25/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-SB3 FRACTION 04A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/18/97 15:30:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 11/29/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SB3 FRACTION 04A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/18/97 15:30:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 11/24/97
DATE RUN 11/25/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-SB3 FRACTION 04A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/18/97 15:30:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 11/24/97
DATE RUN 11/25/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-SB4A FRACTION 05A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 10:01:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/20/97 Results by Sample

SAMPLE ID WC-SB4B FRACTION 06A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 10:10:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB5A FRACTION 07A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 10:25:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB5B FRACTION 08A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 10:30:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB6A FRACTION 09A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 10:45:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB68 FRACTION 10A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 11:10:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB7A FRACTION 11A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 11:25:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB7B FRACTION 12A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 11:31:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB8A FRACTION 13A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 11:45:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB88 FRACTION 14A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 11:50:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB9A FRACTION 15A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 12:17:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB9B FRACTION 16A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 12:22:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB10A FRACTION 17A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 12:35:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/20/97 Results by Sample

SAMPLE ID WC-SB10B FRACTION 18A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 12:40:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/20/97 Results by Sample

SAMPLE ID WC-SB11A FRACTION 19A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 12:56:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB11B FRACTION 20A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/19/97 13:05:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97
DATE RUN: 11/26/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE EPETS NAME EXTRACTION GC PET SOIL

EPA METHOD: 3540: Soxhlet Extraction.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE GC PET NAME PETROLEUM SCAN BY GC

EPA Method: 8100 Modified

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

This method utilizes analytical procedures consistent with EPA Method 8100. The identity of petroleum contaminants is subject to comparison with commercially supplied standards.

Alternate Method:ASTM Method D 3328

TEST CODE MEX HG NAME METALS, EXT. FOR MERCURY

REFERENCE:

EPA METHOD 245.1 Mercury. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020.

EPA METHOD 7470.Mercury in Liquid Waste.

or

EPA METHOD 7471.Mercury in Solid or Semisolid Waste.
Test Methods for Evaluating Solid Waste:Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA>

TEST CODE MEX TS NAME METALS, TOTAL EXT., SOIL

REFERENCE:

EPA METHOD 3050: Acid Digestion of Sediments, Sludges and Soils. Test Methods for Evaluating Solid Waste Physical/Chemical Methods. SW 846, 3rd Edition.

Analytical Method for ICP:6010A

TEST CODE PCB_S NAME PCB - SW846-8080

EPA Method: 8080

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

CASE NARRATIVE

Work Order: 9711392

PCB:

Samples 9711392.9, and 9711392.10 had several peaks that resembled PCB 1232/1242, but a positive identification could not be made due to the lack of enough peaks that match the standard.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

V. (OF. #: - 34

DUE DATE : 12 - 2 - 97

COMPANY: Woodward Clyde
ADDRESS: One Cranberry Hill
Lexington MA 02173
PHONE #: (781) [illegible] FAX #: (781) [illegible]
P.O. #:
PROJECT MANAGER: Mark Hattaway
PROJECT ID/LOCATION: [illegible] MA

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. DRINKING WATER	
6. WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	VOCs 8260	TPH Mod 8100	13 Pr. Poll. Metals	PCBs 8080	SPECIAL INSTRUCTIONS/ COMMENTS
1	WC SB1	soil	8oz	G	1	11/19/97	1100	none		X	X		
2	WC SB1	soil	4oz	G	1	11/19/97	1100	none	X				
3	WC SB2	soil	4oz 8oz	G	2	11/19/97	1020	none	X	X			
4	WC SB3	soil	4oz 8oz	G	2	11/19/97	1030	none	X	X			
5	WC-SB4A	soil	8oz	G	1	11/19/97	[illegible]	none				X	
6	WC SB4B	soil	8oz	G	1	11/19/97	[illegible]	none				X	
7	WC-SB5A	soil	8oz	G	1	11/19/97	1025	none				X	
8	WC SB5B	soil	8oz	G	1	11/19/97	1030	none				X	
9	WC-SB6A	soil	8oz	G	1	11/19/97	1045	none				X	
10	WC SB6B	soil	8oz	G	1	11/19/97	1110	none				X	
11	WC SB7A	soil	8oz	G	1	11/19/97	[illegible]	none				X	
12	WC-SB7B	soil	8oz	G	1	11/19/97	[illegible]	none				X	
13	WC SB8A	soil	8oz	G	1	11/19/97	1145	none				X	

SAMPLED BY: E. Hastings
DATE: - -
TIME: - -

QUOTATION #:

RELINQUISHED BY: [signature]
DATE: 11 - 19 - 97
TIME: 1445 -

RECEIVED BY: [signature]
DATE: 11 - 20 - 97
TIME: 10 - 20 -

RELINQUISHED BY:
DATE: - -
TIME: - -

RECEIVED FOR LAB BY:
DATE: - -
TIME: - -

METHOD OF SHIPMENT
FEDEX

COOLER TEMPERATURE

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in these samples other than those listed above?
Yes ____ No ✓ If Yes, 1st Known ____

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

2 of 2

CHAIN OF CUSTODY RECORD

WORK ORDER #: 97 - 11 - 392
DUE DATE: 12 - 2 - 97

COMPANY: Woodward Clyde
ADDRESS: One Cranberry Hill
Lexington MA 02173
PHONE #: (781) 863-0660 FAX #: (781) 863-0607
P.O. #:
PROJECT MANAGER: Marc Houlday
PROJECT ID/LOCATION: [illegible]

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. DRINKING WATER	
6. WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

ANALYSES

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	PCBs 8080	SPECIAL INSTRUCTIONS/ COMMENTS
14	WC-SB8B	Soil	[illegible]	G	1	11/19/97	1100	none	X	
15	WC-SB9A	Soil	[illegible]	G	1	11/19/97	1217	none	X	
16	WC-SB9B	Soil	[illegible]	G	1	11/19/97	12[illegible]	none	X	
17	WC-SB10A	Soil	"	G	1	11/19/97	1235	none	X	
18	WC-SB10B	Soil	"	G	1	11/19/97	12[illegible]	none	X	
19	WC-SB11A	Soil	"	G	1	11/19/97	12[illegible]	none	X	
20	WC-SB11B	Soil	"	G	1	11/19/97	12[illegible]	none	X	

SAMPLED BY: E. Hastings	DATE: - - TIME: - -	QUOTATION #:	
RELINQUISHED BY: Andrea Wedin	DATE: 11 - 19 - 97 TIME: 1445	RECEIVED BY: [illegible]	DATE: 11 - 20 - 97 TIME: 10 - 20 -
RELINQUISHED BY:	DATE: - - TIME: - -	RECEIVED FOR LAB BY:	DATE: - - TIME: - -
METHOD OF SHIPMENT: FedEx		COOLER TEMPERATURE	

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in these samples other than those listed above?
Yes No If Yes, list:

Received: 11/21/97 12/03/97 14:31:14

REPORT TO: WOODWARD - CLYDE CONSULTANTS
ONE CRANBERRY HILL
LEXINGTON, MA. 02173
617-863-0667 FAX: 863-0807
ATTEN MARK HOULDAY

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
CERTIFIED BY
ATTEN PAUL LEZBERG
PHONE (617)275-3330 CONTACT JOHNM

CLIENT WOODWARD SAMPLES 23
COMPANY WOODWARD - CLYDE CONSULTANTS
FACILITY ONE CRANBERRY HILL
LEXINGTON, MA. 02173

MA CERT # M-MA064: TRACE METALS, SULFATE, CYANIDE, RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST., NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, NC DNR286, SC 88002, NH 204091-C.

WORK ID EPRI/LENOX
TAKEN 11/19/97 AND 11/20/97
TRANS
TYPE SOIL
P.O. #
INVOICE under separate cover

VERIFIED BY:
CERT # M-MA064

SAMPLE IDENTIFICATION	
01	WC-SS1
02	WC-SS2
03	WC-SS3
04	WC-SS4
05	WC-SS5
06	WC-SS6
07	WC-SS7
08	WC-SS8
09	WC-SS9
10	WC-SS10
11	WC-SS11
12	WC-SS12
13	WC-SS13
14	WC-SS14
15	WC-SS15
16	WC-SS16
17	WC-SS17
18	WC-SS18
19	WC-SB12
20	WC-SB13
21	WC-SB14
22	WC-SB15
23	WC-SD1

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
EPETS	EXTRACTION GC PET SOIL
GC PET	PETROLEUM SCAN BY GC
MEX HG	METALS, EXT. FOR MERCURY
MEX TS	METALS, TOTAL EXT., SOIL
PCB S	PCB - SW846-8080
PP13	METALS, 13 PRI.POLL.

SAMPLE ID WC-SS1 FRACTION 01A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/20/97 09:35:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	1320 mg/Kg
Total Petro. Hydrocarbons	1320 mg/Kg

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments C18-C32

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS1 FRACTION 01A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 09:35:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/02/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS2 FRACTION 02A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 09:40:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/02/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS3 FRACTION 03A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 10:20:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/02/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS4 FRACTION 04A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/20/97 10:25:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-SS4 FRACTION 04A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 10:25:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/02/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS5 FRACTION 05A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/20/97 10:40:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	4190 mg/Kg
Total Petro. Hydrocarbons	4190 mg/Kg

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments C18-C32

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS5 FRACTION 05A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 10:40:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/02/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS6 FRACTION 06A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/20/97 10:50:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	12400 mg/Kg
Total Petro. Hydrocarbons	12400 mg/Kg

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments C18-C32

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS6 FRACTION 06A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 10:50:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/02/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS7 FRACTION 07A TEST CODE PCB S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 11:00:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS8 FRACTION 08A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 11:15:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS9 FRACTION 09A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 11:45:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS10 FRACTION 10A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 11:50:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS11 FRACTION 11A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 12:00:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS12 FRACTION 12A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 12:05:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	1.2	1.0	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/26/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP1
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS13 FRACTION 13A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 12:10:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS14 FRACTION 14A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 12:20:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	0.70	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS15 FRACTION 15A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 12:25:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	0.70	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS16 FRACTION 16A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 12:35:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SS17 FRACTION 17A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 13:05:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SS18 FRACTION 18A TEST CODE PCB_S NAME PCB - SW846-8080
Date & Time Collected 11/20/97 13:10:00 Category SOIL

PCB in SOIL

CAS NUM.	RESULT	LIMIT	UNITS	ANALYTE
12674-11-2	ND	0.50	mg/Kg	Aroclor 1016
11104-28-2	ND	0.50	mg/Kg	Aroclor 1221
11141-16-5	ND	0.50	mg/Kg	Aroclor 1232
53469-21-9	ND	0.50	mg/Kg	Aroclor 1242
12672-29-6	ND	0.50	mg/Kg	Aroclor 1248
11097-69-1	ND	0.50	mg/Kg	Aroclor 1254
11096-82-5	ND	0.50	mg/Kg	Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97
DATE RUN: 12/03/97
ANALYST: CK
INSTRUMENT: HP2
DIL. FACTOR: 1

ND = Not detected at detection limit

SAMPLE ID WC-SB12 FRACTION 19A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/19/97 14:20:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 12/02/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SB12 FRACTION 19A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/19/97 14:20:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	88.3 mg/Kg
Total Petro. Hydrocarbons	88.3 mg/Kg

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments C30-C32

SAMPLE ID WC-SB13 FRACTION 20A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/19/97 15:00:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 12/02/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SB13 FRACTION 20A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/19/97 15:00:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-SB14 FRACTION 21A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/19/97 15:30:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 12/02/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SB14 FRACTION 21A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/19/97 15:30:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-SB15 FRACTION 22A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/20/97 10:35:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 12/02/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 1
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SB15 FRACTION 22A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/20/97 10:35:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/02/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments _____

Received: 11/21/97 Results by Sample

SAMPLE ID WC-SB15 FRACTION 22A TEST CODE PP13 NAME METALS,13 PRI.POLL.
Date & Time Collected 11/20/97 10:35:00 Category SOIL

13 PRIORITY POLLUTANT METALS

	RESULT	LIMIT
Silver	ND	0.34
Arsenic	3.18	0.34
Beryllium	ND	0.34
Cadmium	ND	0.34
Chromium	5.80	0.34
Copper	13.1	0.34
Nickel	10.6	0.34
Lead	5.76	0.34
Antimony	0.652	0.34
Selenium	ND	0.34
Thallium	ND	0.61
Zinc	51.1	0.34
Mercury	ND	0.116

Notes and Definitions for this Report:

EXTRACTED 11/26/97
DATE RUN 12/01/97
ANALYST VR
INSTRUMENT ICP
DIL. FACTOR 1
UNITS mg/Kg

ND = Not detected at detection limit

SAMPLE ID WC-SD1 FRACTION 23A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 11/20/97 08:30:00 Category SOIL

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	50	o-Xylene	195	25
Bromomethane	ND	25	m+p-Xylene	204	25
Vinyl Chloride	ND	10	1,2-Dichlorobenzene	ND	25
Chloroethane	ND	50	1,3-Dichlorobenzene	ND	25
Methylene Chloride	ND	50	1,4-Dichlorobenzene	ND	25
1,1-Dichloroethene	ND	25	Naphthalene	174	50
Trichlorofluoromethane	ND	50	n-Propylbenzene	93.9	50
1,1-Dichloroethane	ND	25	Bromobenzene	ND	25
Trans-1,2-Dichloroethene	ND	25	Bromchloromethane	ND	25
Chloroform	ND	25	n-Butylbenzene	ND	50
1,2-Dichloroethane	ND	25	sec-Butylbenzene	100	50
1,1,1-Trichloroethane	ND	25	tert-Butylbenzene	ND	50
Carbon Tetrachloride	ND	25	2-Chlorotoluene	ND	25
Bromodichloromethane	ND	25	4-Chlorotoluene	ND	25
1,2-Dichloropropane	ND	25	1,2-Dibromo-3-chloropropane	ND	25
Trichloroethene	ND	25	1,2-Dibromomethane	ND	25
Dibromochloromethane	ND	25	Dibromomethane	ND	25
1,1,2-Trichloroethane	ND	25	Dichlorodifluoromethane	ND	50
Benzene	ND	25	cis-1,2-Dichloroethene	ND	25
1,1-Dichloropropene	ND	25	1,3-Dichloropropane	ND	25
2-2-Dichlorpropane	ND	25	1,1,1,2-Tetrachloroethane	ND	25
Bromoform	ND	25	1,2,3-Trichlorobenzene	ND	25
Hexachlorobutadiene	ND	50	1,1,2,2-Tetrachloroethane	ND	25
Isopropylbenzene	48.4	50	1,2,4-Trichlorobenzene	ND	25
Tetrachloroethene	ND	25	1,2,3-Trichloropropane	ND	25
Methyl tertiary butyl ether	ND	25	1,2,4-Trimethylbenzene	859	50
Toluene	ND	25	1,3,5-Trimethylbenzene	691	50
Chlorobenzene	ND	25	cis-1,3-Dichloropropene	ND	25
Ethyl Benzene	55.9	25	trans-1,3-Dichloropropene	ND	25
p-Isopropyltoluene	181	50	Styrene	ND	25

Notes and definitions for this report:

DATE RUN 12/02/97
ANALYST XL
INSTRUMENT B
DIL. FACTOR 5
UNITS ug/Kg
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-SD1 FRACTION 23A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 11/20/97 08:30:00 Category SOIL

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	53000 mg/Kg
Total Petro. Hydrocarbons	53000 mg/Kg

DETECTION LIMIT

Water Matrix	*
Solid Matrix	10.0 mg/Kg

Notes and Definitions for this Report:

EXTRACTED 12/01/97
DATE RUN 12/03/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments C18-C32

SAMPLE ID WC-SD1 FRACTION 23A TEST CODE PP13 NAME METALS,13 PRI.POLL.
Date & Time Collected 11/20/97 08:30:00 Category SOIL

13 PRIORITY POLLUTANT METALS

	RESULT	LIMIT
Silver	ND	0.34
Arsenic	6.48	0.34
Beryllium	ND	0.34
Cadmium	ND	0.34
Chromium	10.4	0.34
Copper	38.8	0.34
Nickel	12.1	0.34
Lead	38.1	0.34
Antimony	1.04	0.34
Selenium	ND	0.34
Thallium	ND	0.61
Zinc	149	0.34
Mercury	0.123	0.116

Notes and Definitions for this Report:

EXTRACTED 11/26/97
DATE RUN 12/01/97
ANALYST VR
INSTRUMENT ICP
DIL. FACTOR 1
UNITS mg/Kg

ND = Not detected at detection limit

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE EPETS NAME EXTRACTION GC PET SOIL

EPA METHOD: 3540: Soxhlet Extraction.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TEST CODE GC PET NAME PETROLEUM SCAN BY GC

EPA Method: 8100 Modified

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical
Methods. EPA SW-846 (Third Edition) 1986.
Office of Solid Waste, USEPA.

This method utilizes analytical procedures consistent with EPA Method 8100. The identity of petroleum contaminants is subject to comparison with commercially supplied standards.

Alternate Method:ASTM Method D 3328

TEST CODE MEX HG NAME METALS, EXT. FOR MERCURY

REFERENCE:
EPA METHOD 245.1 Mercury. Methods for Chemical Analysis of Water and Wastes. EPA 600/4-79-020.

EPA METHOD 7470.Mercury in Liquid Waste.
or
EPA METHOD 7471.Mercury in Solid or Semisolid Waste.
Test Methods for Evaluating Solid Waste:Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA>

TEST CODE MEX TS NAME METALS, TOTAL EXT., SOIL

REFERENCE:
EPA METHOD 3050: Acid Digestion of Sediments, Sludges and Soils. Test Methods for Evaluating Solid Waste Physical/Chemical Methods. SW 846, 3rd Edition.

Analytical Method for ICP:6010A

TEST CODE PCB_S NAME PCB - SW846-8080

EPA Method: 8080

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 17-11-422

DUE DATE : 12-4-97

1 OF 2

COMPANY: Woodward Clyde
ADDRESS: One Cranberry Hill
Lexington MA 02173
PHONE #: (781) 863-0667 FAX #: (781) 863 0807
P.O. #:
PROJECT MANAGER: Mark Houlday
PROJECT ID/LOCATION: EPEL / Lenox

SAMPLE TYPE	CONTAINER TYPE
1. WASTEWATER	P - PLASTIC
2. SOIL	G - GLASS
3. SLUDGE	V - VOA
4. OIL	
5. DRINKING WATER	
6. WATER (GW/MW/SW)	
7. OTHER (SPECIFY	

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: PCBs 8080	ANALYSES: TPH Modified 8100	SPECIAL INSTRUCTIONS/ COMMENT
1	WC-SS1	Soil	½L mason	G	1	11/20/97	0935	none	X	X	
2	WC-SS2	Soil	½L	G	1	11/20/97	0940	none	X		
3	WC-SS3	Soil	½L	G	1	11/20/97	1020	none	X		
4	WC-SS4	Soil	½L	G	1	11/20/97	1025	none	X	X	
5	WC-SS5	Soil	½L	G	1	11/20/97	1040	none	X	X	
6	WC-SS6	Soil	½L	G	1	11/20/97	1050	none	X	X	
7	WC-SS7	Soil	½L	G	1	11/20/97	1100	none	X		
8	WC-SS8	Soil	½L	G	1	11/20/97	1115	none	X		
9	WC-SS9	Soil	½L	G	1	11/20/97	1145	none	X		
10	WC-SS10	Soil	½L	G	1	11/20/97	1150	none	X		
11	WC-SS11	Soil	½L	G	1	11/20/97	1200	none	X		
12	WC-SS12	Soil	½L	G	1	11/20/97	1205	none	X		
13	WC-SS13	Soil	½L	G	1	11/20/97	1210	none	X		

SAMPLED BY: E. Hoshaas
DATE: - -
TIME: - -

QUOTATION #:

RELINQUISHED BY:
DATE: 11 - 21 - 97
TIME: 1641

RECEIVED BY:
DATE: 11 - 21 - 97
TIME: 18 - 00 -

RELINQUISHED BY:
DATE: - -
TIME: - -

RECEIVED FOR LAB BY:
DATE: - -
TIME: - -

METHOD OF SHIPMENT

COOLER TEMPERATURE

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in these samples other than those listed above?

Yes No If Yes, list Known

TOXIKON
15 Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

2 of 2

WORK ORDER #: 12-11-4xx

DUE DATE : 12-4-97

COMPANY: Woodward Clyde
ADDRESS: One Cranberry Hill
Lexington MA 02173
PHONE #: (781) 863 0667 FAX #: (781) 863-0807
P.O. #:
PROJECT MANAGER: Mark Holiday
PROJECT ID/LOCATION: EDR/ Lenox

SAMPLE TYPE: 1. WASTEWATER; 2. SOIL; 3. SLUDGE; 4. OIL; 5. DRINKING WATER; 6. WATER (GW/MW/SW); 7. OTHER (SPECIFY)
CONTAINER TYPE: P - PLASTIC; G - GLASS; V - VOA

TOXIKON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	ANALYSES: PCBs 6080	TPH Modified 8100	VOCs 8260	13 Priority Pollutants Metals	SPECIAL INSTRUCTIONS/ COMMENTS
14	WC-SS14	Soil	8oz Mason	G	1	11/20/97	1220	none	X				
15	WC-SS15	Soil	1/2L	G	1	11/20/97	1225	none	X				
16	WC-SS16	Soil	1/2L	G	1	11/20/97	1235	none	X				
17	WC-SS17	Soil	1/2L	G	1	11/20/97	1305	none	X				
18	WC-SS18	Soil	1/2L	G	1	11/20/97	1310	none	X				
19	WC-SB12	Soil	1/2L VOA	G	2	11/19/97	1420	none		X	X		
20	WC-SB13	Soil	1/2L VOA	G	2	11/19/97	1500	none		X	X		
21	WC-SB14	Soil	1/2L VOA	G	2	11/19/97	1530	none		X	X		
22	WC-SB15	Soil	1/2L	G	2	11/20/97	1035	none		X	X	X	
23	WC-SD1	Sediment	1/2L	G	2	11/20/97	0830	none		X	X	X	

SAMPLED BY: E. Hastings	DATE: - -	QUOTATION #:	
RELINQUISHED BY:	DATE: 11 - 20 - 97	RECEIVED BY:	DATE: 11 - 21 - 97
	TIME: 1447 -		TIME: 18 - 00 - —
RELINQUISHED BY:	DATE: - -	RECEIVED FOR LAB BY:	DATE: - -
	TIME: - -		TIME: - -
METHOD OF SHIPMENT		COOLER TEMPERATURE	

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE

Sample disposal information

Are there any other known or suspected contaminants in these samples other than those listed above?

Yes No If Yes, 1st Known

 TOXIKON CORP. REPORT Work Order # 97-12-229

Received: 12/10/97 12/23/97 11:17:31

REPORT TO: WOODWARD - CLYDE CONSULTANTS
ONE CRANBERRY HILL
LEXINGTON, MA. 02173
617-863-0667 FAX: 863-0807
ATTEN MARK HOULDAY

PREPARED BY: TOXIKON CORPORATION
15 WIGGINS AVE
BEDFORD, MA 01730
CERTIFIED BY
ATTEN PAUL LEZBERG
PHONE (617)275-3330 CONTACT JOHNM

CLIENT WOODWARD SAMPLES 11
COMPANY WOODWARD - CLYDE CONSULTANTS
FACILITY ONE CRANBERRY HILL
LEXINGTON, MA. 02173

MA CERT # M-MA064: TRACE METALS, SULFATE,CYANIDE,RES. FREE CHLORINE, Ca, TOTAL ALK., TDS, pH, THMs, VOC, PEST.,NUTRIENTS. DEMAND. O&G, PHENOLICS, PCBs . CT DHS #PH-0563, NY #10778 FL HRS E87143, NJ DEP 59538, WCDNR286, SC 88002, NH 204091-C.

WORK ID LENOX MA
TAKEN 12/10/97
TRANS
TYPE WATER
P.O. #
INVOICE under separate cover

VERIFIED BY:
CERT # M-MA064

SAMPLE IDENTIFICATION

01 WC-MW1
02 WC-MW2
03 WC-MW3
04 MW1
05 MW2
06 MW3
07 MW4
08 MW5
09 MW7
10 MW8
11 MW9

TEST CODES and NAMES used on this workorder

8260	PURGEABLE ORGANICS VOA
EPETW	EXTRACTION GC PET WATER
GC PET	PETROLEUM SCAN BY GC
MEX DW	METALS, DIS. EXT., WATER
MEX HG	METALS, EXT. FOR MERCURY
PP13	METALS,13 PRI.POLL.

SAMPLE ID WC-MW1 FRACTION D1A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 09:00:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-MW1 FRACTION 01A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 09:00:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/19/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-MW1 FRACTION 01A TEST CODE PP13 NAME METALS,13 PRI.POLL.
Date & Time Collected 12/10/97 09:00:00 Category WATER

13 PRIORITY POLLUTANT METALS

	RESULT	LIMIT
Silver	ND	0.007
Arsenic	ND	0.100
Beryllium	ND	0.004
Cadmium	ND	0.005
Chromium	ND	0.010
Copper	ND	0.010
Nickel	ND	0.020
Lead	ND	0.050
Antimony	ND	0.150
Selenium	ND	0.250
Thallium	ND	0.300
Zinc	ND	0.020
Mercury	ND	0.0005

Notes and Definitions for this Report:

EXTRACTED 12/15/97
DATE RUN 12/16/97
ANALYST VR
INSTRUMENT ICP
DIL. FACTOR 1
UNITS mg/L

ND = Not detected at detection limit

SAMPLE ID MC-MW2 FRACTION 02A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 16:15:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	6.2	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	5.5	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID WC-MW2 FRACTION 02A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 16:15:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID WC-MW3 FRACTION 03A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 16:00:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	21.0	5.0
Bromomethane	ND	5.0	m+p-Xylene	12.3	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	5.5	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	5.6	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	24.3	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	8.9	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	6.5	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MC-MW3 FRACTION 03A TEST CODE GC_PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 16:00:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW1 FRACTION 04A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 16:50:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW1 FRACTION 04A TEST CODE GC_PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 16:50:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW2 FRACTION 05A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 15:20:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW2 FRACTION 05A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 15:20:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW3 FRACTION 06A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 14:40:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	9.0	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW3 FRACTION 06A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 14:40:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW4 FRACTION 07A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 13:15:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW4 FRACTION 07A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 13:15:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW5 FRACTION 08A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 11:10:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:

DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW5 FRACTION 08A TEST CODE GC_PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 11:10:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW7 FRACTION 09A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 11:52:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW7 FRACTION 09A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 11:52:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW8 FRACTION 10A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 12:28:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW8 FRACTION 10A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 12:28:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

SAMPLE ID MW9 FRACTION 11A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA
Date & Time Collected 12/10/97 14:00:00 Category WATER

EPA 8260 PURGEABLE ORGANICS

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	5.0	Naphthalene	ND	10
Trichlorofluoromethane	ND	10	n-Propylbenzene	ND	10
1,1-Dichloroethane	ND	5.0	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	ND	5.0
Chloroform	ND	5.0	n-Butylbenzene	ND	10
1,2-Dichloroethane	ND	5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	ND	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	ND	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	ND	5.0	1,2,3-Trichlorobenzene	ND	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	ND	5.0
Isopropylbenzene	ND	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	ND	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	ND	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	ND	5.0	cis-1,3-Dichloropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

Notes and definitions for this report:
DATE RUN 12/18/97
ANALYST CMD
INSTRUMENT G
DIL. FACTOR 1
UNITS ug/L
COMMENTS

ND = Not detected at detection limit

SAMPLE ID MW9 FRACTION 11A TEST CODE GC PET NAME PETROLEUM SCAN BY GC
Date & Time Collected 12/10/97 14:00:00 Category WATER

TPH by Modified EPA Method 8100

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND

DETECTION LIMIT

Water Matrix	1.0 mg/L
Solid Matrix	*

Notes and Definitions for this Report:

EXTRACTED 12/13/97
DATE RUN 12/20/97
ANALYST PL
INSTRUMENT HP 5

N.O.S. = Not Otherwise Specified
ND = Compound(s) not detected above detection limit

Comments

TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

EPA METHOD: 8260: Gas Chromatography/Mass Spectrometry for Volatile Organics.

Reference: Test Methods for Evaluating Solid Wastes: Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA.

RESULTS ARE REPORTED ON A DRY WEIGHT BASIS.

TEST CODE EPETW NAME EXTRACTION GC PET WATER

Method not available.

TEST CODE GC PET NAME PETROLEUM SCAN BY GC

EPA Method: 8100 Modified

Reference: Test Methods for Evaluating Solid Waste: Physical/Chemical
Methods. EPA SW-846 (Third Edition) 1986.
Office of Solid Waste, USEPA.

This method utilizes analytical procedures consistent with EPA
Method 8100. The identity of petroleum contaminants is subject to
comparison with commercially supplied standards.

Alternate Method:ASTM Method D 3328

TEST CODE MEX DW NAME METALS, DIS. EXT., WATER

REFERENCE:
EPA METHOD 3005. Acid Digestion of Waters for Total Recoverable or
Dissolved Metals for Analysis by Flame Atomic Absorption Spectroscopy or
Inductively Coupled Plasma Spectroscopy. Test Methods for Evaluating
Physical/Chemical Methods. SW 846, 3rd Edition.

TEST CODE MEX HG NAME METALS, EXT. FOR MERCURY

REFERENCE:
EPA METHOD 245.1 Mercury. Methods for Chemical Analysis of Water and
Wastes. EPA 600/4-79-020.

EPA METHOD 7470.Mercury in Liquid Waste.
or
EPA METHOD 7471.Mercury in Solid or Semisolid Waste.
Test Methods for Evaluating Solid Waste:Physical/Chemical Methods.
EPA SW-846 (Third Edition) 1986. Office of Solid Waste, USEPA>

TOXIKON
Wiggins Ave., Bedford, MA 01730
Telephone: (781) 275-3330
Fax: (781) 275-7478

CHAIN OF CUSTODY RECORD

WORK ORDER #: 97-12-[illegible]
DUE DATE : 12-[illegible]-97

OMPANY: Woodward Clyde
ODRESS: One Cranberry Hill
Lexington MA 02173
HONE #: (781) 863-6667 FAX #: (781) 863-1807
O. #:
ROJECT MANAGER: Mark Houlday
ROJECT ID/LOCATION: Lenox, MA

SAMPLE TYPE: 1. WASTEWATER 2. SOIL 3. SLUDGE 4. OIL 5. DRINKING WATER 6. WATER (GW/MW/SW) 7. OTHER (SPECIFY

CONTAINER TYPE: P - PLASTIC G - GLASS V - VOA

ANALYSES: VOCs 8260 | TPH Mod Fed 8100 | [illegible]

KON #	SAMPLE IDENTIFICATION	SAMPLE TYPE	CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	SAMPLING DATE	SAMPLING TIME	PRESERVATIVE	VOCs 8260	TPH Mod Fed 8100	[illegible]										SPECIAL INSTRUCTIONS/ COMMENTS
1	WC-MW1	6	40mL 1L	V/G/P	4	12/10/97	0900	HCL/[illegible]	X	X	X										
2	WC-MW2	6	40mL 1L	V/G	3	12/10/97	1615	HCL	X	X											
3	WC-MW3	6	40mL 1L	V/G	3	12/10/97	1600	HCL	X	X											
4	MW1	6	40mL 1L	V/G	3	12/10/97	1650	HCL	X	X											
5	MW2	6	40mL 1L	V/G	3	12/10/97	1520	HCL	X	X											
6	MW3	6	40mL 1L	V/G	3	12/10/97	1440	HCL	X	X											
7	MW4	6	40mL 1L	V/G	3	12/10/97	1315	HCL	X	X											
8	MW5	6	40mL 1L	V/G	3	12/10/97	1110	HCL	X	X											
9	MW7	6	40mL 1L	V/G	3	12/10/97	1152	HCL	X	X											
10	MW8	6	40mL 1L	V/G	3	12/10/97	1228	HCL	X	X											
11	MW9	6	40mL 1L	V/G	3	12/10/97	1400	HCL	✓	X											

MPLED BY: Nodler / G. Tsoupidis DATE: 12-11-97 TIME: 1005

QUOTATION #:

INQUISHED BY: [illegible] DATE: - - TIME: - -
RECEIVED BY: [illegible] DATE: 12-11-97 TIME: 13-[illegible]

INQUISHED BY: DATE: - - TIME: - -
RECEIVED FOR LAB BY: DATE: - - TIME: - -

THOD OF SHIPMENT
COOLER TEMPERATURE

☐ RUSH ..... BUSINESS DAY TURN AROUND
☒ ROUTINE

Sample disposal information
Are there any other known or suspected contaminants in these samples other than those listed above?
Yes No [illegible]