

PHASE II SITE INVESTIGATION REPORT

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

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Section One	Intro	ductio	n	1 -1
	1.1		ose	
	1.2	_	ground	
	1.3		e II Scope of Work	
Section Two	Site	Descri	otion	2-1
	2.1		tion and Topography	
	2.2		mprovements	
	2.3		onmental Settings	
			Land Use and Natural Resources	
	2.4		Geology and Hydrogeology	
Section Three	Phas	se II Inv	estigations	3-1
	3.1	Ident	fication of Soil and Groundwater	
		Repo	rtable Concentrations	3-1
	3.2		hase II Investigation	
		3.2.1		
		3.2.2	•	
			Equipment Staining - Several Areas of Site	3-2
		3.2.3	Recognized Environmental Condition No. 3 -	
		- 1-10	TCE in Groundwater	3-3
		3.2.4	Recognized Environmental Condition No. 4 -	
		J	Underground Storage Tanks (UST)	3-3
		3.2.5	Recognized Environmental Condition No. 5 -	, ,
		3.2.0	Kerosene Release	3-4
		3.2.6	Recognized Environmental Condition No. 6 -	
		5.2.0	PCBs at Bubble Site along Drainage Ditch	3-5
Section Four	Disc	ussion	and Conclusions	<i>1</i> .1
	4.1		ssion	
	1.1	4.1.1		
			Recognized Environmental Condition No. 2 -	,, -, -1
		1.1.2	Equipment Staining - Several Areas of Site	4-1
		4.1.3	Recognized Environmental Condition No. 3 -	. 7-1
		7.1.5	TCE in Groundwater	4-2
		4.1.4		4-2
		7,1,7	Underground Storage Tanks (UST)	4-2
		4.1.5	Recognized Environmental Condition No. 5 -	. 4-2
		4.1.3	Kerosene Release	4.2
		4.1.6	Recognized Environmental Condition No. 6 -	. 4-2
		4.1.0		12
	4.2	Concl	PCBs at Bubble Site along Drainage Ditchusion	
Section Five				5-1
JELLIUII FIVE		auviis		:) 1

List of Tables

Table 1 Groundwater Monitoring Data and Well Construction Summary

Table 2 Subsurface Soil Analytical Results
Table 3 Groundwater Analytical Results

Table 4 Soil Analytical Results (From Dry Well)

Table 5 Surficial Analytical Results

List of Figures

Figure 1 Site Location Map

Figure 2 Groundwater Elevation Contour Map

Figure 3 Phase II Sampling Locations

List of Appendices

Appendix A Subsurface Investigation Procedures

Appendix B Boring Logs

Appendix C Well Construction Reports
Appendix D Analytical Laboratory Reports



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 are thresholds that have been Reportable Concentrations. 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 autotransformer). 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 autotransformer). 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

300.47	0.0	2	3	2							
950 47	9 65	5-15	941 42	18 70	960.12	960.31	956.80	7,462.9595	4,699.5808	11/20/97	WCMW-3
951.65	8.22	3-13	941.85	18.02	959.87	959.89	955.50	7,528.0581		11/20/97	WCMW-2
953.94	14.77	9-19	948.53	20.18	968.71	969.71	967.20	7,722.6307		11/20/97	WCMW-1
952.25	8.45	5-15	945.70	15.00	2.096	960.83	958.70	7,169.8436		2/5/85	MW-W
952.67	13.07	5-15	950.22	15.52	965.74	966.20	962.20	7,230.1836	5,337.5479	2/5/85	MW-8
954.21	15.97	10-20	949.54	20.64	970.18	970.20	968.10	7,467.1504	5,248.2621	2/4/85	MW-7
A A	₹ Z	3.2-4.7	Ϋ́Z	AN A	954.3	Υ Υ	952.00	6,521.3660		10/15/84	9-WW
953.48	8.26	5-15	946.03	15.71	961.74	961.82	960.00	6,463.8376		2/7/85	MW-5
951.32	10.61	5-15	946.26	15.67	961.93	962.03	960.30	7,092.5738	5,248.5227	2/2/85	MW-4
951.09	6.83	5-15	941.52	16.40	957.92	958.22	956.50	7,161.0461		2/6/85	MW-3
950.12	6.11	5-15	940.59	15.64	956.23	956.43	954.00	7,310.8342	4,689.1836	2/6/85	MW-2
972.40	12.62	25-35	950.22	34.80	985.02	985.02	982.40	8,197.1932	4,974.4851	2/6/85	MW-1
				PVC, ft.							
12/10/97	PVC, ft.	bgs.	well	from top of							
elevation, ft.	Water from	Interval, ft	pottom of	elevation, ft. Bottom of Well	elevation, ft.	æ	elevation, ft.	coordinate	coordinate	installed	
Groundwater	Depth to	Screened	Elevation of	Depth to	Top of PVC	Top of Casing Top of PVC	Grade	East UTM	North CTM	Oate	Mell

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

Boring	WC-SB1	WC-SB2	WC-SB3	WC-SB12	WC-SB13	WC-SB14	WC-SB15	Reportable	table
Date Sampled	11/18/97	11/18/97	11/18/97	11/19/97	11/19/97	11/19/97	11/20/97	Concentrations	trations
Sample Depth	10.5'-11.5'	2.5'-3.5'	4.5'-5.5'	10'-11'	9'-10'	9'-10'	3.5'-4'	RCS-1	RCS-1
ANALYTE	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Total Petroleum Hydrocarbons (TPH), Method 8100	QN	QN	QN	88.3 A	QN	QN	QN	200	200
Volatile Organics, Method 8260	QN	QN	QN	QN	Ę	QN	2	N/A	ĕ,N
Priority Pollutant Metals, Method 6010		N	N FN	Ľ	Ā	Z			
arsenic	3.410						3.18	30	30
beryllium	0.293						QN	0.7	0.8
chromium	5.960						5.80	1000	2500
cobber	14.000						13.10	1000	1000
nickel	11.500						10.60	300	700
lead	11.400						5.76	300	009
antimony	0.681						0.65	10	40
zinc	43.700						51.10	2500	2500
mercury	0.176						Q	10	09

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 Lenox, Massachusetts 115 New Lenox Road

Monitoring Well No. WCMW-1 WCMW-2 WCMW-3	WCMW-1	WCMW-2	WCMW-3	MW-1	MW-2	MW-3	MW-4	MW-5	MW-7	MW-8	WW-9	Reportable	table
Date Sampled 12/10/97 12/10/97 12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	12/10/97	Concentrations	rations
												RCGW-1	RCGW-2
ANALYTE	l/gm	l/gm	l/gm		l/gm	l/gm	l/gm	l/gm	/bu	l/gm	l/bm	I/bm	ma/l
Volatile Organics													
benzene	2	Q	0.0056	Q	Q	Q		2	Q	2	Q	0.002	2.0
ethyl benzene	2	Q	0.0065	2	S	9		Q	S	Q	2	0.7	4
o-xylene	2	QN	0.0210	Q	Q	2		2	2	S	Q	9	9
m+p-xylene	2	Q		Q	9	S		S	2	Q	Q	9	9
methyl tertiary butyl ether	ᄝ	2	S	Q	S	0.0000	Q	Q	QN	Q	Q	0.7	20
napthalene	9	0.0062	0.0	Q	Q	2	Q	Q	2	QV	2	0.05	9
1,2,4 -trimethylo benzene	2	0.0055	0.0243	Q	2	S	2	QN	2	S	Q	10	100
1,3,5 -trimethylo benzene	QN	N O	0.0089	QN	QN	Q	Q	2	2	Q	2	0.1	_
Total Petroleum Hydrocarbons (TPH)	ON	DN	QN	QN	QN	Q	9	2	2	Q	2	0.2	-
Priority Pollutant Metals	QN	LN	NT	NT	NT	TN	Ę	Σ	Ę	N	F	A/A	NAN

Total petroleum hydrocarbons (TPH) analyzed by EPA Modified Method 8100, mg/l. Volatile organic compounds analyzed by EPA Method 8260, 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 Lenox, Massachusetts 115 New Lenox Road

			Repo	rtable
	Sample Number	WC-SD1	Concei	ntration
	Sample Depth	0-6"		
	Date Sampled	11/19/97	RCS-1	RCS-2
ANALYTE	Method	(mg/kg)	(mg/kg)	(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

115 New Lenox Road Lenox, Massachusetts

Bold - Analytical result exceeds the RCS-1 threshold for TPH.

Bold and italics - Analytical result exceeds the RCS-1 and RCS-2 thresholds for TPH.

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

A - Identified as C18 - C32 chain hydrocarbon.

B - Identified as Aroclor 1248

C - Identified as Aroclor 1260

ND - Not detected

NT - Not tested

Boring	Sample Number	Date Sampled	Sample Depth	PCBs by Method 8080	i '	rtable ntration
				mg/kg	RCS-1	RCS-2
					(mg/kg)	(mg/kg)
WC-SB4	Á	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
1	В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB5	Α	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB6	Α	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB7	Α	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
[В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB8	Α	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB9	Α	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB10	Α	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0
WC-SB11	Α	11/19/97	2.5-3.5 ft.	ND	2.0	2.0
	В	11/19/97	4.5-5.5 ft.	ND	2.0	2.0

ND - Not detected

115 New Lenox Road Lenox, Massachusetts

FIGURES

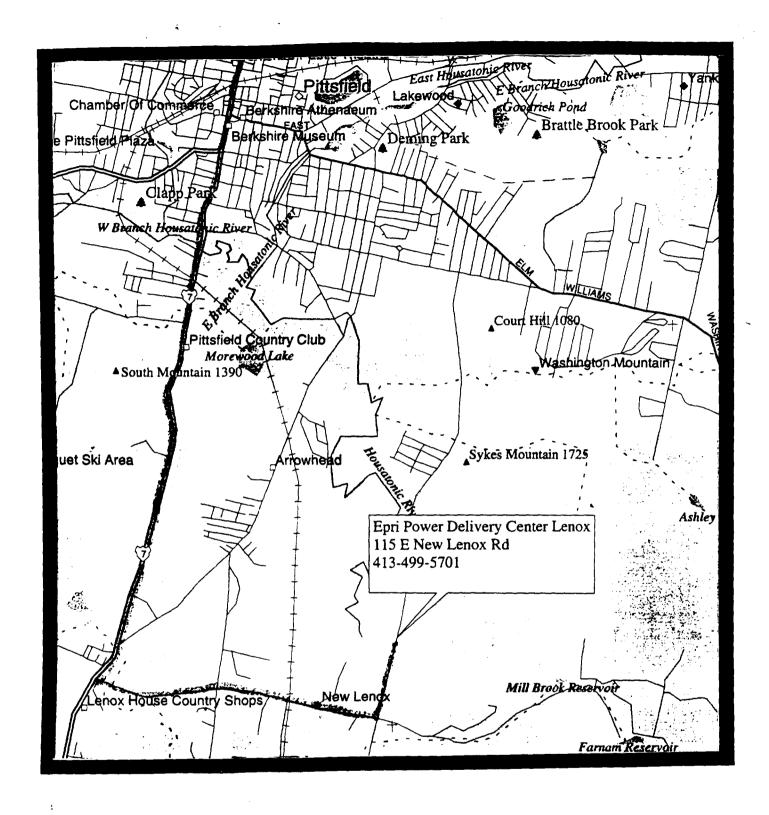


Figure 1
SITE LOCATION MAP

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, precleaned 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 onsite 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



ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB8

SHEET 1 of 1

													SHEET 1 of 1
PROJECT NAME/NUMBER EPRI - HVTRC	7E	15523					DATE ST	TARTED		0.40.7		DATE CO	OMPLETED
LOCATION LENOX, MA	_		_							9/97			11/19/97
DRILLING CONTRACTOR Environmental Compliance Services, Inc.		FOREMAI		ick			GHOUN	DELEVAT	NON (F1	MSL)		WATER	DEPTH (FT BGS) Not encountered
DRILLING EQUIPMENT	<u> </u>	<u> </u>	-	ick			COMPLE	TION DE	PTH /FT /	AGS)		BOCKD	EPTH (FT BGS)
Acker Truck Mounted Drill Rig / Hollows	tem	auger						1101100		.0			Not Encountered
TYPE BIT		SIZE AND	TY	PE CORE	BARREL		COMPL	TION ME		Backfil	ı		
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NA		DROP		NA			İ						
CASING HAMMER NA WEIGHT NA	_	DHOP		NA			ENV. SA			-SB8A) (WC-S	SR8R)	
2-inch OD Split Spoons							BORING	LOCATIO	N	Alc	ng forn	ner dra	inage ditch
SAMPLER HAMMER. WEIGHT 140 II	`	DROP	_	30 incl	`		INSPEC	TOR	E. M. I	lasting			
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	Interval		Ž			Penetr.	Γ	' "	<i>-</i> (, ii ()	(PPM)	10.011	100	
DESCRIPTION	1 8	Depth	•	Number	Recov.	Resist	Time	Samole	Ambient		Head	Date	REMARKS
) Decertify from	Samole	(FT BGS)	š		(ft)	BL/6in		Sample	Air	141190	Space	Time	712.07.11.10
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SP-SM - Loose, brown fine - med.]											
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some silt, dry.		_				_					·	1	for PCB's (8080)
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SM - Loose, brown, fine SAND,	L.,	1			[6		Į I	-	[Environmental sample
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ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB9

SHEET 1 ol 1

		_		_										SHEET 1 ol 1
PROJECT NAME/NUMBER EPRI - HVT		Έ	15523					DATE ST	TARTED		0.007		DATE CO	OMPLETED
LOCATION LENOX, MA	·	_		_						11/1				11/19/97
DRILLING CONTRACTOR	. le-r		FOREMAN		iak			IGROUN	DELEVAT	TION (FT	MSL)		WATER	DEPTH (FT BGS)
Environmental Compliance Services DRILLING EQUIPMENT	, Inc.		L	N	ick			COMPL	TION DE	DTU (CT)	905)		BOCKE	Not encountered EPTH (FT BGS)
Acker Truck Mounted Drill Rig / Holk	nw eta	m	aurier					 	HONDE		.0			Not Encountered
TYPE BIT	J. 1 316		SIZE AND	ΤΥ	PE CORE	BARREL		COMPLE	TION ME		.u Backfil	1	L	. vo. Encodinated
Cutter Head CASING		4						SOIL SA	MPLES	DIST		TRIDINU		0 CORE 0
NA NA		_	2522		NA									0
	IA		DROP		NA			ENV. SA			-SB9A) (WC-5	SB9B)	
SAMPLER 2-inch OD Split Spoo	ons -							BORING	LOCATIO	N	Alc	ng forn	ner drai	inage ditch
SAMPLER HAMMER WEIGHT	40 lb.	-	DROP		30 incl			INSPEC	TOR	E. M. F				
		_		ı	1		nples	<u> </u>	מומ) /UNII I	VEID	T A DIA	100	
		Interva		4		San		[ru	O (HNU			103	
DESCRIPTION	- }	흶	Depth	V.	Number	Danni	Penetr. Resist	Time	S15-1-	Ambient	(PPM)	Head	Date	REMARKS
DESCRIPTION		Samole	(FT BGS)	3	Number	Hecov (II)	BL/6in	lme	SAITIPIE	Ambient	i ime	Space	Time	TENTALINO
	$\overline{}$	٦	· 0 -	\vdash	t	- "					_			
Augered 0 - 2 ft.				ı	1									
Augusta o E II.			_											
SP-SM - Loose, brown fine - med.	}	Ĭ	-	}	1		}	'		'			\	
					l									
SAND, some fine gravel, some silt,	}	-	- 1 -		1	}	1	[\
dry		-			[
	- [- [•	ļ	[<u> </u>	ļ						
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			- 2 -		ļ		ļ	<u> </u>					<u> </u>	Į
	1	١			1	1		'					1	
SM - Loose, It. brown, silty- fine	8	993					4							Environmental sample
SAND, dry.				l	1	}							•	for PCB's (8080)
		×	- 3 -	ı	9A	1.4	4	1217	0.7	0.7	1217			WC-SB9A (2.5 - 3.5 ft.)
					l						1	Į		
		▓	-				4				ł			
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	1	١	- 4 -	1	L		4		<u> </u>					1
				l										
SM - Loose, It. brown, silty- fine				١	1		6		ł		}		ţ	Environmental sample
SAND, dry					l									for PCB's (8080)
			. 5 -		9B	1.3	5	1222	0.7	0.7	1222	[WC-SB9B (4.5 - 5.5 ft.)
					l		1		ľ					·
	20000			ĺ			6				1			
	f ^a	~1			1	1	}	1	1		1	1	1	
		l	- 6 -		l	l	7						1	ł
Boring completed at 6.0 ft.	-	-	Ť	H	 		 	 	 	-		 		1
Completed at 0.0 It.				1			1		ł	[1
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WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB10

SHEET 1 of 1

DRILLING EQUIPMENT Acker Truck Mounted Drill Rig / Hollow stem auger Size and Type But Size and Type Core Barret COMPLETION METHOD Dackfill ROCK DEPTH (FT BGS) Not Encou	
DRILLING CONTRACTOR FOREMAN GROUND ELEVATION (FT. MSL) WATER DEPTH (FT.BG. Environmental Compliance Services, Inc. Nick Not en DRILLING EQUIPMENT COMPLETION DEPTH (FT.BGS) ROCK DEPTH (FT.BG. Acker Truck Mounted Drill Rig / Hollow stem auger 6.0 Not Encou	3S)
Environmental Compliance Services, Inc. Nick Not end DRILLING EQUIPMENT COMPLETION DEPTH (FT BGS) ROCK DEPTH (FT BG) Acker Truck Mounted Drill Rig / Hollow stem auger 6.0 Not Encou	
DRILLING EQUIPMENT Acker Truck Mounted Drill Rig / Hollow stem auger SIZE AND TYPE CORE BARREL COMPLETION DEPTH (FT BGS) ROCK DEPTH (FT BG: Not Encou	countered
Acker Truck Mounted Drill Rig / Hollow stern auger 6.0 Not Encou	C)
TYPE BIT SIZE AND TYPE CORE BARREL COMPLETION METHOD DISCHILL	
	MC red
CASING SOIL SAMPLES DIST 2 UNDIST 0 COP	iE 0
NA NA L	
NA	
SAMPLER BORING LOCATION Along former drainage ditch	
SAMPLER HAMMER WEIGHT DROP INSPECTOR E. M. Hastings	
Samples PID (HNU)/ FID READINGS Penetr. (PPM)	
	MARKS
(FT BGS) 3 (ft) BL/5in Air Space Time	
- 0 -	-
Augered 0 - 2 ft.	
	low on HNU
SP-SM - Loose, brown fine - med.	gs recorded.
SAND, some fine gravel,some silt,	
ldry	
. 2 .	
	ental sample
fine SAND, mottled, dry.	(8080)
- 3 - 10A 1.7 4 1235 ° ° WC-SB10	A (2.5-3.5 ft)
5 5	
SM · Loose, It. brown · brown, sitty-	ental sample
fine SAND, mottled, dry.	(8080)
- 5 - 10B 1.5 5 1240 °	B (4.5-5.5 ft)
7 7	
Boring completed at 6.0 ft.	
8	



LOG OF BORING: WC-SB11

SHEET 1 of 1

		EDDL 10/	TDC / 7	,,,	15500					5.75.07					0.75.00	SHEET 1 of 1
PROJECT NAME	ENUMBER	EPRI-HV		t:	15523					DATE ST	TARTED	11/1	9/97		IDATE CC	0MFLETED 11/19/97
DRILLING CONT	(RACTOR	LLITON, IVI	· `	7	FOREMAN	·				GROUN	D ELEVAT				WATER	DEFTH (FT BGS)
Environment		nce Service	s, Inc.			Ni	ick									Not encountered
DRILLING EQUIF										COMPLE	TION DE	РТН (ЕТ Е	GS)			EPTH (FT BGS)
Acker Truck	Mounted [rill Riq / Hol	llow ste			-	DC 000-	01000		COLIC	TICH		.0			Not Encountered
TYPE BIT	Cutter I	lead			SIZE AND	IY	PE COHE	BAHHEL			TION ME		Backfil			
CASING	NA						NA			SOIL SA	MPLES	DIST	2	UNDIST.		0 CORE 0
CASING HAMME	ER NA	WEIGHT	NA	7	DROP		NA			ENV SA	MPLES	2 (WC	-SB11/	4) (WC	SB11E	3)
SAMPLER	2 inch (D Salt Sac	0.00	_1		_				BORING	LOCATIO)N	A 10			nogo ditob
SAMPLER HAMI		DD Split Spo WEIGHT		_	DROP					INSPEC	TOR	F M F	lastings	حد حب شد	ier drai	nage ditch
			140 lb.	-1			30 inch			L,						
			l	Sample Interval		7	 	San	ples		PIL) (HNU)/ FID F	(FADIN	IGS	
	ESCRIP	TION	1	흥	Donth	•			Penetr		2		(PPM)		·	REMARKS
	LOUNIF	HON	- 1	Ę	Depth (FT BGS)	3	Number	Recov.	Resist. Bt/6in	Time	Sample	Ambient Air	Time	Head Space	Date	TEMARKS
				+	- 0 -			(1.1)	Doom			- 		4.00		
Augered 0 - 2	2 ft.		Ì	1												
J •			1	1							i :					* = battery low on HNU
SP-SM - Loo	se, brown	fine - med.	1	-												no readings recorded.
SAND, some			- 1		- 1 -											J
dry	3	•	1				1				1					
•			}	-			1									
			- 1	-												
					- 2 -				ļ							
			}	1	_	1										
SM - Loose,	It. brown, s	silty - tine		- [5							Environmental sample
SAND,dry.																tor PCB's (8080)
					- 3 -		11A	1.2	4	1256	•	•				WC-SB11A (2.5-3.5 ft)
									Ī		1					
									5							
				-												
				1	- 4 -				5							
				-{					_							
SM - Loose,	brown, silt	y - fine		,,,					7		l	-				Environmental sample
SAND, dry.									1		ĺ					for PCB's (8080)
					- 5 -		11B	1.5	9	1305		•	1		1	WC-SB11B (4.5-5.5 ft)
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Boring comp	leted at 6.0) ft.		- [l		ł	1	[
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LOG OF BORING: WC-SB12

SHEET 1 of 2

								,						SHEET 1 of 2
i	EPRI - HVTRC /	7E	15523					DATE ST	CARTED			1	DATE CO	OMPLETED
	LENOX, MA		T	_							9/97			11/19/97
DRILLING CONTRACTOR	va Saniosa Isa		FOREMAN		ick			GROUN	D ELEVAT	TION (FT.	MSL)		WATER	DEPTH (FT BGS)
Environmental Compliar DRILLING EQUIPMENT	RE Services, Inc	-		INI	ICR			COMPLE	TION DE	PTH ICT I	9081		BUCK	11.00 ft. EPTH (FT BGS)
Acker Truck Mounted D	rill Ria / Hollow st	leπ	auger								2.Q			Not Encountered
TYPE BIT			SIZE AND	TΥ	PE CORE	BARRE		COMPLE	TION ME		Backfil	led		
Cutter H	o a u		1					SOIL SA	MPLES			UNDIST		0 CORE 0
NA	WEIGHT NA		DROP		NA			ENV. SA			-SB12			
	14%		1	_	NA			i			-3012			
	D Split Spoons							L	LOCATIO	Ea	st of to		soline	UST
SAMPLER HAMMER.	WEIGHT 140 lb		DAOP		30 inct	1		INSPEC	TOR	E.M.F	lasting	\$		
		Ž		•		Sarr	ples		PI	UNH) C)/ FID F	READIN	IGS	
		ŝ	Depth (FT BGS)	Table T			Penetr.				(PPM)			
DESCRIP'	TION	ě	Depth	A sta	Number	Recov	Resist	Time	Sample	Ambient	Time	Head	Date	REMARKS
		ι.		Ĺ		(fft)	BL/6in	ļ	L	Air		Space	Time	
			- 0 -]				'			'		
Augered 0 - 10 ft.		1												
	,				[1		i					= battery low on HNU
SP-SM - Loose, brown f														no readings recorded.
SAND, some fine grave	ı,some silt,		- 1 -		 					[1
dry														
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LOG OF BORING: WC-SB1 (WC-MW1)

SHEET 1 of 2

								· · · · · ·						SHEET 1 of 2
PROJECT NAME/NUMBER	EPRI-HVTRC/	7E	15523					DATE ST	ARTED	444	0.10.7	İ	DATE CO	DMPLETED
LOCATION	LENOX, MA		I.o.o					one	3.51.511		8/97			11/18/97
DRILLING CONTRACTOR	naa Camiicaa Ios		FOREMAN		loch			GROUN	O ELEVA	TION (FT	MSL)		WATER	DEPTH (FT BGS) 11.75 ft.
Environmental Complia	nce Services, inc.		L	31	iocn			COMPLE	TION DE	PTH (FT I	200		DOCK D	EPTH (FT BGS)
Acker Truck Mounted D	rill Ria / Hollow st	em	aliner					COMPLE	HONCE		0.0			Not Encountered
TYPE BIT		C111	SIZE AND	ΤY	PE CORE	BARREL		COMPLE	TION ME			IW1 ins		TOX EHOOGIKETOG
Cutter F	lead	_	1					SOIL SA	MPLES	DIST		UNDIST		0 CORE 0
NA NA	1		5000		NA			Ĺ				0.12.0		0 00.112 0
CASING HAMMER NA	WEIGHT NA		DROP		NA _			ENV SA		1 (WC	,			
SAMPLER 2-inch C	DD Split Spoons							BORING	LOCATION	outh w	est of s	torage	building	g drywell
SAMPLER HAMMER	WEIGHT 140 lb		DROP		30 incl	h		INSPEC	TOR	E. M. I	lasting	s		· · · · · · · · · · · · · · · · · · ·
	14010	_	1		30 11101		npies	<u>. </u>	DII	D (HNU	V EID I	DE A DIA	100	
		Sample Interval		Tahla	 	301			, r	D (HIVO	(PPM)	(CADII)	103	
DESCRIP	TION	9	Depth	'ster	Number	Recov	Penetr. Resist.	Time	Sample	Ambient	Time	Head	Date	REMARKS
1	11011	Sam	(FT BGS)	š	in Caribe,	11000	BL/6in	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Sample	Air	/ (III AG	Space	Time	TIEWWW THO
		Н	- 0 -	П	 							*****		
SP - Loose, brown fine	SAND trace				1		4							l
fine gravel, dry					ŀ					İ				
g.=, or,						ļ	4							
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1					l		4							
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SM - Loose, It. brown, f	OMA2 oni						5							
trace silt, dry	ine SAND,			1	1	}]						1	
mace siit, dry				l	İ			1011	1.0		1011			
	i		- 3 -	1	ŀ	1.5	6	1011	1.0	1.0	1011			
			1											
j					}		9) '		<u>'</u>				
II					ł									
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SM - Loose It. brown fir					ľ		5			-	ļ ']	
some silt, grading to gra	y fine SAND,				Į		l	[;	l				[
some silt, dry.			- 5 -			2.0	8	1030	1.0	1.0	1030			
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}	i					}			1					
SM - It. brown - gray, m	ottled, fine				l	Ì	5		1					
SAND, some silt, dry					[}			}				
			- 7 -			2.0	6	1041	1.0	1.0	1041			
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SM - Loose, It. brown, f	ine SAND				l	1	5		1					
1	ine SAND,				·	1	3			1	}	}		
some silt, moist				l							1050		1 1	
			- 9 -		1	1.3	4	1050	1.0	1.0	1050	}		1
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WOODWARD-CLYDE ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

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

SHEET 2 of 2

	182		<u>:</u>	Sar	nples	,	l	HNU / I		ADING	S	1
DESCRIPTION	Sample Interval	Depth		B-001	Penetr. Resist	Тито	Sarroia	Ambient	(PPM)	Head	Date	REMARKS
DEGOTTI HON	Sa.	(ft bgs)		(ti)	BL/6in		34.10.10	Air	111114	Space	Time	TIZIVII II II I
SM - Very loose, It. brown, fine SAND, some silt, moist, wet at 11.75 ft.		- 11 -		1.0	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)
		· · ·			3							
SM - Very loose, brown, fine SAND,					3							
some silt, saturated		- 13 -		1.0	3	1110	1.0	1.0	1110			
					5							
SM Vandages have fine SAND		14 -	-		2		_		-			
6M - Very loose, brown, fine SAND, some silt, saturated		- 15 -		1.0	1	1120	1.0	1.0	1120			
					1							
		- 16 -	<u> </u>		1				· 			
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		- 19 -										
Boring completed at 19.0 ft.												
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		- 21 -										
		- 22 -										
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		- 23 -										
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LOG OF BORING: WC-SB2 (WC-MW2)

SHEET 1 of 2

F801 III	(TDC /	70	45500									₁		SHEET 1 of 2
PROJECT NAMENUMBER EPRI-HI		/E	15523					DATE ST	ARTED	11/1	8/97		DATE CO	OMPLETED 11/18/97
DRILLING CONTRACTOR Environmental Compliance Service			FOREMA		toch			GROUN	DELEVA	TION (FT			WATER	DEPTH (FT BGS) 4.0 ft.
DRILLING EQUIPMENT	es, mc.		<u> </u>	3	tocii			COMPLE	TION DE	PTH (FT I	3GS)		ROCK D	EPTH (FT BGS)
Acker Truck Mounted Drill Rig / Hi	ollow st	eπ						ļ		13	3.0			Not Encountered
Cutter Head			SIZE AND	ŤΥ	PE CORE	BARRE	-	COMPLE	TION ME	THOD	WC-M	W2 ins	talled	
CASING NA			1		NA			SOIL SA	MPLES.	DIST.	3	UNDIST.		0 CORE 0
CASING HAMMER NA WEIGHT	NA		DROP		NA			ENV. SA	MPLES	1 (WC	-SB2)			
SAMPLER 2-inch OD Split Sp	oons							BORING	LOCATIO	Southe	east of l	Fog Ch	amber	(kerosene spill area).
SAMPLER HAMMER. WEIGHT	140 lb		DROP	_	30 incl	——— h		INSPEC	TOR	E. M. F	lasting	s s	arriber.	(notosono spin area).
		_	Γ	١.			nples	.	PI	UNH) C)/ FID F	READIN	IGS	
		Interval		i i			Penetr				(PPM)			
DESCRIPTION		Sample	Depth	3	Number	1	Resist	Time	Sample	InerdmA	Time	Head	Date	REMARKS
		Š	+	H	 	(11)	BL/6in		<u> </u>	Air		Space	Time	
SP - Very loose, brown fine SAND	,		- 0 -		1		2							
some M. sand trace fine gravel, tra			 			1	'							
silt, dry					l	}	3							
·			. 1 -			1.6		1318	0.6	0.6	1318			
					1	1	3							
					1									
							3		İ				'	
			. 2 .	1			 						-	
SM - Loose, brown - It. brown, fine			l	l	l		3		1					Environmental sample
SAND, some silt, trace day, trace	•						ľ		ŀ					for VOC's (8260) and
M. sand, moist, wet at tip.			- 3 -			1.7	5	1320	0.7	0.6	1320			TPHC.
				l		}	}		•					WC-SB2 (2.5 - 3.5 ft.)
				l			4							į
				l	l									
}			- 4 -	٧	<u> </u>	 	3							Ì
CAA 1/2 In			1	-		1	١.							
SM - Very loose, gray, silty fine SA saturated	ANU,					•	1	ļ ,						ļ
Sararea			. 5 .			0.3	1	1343	0.7	0.6	1343			
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6 - 13 ft (drill cuttings): brown and				١	1]		1					
gray silty-fine SAND, saturated			. 7 -		}		}		1			1		1
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LOG OF BORING: WC-SB2 (WC-MW2)

SHEET 2 of 2

DESCRIPTION														SHEET 2 of 2
6 - 13 it (delli cultings): brown and gray sity-line SAND, saturated - 12 - 13 - 15 - 15 - 16 - 16 - 17 - 18 - 18 - 19 - 19 - 19 - 19 - 19 - 19		3		,		Sarr	nples						s	
6 - 13 it (delli cultings): brown and gray sity-line SAND, saturated - 12 - 13 - 15 - 15 - 16 - 16 - 17 - 18 - 18 - 19 - 19 - 19 - 19 - 19 - 19		ş		٤										
6 - 13 it (delli cultings): brown and gray sity-line SAND, saturated - 12 - 13 - 15 - 15 - 16 - 16 - 17 - 18 - 18 - 19 - 19 - 19 - 19 - 19 - 19	DESCRIPTION	J.	Depth	3	Number			Time	Sample		Time)		REMARKS
6 - 13 ft (drill cuttings): brown and gray sity-fine SAND, saturated - 12		₽,	(ft bgs)	H	-	(21)	BL/6in		-	Air		Space	Time	
6 - 13 ft (drill cuttings): brown and gray sity-fine SAND, saturated - 12														1
- 13 f. (difficutings): brown and gray sity-fine SAND, saturated - 12 - 13 - 15 - 15 - 16 - 16 - 17 - 19 - 19 - 19 - 19 - 19 - 19 - 19	ļ							i						
- 13 f. (difficutings): brown and gray sity-fine SAND, saturated - 12 - 13 - 15 - 15 - 16 - 16 - 17 - 19 - 19 - 19 - 19 - 19 - 19 - 19												ļ		
gray sity-line SAND, saturated		1	- 11 -											
Boring completed at 13.0 ft. 13 - 14 - 15 - 16 - 18 - 19 - 20 - 22 - 23 - 24 - 24 - 24 -			[
Bioring completed at 13.0 ft. - 14	gray silty-fine SAND, saturated						l					}		
Bioring completed at 13.0 ft. - 14								!						
Boring completed at 13.0 ft. - 14 - 1 - 15 - 15 - 16 - 18 - 18 - 18 - 18 - 18 - 18 - 18			- 12 -						li					
Boring completed at 13.0 ft. - 14 - 1 - 15 - 15 - 16 - 18 - 18 - 18 - 18 - 18 - 18 - 18		ì	1]							
Boring completed at 13.0 ft. - 14 - 1 - 15 - 15 - 16 - 18 - 18 - 18 - 18 - 18 - 18 - 18			-											
Boring completed at 13.0 ft. - 14 - 1 - 15 - 15 - 16 - 18 - 18 - 18 - 18 - 18 - 18 - 18			4.2											
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- 15 ·	Boring completed at 13.0 ft.	l		l										
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- 15 ·														
- 16 - 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19		١.	14 .											
- 16 - 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19]				i						Ì	
- 16 - 17 - 18 - 19 - 19 - 19 - 19 - 19 - 19 - 19														
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LOG OF BORING: WC-SB3 (WC-MW3)

SHEET 1 of 2

PROJECT NAME/NUMBER EPRI - HV	TRC / 78	E 1	5523					DATE ST	ARTED				DATE CC	SHEET 1 of 2
LOCATION LENOX, N		_ `								11/1	8 <i>1</i> 97	l	5,112 00	11/18/97
DRILLING CONTRACTOR		1	FOREMA					GROUN	D ELEVA	TON (FT	MSL)		WATER	DEPTH (FT BGS)
Environmental Compliance Service	es, Inc.	1		S	toch			001:5:	TIO: 5 =					6.0 tt
DRILLING EQUIPMENT Acker Truck Mounted Drill Rig / Ho	linw ster	TI.	auger				i	COMPLE	TION DE		BGS) 5.0			EPTH (FT BGS) Not Encountered
TYPE BIT Cutter Head	3161) TY	PE CORE	BARREL		COMPLE	TION ME			W3 ins		Encodinered
CASING		\dashv			ALA			SOIL SA	MPLES	DIST	4	UNDIST.		0 CORE 0
NA CASING HAMMER NA WEIGHT	NA	+	DROP		NA			ENV. SA	MPLES	1 (WC	-SB3)			
SAMPLES					NA			BORING	LOCATIO	•	,			
2-inch OD Split Spo	ons	_	DROP					INSPEC	IOB	South	vest of	Fog Ch	amber	(kerosene spill area).
	140 lb.	_		1	30 incl									
		i Very		į	 	San	nples		PI) (HNU)/FID F	READIN	IGS	
DESCRIPTION	1 4	8	Depth	1.	Number	Recov	Penetr. Resist	Time :	Sample	Ambient	(PPM)	Head	Date	REMARKS
5200111111011	8	Samore	(FT BGS	Ž	110.125	(It)	BL/6in	1	Sample	Air	111749	Space	Time	1121017111110
		1	- 0 -	Τ										
SP-SM - Loose, brown fine - med.]		4		1					
SAND, some fine gravel, grading t														
It. brown fine SAND, some silt, dry]		5							
			- 1 -	1		1.6		1514	0.6	0.6	1514			
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SM - Loose, It. brown, fine SAND		1			l	i	3							* = HNU batt, low no
some silt, trace fine gravel, dry.	1	İ		1			[,							readings recorded
i		1	- 3 -	1	1	1.6	5	1516	•	•	1516			
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			- 4 -		<u> </u>		6							
SM - Loose, It. brown, fine SAND		ļ					4							
some silt, wet at tip.]]							
			- 5 -	ļ		1.7	4	1530			1530			Environmental sample
									ŀ					for VOC's (8260) and
							4		l					TPHC.
							ĺ		1					WC-SB3 (4.5 - 5.5 ft.)
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SM - Very loose, Dk. brown - gray	1		• •				2		l					
fine SAND, some silt, saturated.			. 7			17	2	1538	١.	١.	1538			
		1	- 7 -			1.7	4	1538			1538			
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8 - 15 ft (drill cuttings): brown and									l					
gray fine SAND and silt, saturated				1			 		1				ļ	
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WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

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

SHEET 2 of 2

	, .		_										SHEET 2 of 2
	3		٠		San	ples			HNU / F		ADING	S	
	Ę	1	1			Penetr.		L		(PPM)			
DESCRIPTION	e e	Depth (ft bgs)	1	Number	R∉cov.	Resist.	Time	Sample	Ambient	Time	Head	Date	REMARKS
	Š	(ft bgs)	Ľ		(ft)	BL/6in			Air		Space	Time	
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1													
1		- 11 -											
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		- 12 -											
8 - 15 ft (drill cuttings): brown and		-	li										
gray fine SAND and silt, saturated													
gray mile or the and one, suitarated												li	
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Boring completed at 15.0 ft.													
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LOG OF BORING: WC-SB4

SHEET 1 of 1

													SHEET 1 of 1
PROJECT NAME/NUMBER EPRI - HVTRC /	7E	1552	3				DATE ST	ARTED				DATE CO	OMPLETED
LOCATION LENOX, MA									11/1				11/19/97
DRILLING CONTRACTOR		FORE		lick			GROUN) ELEVAT	TION (FT.	MSL		WATER	DEPTH (FT BGS)
Environmental Compliance Services, Inc		<u> </u>	. N	IICK			COMPLE	TION DE	PTH (FT E	200		BOCK D	Not encountered
Acker Truck Mounted Drill Rig / Hollow st	on	s a una	ar.				COMPLE	HONDE	6.				Not Encountered
TYPE BIT	CII	SIZE	NO TO	PE CORE	BARREL		COMPLE	TION ME		Backlil	<u>_</u>		Tot Encodinered
Cutter Head CASING		-					SOIL SA	MPLES.	DIST.	2	UNDIST.		0 CORE 0
NA NA		2000		NA			l						0 0
CASING HAMMER NA WEIGHT NA		DROF	,	NA			ENV. SA			-SB4A) (WC-S	SB4B)	
SAMPLER 2-inch OD Split Spoons							BORING	LOCATIO	N	Alo	na torn	ner drai	nage ditch
SAMPLER HAMMER: WEIGHT 140 lb		DROP	,	30 incl			INSPEC	TOR	E. M. F				
140 10	T	ī	_	T T		nples	Ļ.,	DIL	UNH) C	VEIDE	DE A DIA	IC S	
	Interval		į		3411	Penetr.	Γ	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,) (HIVO	(PPM)	LADIN	103	
DESCRIPTION	1 2	l ner	th	Number	Banny	Penetr. Resist	Time	Cample	Ambient	Time	Head	Date	REMARKS
DECOMM HON	Samole	(FT B		, a.b.	(fl)	BL/6in	"""	Santra	Air	1111111	Space	Time	112141/11/11/0
	r	- 0	_		1 11						- CP-C-		
Augered 0 - 2 ft.													
			.										
SP-SM - Loose, brown fine - med.													
SAND, some fine gravel, some sitt,		- 1											
dry		ļ '											
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SM - Very loose, It. brown, fine SAND		l	.1			1							Environmental sample
some silt, dry.		1	-1	1	1	\							for PCB's (8080)
Some sit, dry.		- 3		I	١.,	3	1001	0.7	0.7	1001			· ·
		1. 3		4A	1.9	3	1001	0.7	0.7	1001			WC-SB4A (2.5 - 3.5 ft.)
			- 1	}								ľ	
		1				2							
	1	- 4	-\	 		3							
				1		l							
SM - Very loose, brown - gray,	333	1.	-			2			_				<u>.</u>
mottled, sitty - fine SAND, dry			-	i '									Environmental sample
		- 5		4B	1.6	3	1010	0.7	0.7	1010			for PCB's (8080)
					1							[WC-SB4B (4.5 - 5.5 ft.)
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Boring completed at 6.0 ft.		_				1			\	\			
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LOG OF BORING: WC-SB5

SHEET 1 of 1

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PROJECT NAME/NUMBER EPRI-HVTRC	/ 7E	15523					DATE ST	ARTED				DATE CO	OMPLETED
LOCATION LENOX, MA								·		9/97			11/19/97
DRILLING CONTRACTOR		FOREMAI					GROUN	DELEVA	TION (FT.	MSL)		WATER	DEPTH (FT BGS)
Environmental Compliance Services, Inc). -	<u> </u>	N	ick									Not encountered
DRILLING EQUIPMENT							COMPLE	TION DE		,		ì	EPTH (FT BGS)
Acker Truck Mounted Drill Rig / Hollow s	ien	SIZE AND	ŤΥ	PE CORF	BARREI		COMPLE	TION ME		.0 Backtil		L	Not Encountered
Cutter Head CASING		{						MPLES					D CORE D
NA NA				NA							TEKNU		0 CORE 0
CASING HAMMER NA WEIGHT NA		DROP		NA			ENV SA	MPLES.	2 (WC	-SB5A	(WC-S	SB5B)	
SAMPLER 2-inch OD Split Spoons	_	·	_				BORING	LOCATIO	N	ΔΙα	na fora	ner dmi	inage ditch
SAMPLER HAMMER WEIGHT		DROP	_				INSPEC	FOR	E. M. F	lasting		iei uia	mago ditori
140 H	$\overline{}$		_	30 incl			L						
	2]	ž	<u> </u>	San	nples		Pil	UMH) C)/ FID F	LAUIN	(GS	
DESCRIPTION	Sample Interval	D	1]		Penetr]_	<u> </u>	r	(PPM)			DEMARKS
DESCRIPTION	E S	Depth (FT BGS)	3	Number	l	Resist. BL/6in	Time	Sample	Ambienti Air	Time	Head	Date Time	REMARKS
	+"	- 0 -	H		(ft)	B □ 6in	 				Space	ime	
Augared 0 - 2 h		١. ٥.		(
Augered 0 - 2 ft.		1											
SD SM Loose brown fine and]]	
SP-SM - Loose, brown fine - med.	1	١.		ľ		1							
SAND, some fine gravel, some silt,		- 1 -				İ						}	1
dry		1											[
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SM - Very loose, It. brown, fine SAND	222					3						[Environmental sample
some silt, dry.			١.			1							for PCB's (8080)
1		- 3 -		5A	1.9	3	1025	0.7	0.7	1025			WC-SB5A (2.5 - 3.5 ft.)
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						3						1	[
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	1									}			
SM - Very loose, It. brown,	1			1		5			_ '	1			
mottled, sifty - fine SAND, dry				•		1			1	1			Environmental sample
		- 5 -		5B	1.9	6	1030	0.7	0.7	1030			for PCB's (8080)
								l				1	WC-SB5B (4.5 - 5.5 ft.)
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Boring completed at 6.0 ft.	†		Η					-		_			1
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LOG OF BORING: WC-SB6

SHEET 1 of 1

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PROJECT NAME/NUMBER EPRI - HVTRC	/ 7E	15523					DATE ST	ARTED				DATE CO	OMPLETED
LOCATION LENOX, MA									11/1				11/19/97
DRILLING CONTRACTOR		FOREMA					GROUN	D ELEVAT	TION (FT	MSL)		WATER	DEPTH (FT BGS)
Environmental Compliance Services, In	C.	<u> </u>	INI	ick			COMBLE	TION DE	DT 11 (T 1	200		DOOK O	Not encountered
DRILLING EQUIPMENT Acker Truck Mounted Drill Rig / Hollow	etam	auger					COMPLE	TION DE		.0			ЕРТН (FT BGS) Not Encountered
TYPE BIT	31011	SIZE AND	TY	PE CORE	BARREL		COMPLE	TION ME		Backfil	<u> </u>		Not Elicodinered
Cutter Head CASING		1					SOIL SA	MPLES	DIST	2	UNDIST		0 CORE 0
NA CASING HAMMER NA WEIGHT NA		DROP		NA			ENV. SA					COCO)	
		10,00		NA			L			-300A) (WC-S	0000)	
SAMPLER 2-inch OD Split Spoons							l	LOCATIO	ON	Alc	ng forn	ner drai	nage ditch
SAMPLER HAMMER: WEIGHT 140	lb.	DROP	•	30 incl	 h		INSPEC	TOR	E. M. F	lasting	s		
	3	ľ			San	nples		PI	D (HNU)/ FID F	READIN	IGS	
1	Sample Interval		7.			Penetr.		1		(PPM)			
DESCRIPTION	ě	Depth	8 .	Number	Recov	Resist	Time	Sample	Ambient	Time	Head	Date	REMARKS
	s,	(FT BGS)	Ľ		(11)	BL/6in			Air		Space	Time	
		- 0 -				ļ	ļi						
Augered 0 - 2 ft.	1			ĺ			i :	į .					
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SP-SM - Loose, brown fine - med.						1							
SAND, some fine gravel, some silt,	1	- 1 -		1	}	1	1	i	1				
dry		•					† .	l					
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		- 2 -	l										
CM Versless torus 622 CAND		ļ						•			1		C
SM - Very loose, brown, fine SAND	888				1	4		l	i				Environmental sample
some silt, dry.						١.	4045		0.7	10.45			for PCB's (8080)
[- 3 -		6A	0.6	3	1045	0.7	0.7	1045		1	WC-SB6A (2.5 - 3.5 ft.)
1					}	,		l				1	
ł		1				3		ŀ				ŀ	
		- 4 -	1	}	1	3	Ì]	}		1]	
		4 '		 	-	-		├				<u> </u>	No recovery in 4 - 6 #
SM - Loose, brown,					1	4	ļ	1		ľ			No recovery in 4 - 6 ft. spoon, moved location
mottled, silty - fine SAND, dry	**			•		"	1	•	-		}		and resampled 4 - 6 ft.
modied, sity - title SAND, dry		- 5 -		6B	1.2	4	1110	0.7	0.7	1110			and resampled 4 - 0 ff.
			١	\ \bar{\bar{\bar{\bar{\bar{\bar{\bar{	1.2	"	' ' ' '	J	J.,	' ' '			Environmental sample
					1	6							for PCB's (8080)
	**	1	1			ľ	1	1		1		1	WC-SB6B (4.5 - 5.5 ft.)
		. 6 -			1	8	[1					5555 (4.5 5.5 11.)
Boring completed at 6.0 ft.	+		T		_	 -	 	 	<u> </u>				
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LOG OF BORING: WC-SB7

SHEET 1 of 1

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PROJECT NAME/NUMBER	EPRI-HVTRC	/ 7E	15523					DATE ST	TARTED	11/1	7 (۵/۵		DATE CO	11/10/07
DRILLING CONTRACTOR	LENOX, MA		FOREMA	N				GROUN	DELEVAT	11/1			WATER	11/19/97 DEPTH (FT BGS)
Environmental Compliar	nce Services, Inc	٥.	COHEMA		ick			3.10014	LLEVA	(r. 1	MOLI		.,	Not encountered
DRILLING EQUIPMENT			·					COMPLE	TION DE	PTH (FT E	BGS)		ROCK D	EPTH (FT BGS)
Acker Truck Mounted De	rill Rig / Hollow s	sten								6	.0		i	Not Encountered
TYPE BIT Cutter H	ead		SIZE AND	TY	PE CORE	BARREL		COMPLE	TION ME	THOD	Backfil	1		
CASING NA			1		NA			SOIL SA	MPLES.	DIST.	2	UNDIST.		0 CORE 0
	WEIGHT NA	_	DROP					ENV. SA	MPLES	2 (W C	-SB7A) (WC-	SB7B)	
SAMPLER			L	_	NA			BORING	LOCATIO					
2-inch O	D Split Spoons WEIGHT		DROP					INSPEC		E. M. F			ner dra	inage ditch
SAMI EEN HAMMEN	140 1	b.		,	30 inch	1				C. IVI. F	nasiing:	S		
		Samole Interval		į		Ѕап	nples		PII	UNH) C)/ FID F	READIN	IGS	
DECORIE.	TION	2		١;	1		Penetr.		<u> </u>		(PPM)			DEMARKS
DESCRIP'	HON	ame of	Depth	3	Number	l	Resist	Time	Sample	Ambient	Time	Head	Date	REMARKS
		+"	(FT BGS)	₽		(11)	BL/6in	 	<u> </u>	Air		Space	Time	
Augered 0 - 2 ft.			1. 0.	ı	i				l					
Augereu v - Z II.			[l					
SP-SM - Loose, brown f	ine - med			1										
SAND, some fine grave			. 1 .						1					
dry	.,		' '						•					
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SM - Very loose, brown,	fine SAND			ı			3						1	Environmental sample
some silt, dry.				ı									1	for PCB's (8080)
			- 3 -	ļ	7A	1.6	3	1125	0.7	0.7	1125			WC-SB7A (2.5 - 3.5 ft.)
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			- 4 -			<u> </u>	3							
SM - Loose, brown, fine	SAND,]				4			-				Environmental sample
some silt, dry				1	<u> </u>		}							for PCB's (8080)
			- 5 -	l	7B	1.6	4	1131	0.7	0.7	1131		•	WC-SB7B (4.5 - 5.5 ft.)
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Boring completed at 6.0	f1.			٦				_						
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WOODWARD-CLYDE

ENGINEERING & SCIENCES APPLIED TO THE EARTH & ITS ENVIRONMENT

LOG OF BORING: WC-SB12

SHEET 2 of 2

	_												SHEET 2 of 2
	Ē		4		San	nples			HNU / I	PID RE	ADING	S	
	Samble Interval		Ž	1		Penetr.				(PPM)]
DESCRIPTION	ě	Depth	;	Number	Recov	Resst	Time	Samore	Ambient	Time	tseH	Date	REMARKS
	Sar	(ft bgs)	Ľ	<u> </u>	(ft)	BL/6in		L	A:*		Space	Time	
SM - L∞se, brown, fine SAND				ţ	l	6		l					Environmental sample
some silt, moist,								l				l	for VOC's (8260) and
wet at 11.00 ft.		- 11 -	V		1.5	7	1420	•				l	TPHC (modified 8100)
	ľ	1	Ě	1								ł	WC-SB12 (10 -11 ft.)
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Boring completed at 12.0 ft.	t	1						 	 	-			1
Solving completed at 12.0 K.	Ì	l	1	ł						ĺ			
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LOG OF BORING: WC-SB13

SHEET 1 of 2

													SHEET 1 of 2
PROJECT NAME/NUMBER EPRI - HVTRC	/ 7E	15523					DATE ST	ARTED				DATE CO	OMPLETED
LOCATION LENOX, MA		T								9/97			11/19/97
DRILLING CONTRACTOR		FOREMA		ick			GROUN	DELEVAT	TION (FT.	MSL)		WATER	DEPTH (FT BGS) 10.00 ft.
Environmental Compliance Services, In DRILLING EQUIPMENT	С.		. 14	ICK			COMPLE	TION DE	PTH (FT I	905)		BOCK D	EPTH (FT BGS)
Acker Truck Mounted Drill Rig / Hollow	sten	n auger								i.0			Not Encountered
TYPE BIT Cutter Head			TY	PE CORE	BARREL		COMPLE	TION ME		Backfil	led	·	
CASING		1					SOIL SA	MPČES	DIST.	1	UNDIST	-	0 CORE 0
NA CASING HAMMER NA WEIGHT NA		DROP		NA			ENV. SA	MPLES	1 (WC	-SB13)	١		
SAMPLER		<u> </u>		NA				LOCATIO	NA:				
2-inch OD Split Spoons		2000							So			asoline	UST
SAMPLER HAMMER WEIGHT 140	b.	DROP		30 inch	1		INSPEC	IOH	E. M. F	lasting	s 		
	2		2		San	nples		Pi	UNH) C)/ FID F	READIN	IGS	
	Sample Interval		15			Penetr.				(PPM)			
DESCRIPTION	Ē	Depth	1 4	Number	Recov	Resist	Time	Sample	Ambient	Time	Head	Date	REMARKS
 	100	1	+	-	(71)	BL/6in	 		Air		Space	Time	
Augustad 0 0 0 ft		- 0 -											1
Augered 0 - 9.0 ft.								.					° ≃ battery low on HNU
SP-SM - Loose, brown fine - med.		ļ. · ·											no readings recorded.
SAND, some fine gravel,some silt,		1 -				1						1	no readings recorded.
dry		Γ΄.		l									
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Gravel or boulder at 4 - 5 ft.													
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SM - Very loose, brown, fine SAND	**	,		-		3	\vdash			 	 	 	1
some silt, moist,						ľ		1					
wet at 10.50 ft.						3	1500		.				
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LOG OF BORING: WC-SB13

SHEET 2 of 2

	Ē		,		San	nples		<u> </u>	HNU/F		ADING	S	SHEET 2 of 2
55555	a in		1			Penetr			,	(PPM)			551115145
DESCRIPTION	Samo	Depth (ft bgs)	3	Number	Recov.	Resist BL/6in	Time		Ambient Air	Time	Head Space	Date Time	REMARKS
SM - Very loose, brown, fine SAND some sift, moist, wet at 10.50 ft.		- 11 -	•			3		•	•				Environmental sample for VOC's (8260) and TPHC (modified 8100)
Boring completed at 11.0 ft.	Ī		Γ					,					WC-SB13 (9 -10 ft.)
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		- 13 -											
		- 14 -											
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LOG OF BORING: WC-SB14

SHEET 1 of 1

														SHEET 1 of 1
	EPRI-HVTRC/	7E	15523					DATE ST	ARTED	11/1	9 <i>1</i> 97		DATE CO	OMPLETED
DRILLING CONTRACTOR	LENOX, MA		FOREMAN					GROUM	SELEVA	TION (FT.			WATE D	11/19/97 DEPTH (FT BGS)
Environmental Complian	ce Services Inc		ľ		ick			GHOON	JELEVA	IION (FT.	MSL)		WATER	Not encountered
DRILLING EQUIPMENT	00 00111000; 1110							COMPLE	TION DE	PTH (FT I	BGS)		ROCK D	EPTH (FT BGS)
Acker Truck Mounted Dri	ill Rig / Hollow st	em	auger					}		6	.0			Not Encountered
TYPE BIT Cutter He	ad		SIZE AND	ΤY	PE CORE	BARREL		COMPLE	TION ME	THOD	Backlil			
CASING NA					NA			SOIL SA	MPLES:	DIST.	1	UNDIST.		O CORE O
	WEIGHT NA		DROP	_				ENV. SA	MPLES:	1 (WC	-SB14	i .		
SAMPLER					NA			BORING	LOCATIO					
2-inch OL	Split Spoons		DROP										rmer g	asoline UST
SAMPLEH HAMMEH Y	140 lb		DHOP		30 inct)		INSPECT	TOR .	E. M. F	łasting:	S	_	
		Interval		a Me	L	Sam	ples		Pil	UNH) C)/ FID F	READIN	IGS	
		Ē		171			Penetr.				(PPM)			
DESCRIPT	ION	Samole	Depth	Wate	Number	Recov	Resist	Time	Sample	Ambient	Time	Head	Date	REMARKS .
	· · · · · · · · · · · · · · · · · · ·	s		L		(ft)	BL/6in			Air		Space	Time	
A			- 0 -											
Augered 0 - 8 ft.									١. ١	١.			 	= battery low on HNU
SP-SM - Loose, brown fir	no mod													no readings recorded.
SAND, some fine gravel														no readings recorded.
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SM - Very loose, brown, f	tine SAND								l			l		Environmental sample
some silt, moist							2							for VOC's (8260) and
			- 9 -			1.2		1530	'	.	1		ļ	TPHC (modified 8100)
							2			l				WC-SB14 (9 -10 ft.)
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Boring completed at 10.0	π.		- 10 -	L					<u> </u>	<u> </u>		l	<u> </u>	

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 Latitude Inspector Top of riser pipe elevation E. M. Hastings 5,021.6220 North UTM 968.71 ft ELEV. DEPTHS A = Top of Riser B = Ground Surface PROTECTIVE STEEL CAP WITH LOCK (ft above (ft below C = Top of Bentonite Seal MSL) ground) D = Top of Sand Pack INPUT RISER CAP E = Top of Screen F = Bottom of Screen PVC G = Bottom of PVC/Steel STICKUP (ft) H = Bottom of Borehole 1.51 ft. GENERALIZED GROUND SURFACE 0 SOIL DESCRIPTION See boring log WC-SB1 PROTECTIVE STEEL CASING CEMENTED RISER PIPE: 2 inch ID, schedule 40 threaded PVC ANNULUS GROUTED WITH Portland cement С SEAL: D Bentonite pellets Ε 9 SCREEN: 10 ft of 2 inch ID, schedule 40 threaded PVC. 0.01 inch slot SAND/GRAVEL PACK #2 Morie sand BOTTOM OF SCREEN 19 19 **BOTTOM CAP** BOTTOM OF BOREHOLE 19 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 Well permit No. Elevation datum EPRI - HVTRC / LENOX, MA NA Drilling company Surveyor Ground elevation Environmental Compliance Services, Inc. Hill Engineers, Dalton MA 955.50 ft Date and time of completion Longitude Top of protective steel casing elevation 11/18/97 7,528.0581 East UTM 959.89 ft Inspector Latitude Top of riser pipe elevation E. M. Hastings 4,693.8028 North UTM 959.87 ft A = Top of RiserELEV. **DEPTHS** B = Ground Surface (ft above PROTECTIVE STEEL CAP WITH LOCK (ft below C = Top of Bentonite Seal MSL) ground) D = Top of Sand Pack INPUT RISER CAP E = Top of Screen F = Bottom of ScreenPVC STICKUP (ft) G = Bottom of PVC/Steel H = Bottom of Borehole 4.34 ft. GENERALIZED В GROUND SURFACE SOIL DESCRIPTION See boring log WC-SB2 PROTECTIVE STEEL CASING CEMENTED RISER PIPE: 2 inch ID, schedule 40 threaded PVC ANNULUS GROUTED WITH Portland cement С SEAL: 1.5 Bentonite pellets E SCREEN: 10 ft of 2 inch ID, schedule 40 threaded PVC. 0.01 inch slot SAND/GRAVEL PACK #2 Morie sand BOTTOM OF SCREEN 13 G 13 BOTTOM CAP **BOTTOM OF BOREHOLE** 13 DIAMETER OF BOREHOLE: 4.25 REMARKS (Installation, development);

WOODWARD-CLYDE CONSULTANTS Consulting Engineers, Geologists and Environmental Scientists

Project name & location				Well permit No.	Elevation datum
PRI - HVTRC / LENOX, MA				NA Company	Construction
Orilling company	a laa			Surveyor Hill Engineers, Dalton MA	Ground elevation 956.80 ft
Environmental Compliance Service Date and time of completion	s, mc.			Longitude	Top of protective steel casing elevation
11/18/9	7			7,462.9595 East UTM	960.31 ft
nspector	'			Latitude	Top of riser pipe elevation
E. M. Hastings				4,699.5808 North UTM	960.12 ft
= Top of Riser	IELEV.		DEPTHS		1 333.72 11
B = Ground Surface	(ft above		(ft below	<u> </u>	PROTECTIVE STEEL CAP WITH LOCK
= Top of Bentonite Seal	MSL)		ground)	ii ii	
= Top of Sand Pack		A	INPUT	- -	RISER CAP
= Top of Screen		•			
= Bottom of Screen				PVC	
= Bottom of PVC/Steel				STICKUP (ft)	
I = Bottom of Borehole			•	3.32 ft.	
SENERALIZED		В	0		GROUND SURFACE
SOIL DESCRIPTION		J	Ū		MINIMININI ONO ONE CONTROL
OIL DESCRIPTION					
ee boring log WC-SB3					PROTECTIVE STEEL CASING CEMENTED
				¶	RISER PIPE:
					2 inch ID, schedule 40
				'	threaded PVC
				1	UII EAGEU F VC
					ANNULUS GROUTED WITH.
					Portland cement
		С	2		SEAL:
		D	2 3		Bentonite pellets
			3		Bentonite pellets
		E	5	1	
		_	3		SCREEN:
					10 ft of 2 inch ID, schedule
					40 threaded PVC.
					0.01 inch slot
					0.01 110.1 3101
					SAND/GRAVEL PACK:
					#2 Morie sand
					"E mone said
		F	15		BOTTOM OF SCREEN
		G	15		BOTTOM CAP
		Н	15	<u> </u>	BOTTOM OF BOREHOLE
		••		DIAMETER OF	
				DIAMETER OF	
				BOREHOLE	
				4.25	
EMARKS (Installation, developm	ent):				

APPENDIX D

Analytical Laboratory Reports

Work Order # 97-11-392

Received: 11/20/97

12/02/97 13:18:35

REPORT	WOODWARD - CLYDE CONSULT	PANTS	PREPARED '	TOXIKON CORPORA	ATION	
	ONE CRANBERRY HILL			15 WIGGINS AVE		10/111
.0	LEXINGTON, MA. 02173		-	BEDFORD, MA 017	730	Vansa hall
	617-863-0667 FAX: 863-08		:	SEDIOND, IN OIL		CERTIFIED BY
ATTEN	MARK HOULDAY	,,,,,	ATTEN S	PAUL LEZBERG		SENTITIES ST
ATTEN	TIME HOULDE		-	(617)275-3330		- CONTACT JOHNM
CLIENT	WOODWARD SAMPL	EC 20	FIIONE	011 7210 3330		CONTROL SOMM
	WOODWARD - CLYDE CONSULT		MA FEDT #	M-MANAA. TRATE	METALS SHIFA	TE, CYANIDE, RES. FREE
	ONE CRANBERRY HILL					Is. VOC, PEST., NUTRIENTS.
	LEXINGTON, MA. 02173					#PH-0563, NY #10778
	ELAINGTON, PIA. 02113					, SC 88002, NH 204091-C.
HOOK ID	EDDI (LENOV MA		FL HKS EOI	143, NJ DEP 35	030, HE UNK200	, 30 00002, NA 204091-C.
	EPRI/LENOX, MA		VEDICIED D	. //m	/ Weylin-	
	11/18-19/97		VERIFIED E	•	nym	
	COL		CEKI # M-P	1AU04	-//	
	3011					
		 				
INVOICE	under separate cover					
CAMO: F				TEGT 00050	Luure	
	IDENTIFICATION	0240	20022424			this workorder
01 WC-SB1				ORGANICS VOA		
02 WC-SB1				ON GC PET SOIL		
03 WC-SB2				SCAN BY GC		
04 WC-SB3				XT. FOR MERCUR		
	Α			OTAL EXT., SOI		
06 WC-SB4				346-8080		
07 WC-SB5		PP13	METALS, 13	PRI.POLL.		
08 WC-SB5						
09 WC-SB6						
10 WC-SB6						
11 WC-SB7						
12 WC-SB7						
13 WC-SB8						
14 WC-SB8						
15 WC-SB9						
16 WC-SB9						
17 WC-SB1						
18 WC-SB1						
19 WC-SB1						
20 WC-SB1	18					

Page 2 TOXIKON CORP. REPORT Work Order # 97-11-392
Received: 11/20/97 Results by Sample

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

	·
PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Oil	<u>ND</u>
No. 6 Fuel Oil	<u> </u>
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND
DETECTION LIMIT	
Water Matrix	<u>*</u>
Solid Matrix	10.0 mg/Kg
Notes and Definiti	ons for this Report:
EXTRACTED <u>11/24/9</u>	<u>7</u>
DATE RUN <u>11/25/97</u>	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Othe	rwise Specified
ND = Compound(s)	not detected
above detection l	imit
Comments	

TOXIKON CORP. REPORT

Work Order # 97-11-392

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	POLLUTAN	T META	LS
			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
	Соррег		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	:
	DATE	ACTED <u>11/26/97</u> RUN <u>12/01/97</u>		
	ANAL	YST <u>VR</u>		

INSTRUMENT ____ ICP DIL. FACTOR _____1 UNITS mg/Kg

Received: 11/20/97

Results by Sample

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

Chloromethane ND 10 o-Xylene Bromomethane ND 5.0 m+p-Xylene Vinyl Chloride ND 2.0 1,2-Dichlorobenzene Chloroethane ND 10 1,3-Dichlorobenzene Methylene Chloride ND 10 1,4-Dichlorobenzene 1,1-Dichloroethene ND 5.0 Naphthalene Irichlorofluoromethane ND 10 n-Propylbenzene	ND -	5.0
Vinyl Chloride ND 2.0 1,2-Dichlorobenzene Chloroethane ND 10 1,3-Dichlorobenzene Methylene Chloride ND 10 1,4-Dichlorobenzene 1,1-Dichloroethene ND 5.0 Naphthalene	_	
Chloroethane ND 10 1,3-Dichlorobenzene Methylene Chloride ND 10 1,4-Dichlorobenzene 1,1-Dichloroethene ND 5.0 Naphthalene	ND	5.0
Methylene Chloride ND 10 1,4-Dichlorobenzene 1,1-Dichloroethene ND 5.0 Naphthalene	ND	5.0
1,1-Dichloroethene <u>ND 5.0</u> Naphthalene	ND	5.0
· · · · · · · · · · · · · · · · · · ·	ND	5.0
Inichiorofluoromethane NO 10 n-Propylbenzene	ND	10
TO TO TO TO THE	ND	10
1,1-Dichloroethane <u>ND 5.0</u> Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene <u>ND 5.0</u> 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 <u>ND 5.0</u> tert-Butylbenzene	ND	10
Carbon Tetrachloride <u>ND</u> 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 <u>ND 5.0</u> Dichlorodifluoromethane	ND	10
Benzene ND 5.0 cis-1,2-Dichloroethene	ND	<u>5.0</u>
1,1-Dichloropropene ND 5.0 1,3-Dichloropropane	<u>ND</u>	5.0
2-2-Dichlorpropane ND 5.0 1,1,1,2-Tetrachloroethane	ND	<u>5.0</u>
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.C
Tetrachloroethene <u>ND 5.0</u> 1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether <u>ND 5.0</u> 1,2,4-Trimethylbenzene	ND	10
Toluene <u>ND 5.0</u> 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 <u>ND 10</u> Styrene	ND	5.0

ANALYST	11/29/97 <u>XL</u>	
INSTRUMENT	В	
DIL. FACTOR	1	
UNITS	ug/Kg	
COMMENTS		

Page 5 TOXIKON CORP. REPORT Work Order # 97-11-392
Received: 11/20/97 Results by Sample

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	L	IMIT
Chloromethane	ND	10	o-Xylene		ND	5.0
Bromome thane	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-chtoropropane		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	<u>ND</u>	5.0	1,2,3-Trichtorobenzene		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-Trichtoropropane		ND.	5.0
Methyl tertiary butyl ether	ND	<u>5.0</u>	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-Isopropyltaluene	ND	10	Styrene		ND	5.0

DATE RUN	11/2 9/ 97		
NALYST	<u> XL</u>		
INSTRUMENT		В	
DIL. FACTOR	1		
UNITS	ug/Kg		
COMMENTS			

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

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		:	
PARAMETER	RESUL	т.	
JP-4		ND	
Gasoline		ND	
Kerosene		ND	
Diesel	 	ND	
No. 2 Fuel Oil		ND	
No. 4 Fuel Oil		ND	
No. 6 Fuel Oil		<u>ND</u>	
Waste Oil		<u>ND</u>	
Petroleum Constituent	*	ND ND	
Total Petro. Hydrocarbons		ND	
DETECTION LIMIT			
Water Matrix		*	
Solid Matrix	10.0	mg/Kg	
Notes and Definitions	for thi	s Report:	
EXTRACTED 11/24/97			
DATE RUN 11/25/97			
ANALYST PL			
INSTRUMENT HP 5			
N.O.S. = Not Otherwi	se Speci	fied	
ND = Compound(s) not			
above detection limi			
Comments			

Received: 11/20/97

Results by Sample

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 I	IMIT		RESULT :	IMIT
Chloromethane	ND	10	o-Xylene	ND	5.0
Bromomethane	ND	5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	<u>ND</u>	2.0	1,2-Dichlorobenzene	ND	5.0
Chloroethane	<u>ND</u>	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	ND	<u>5.0</u>	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-Butyl benzene	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-Dichtoroethene	ND	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichtorpropane	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-Dichtoropropene	ND	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	ND	5.0
p-Isopropyltoluene	ND	10	Styrene	ND	5.0

DATE RUN	11/29/97	
ANALYST	XL	
INSTRUMENT	<u>B</u>	
DIL. FACTOR	1	
STINU	ug/Kg	
COMMENTS		

Received: 11/20/97

Results by Sample

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

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
Notes and Definit	ions for this Report:
EXTRACTED 11/24/	97
DATE RUN 11/25/9	
ANALYST PL	
INSTRUMENT H	P 5
N.O.S. = Not Oth	erwise Specified
ND = Compound(s)	not detected
above detection	limit .
Comments	

Received: 11/20/97

Results by Sample

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

PARAMETER	RESULT	
JP-4	ND	
Gasoline	ND ND	
Kerosene	ND	
Diesel	ND	
No. 2 Fuel Oil	ND	
No. 4 fuel Oil	ND	
No. 6 Fuel Oil	ND	
Waste Oil	<u> </u>	
Petroleum Constituent	ND	
Total Petro. Hydrocarbons	ND	
DETECTION LIMIT		
Water Matrix	*	
Solid Matrix	10.0 mg/Kg	
Notes and Definition	s for this Report:	
EXTRACTED 11/24/97		
DATE RUN 11/25/97		
ANALYST PL		
INSTRUMENT HP 5		
N.O.S. = Not Otherw	ise Specified	
ND = Compound(s) not	t detected	
above detection limi	it	
Comments		
Conneries		

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE ID MC-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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 ND 0.50 mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN: 11/26/97

ANALYST:

INSTRUMENT: DIL. FACTOR:

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE ID WC-SB4B FRACTION O6A 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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroctor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN: <u>11/26/97</u>
ANALYST: <u>CK</u>

ANALYST: CK
INSTRUMENT: HP1

DIL. FACTOR: ___1

TOXIKON CORP. REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

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 <u>ND 0.50</u> mg/Kg Aroctor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN:

11/26/97

ANALYST:

INSTRUMENT: HP1
DIL. FACTOR: 1

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE 1D 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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroctor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroctor 1248

11097-69-1 <u>ND 0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN: 11/26/97

ANALYST:

INSTRUMENT: HP1
DIL. FACTOR: 1

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE ID WC-SB6A FRACTION O9A 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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroctor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND 0.50</u> mg/Kg Aroctor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN:

11/26/97

ANALYST:

CK

INSTRUMENT: HP1

DIL. FACTOR: ___1

TOXIKON CORP. REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE 1D WC-SB6B 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 <u>ND 0.50</u> mg/Kg Aroctor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

11/26/97

DATE RUN:

ANALYST: INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN: 11/26/97

ANALYST:

INSTRUMENT:

DIL. FACTOR:

TOXIKON CORP. REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE 1D MC-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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: <u>11/25/97</u>

DATE RUN: 11/26/97

ANALYST:

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroctor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Araclor 1242

12672-29-6 <u>ND</u> 0.50 mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN: 11/26/97

ANALYST: CK

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE ID MC-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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND 0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN: 11/26/97

ANALYST:

INSTRUMENT:

DIL. FACTOR:

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE ID MC-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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: <u>11/25/97</u>

DATE RUN:

11/26/97

ANALYST:

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP. REPORT Work Order # 97-11-392

Received: 11/20/97

Results by Sample

SAMPLE ID WC-S898

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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroctor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> 0.50 mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: <u>11/25/97</u>

DATE RUN: 11/26/97

CK ANALYST:

INSTRUMENT:

DIL. FACTOR: 1

TOXIKON CORP. REPORT Work Order # 97-11-392

Received: 11/20/97

Results by Sample

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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 ND 0.50 mg/Kg Aroclor 1221 .

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/kg Aroclor 1248

11097-69-1 <u>ND</u> 0.50 mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN: 11/26/97

ANALYST: CK

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP. REPORT Work Order # 97-11-392

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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 ND 0.50 mg/Kg Aroctor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroctor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN:

11/26/97

ANALYST:

<u>CK</u>

INSTRUMENT: HP1

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-392

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 <u>ND 0.50</u> mg/Kg Aroctor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND 0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/25/97

DATE RUN:

11/26/97

ANALYST:

INSTRUMENT:

HP1

DIL. FACTOR:

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Results by Sample

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 <u>ND 0.50</u> mg/kg Aroclor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> 0.50 mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: <u>11/25/97</u>

DATE RUN:

11/26/97

ANALYST:

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Test Methodology

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.

TOXIKON CORP.

REPORT

Work Order # 97-11-392

Received: 11/20/97

Test Methodology

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.

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

CHAIN OF CUSIODY RECORD

DUE DATE : 12 - 97

ANALYSES							SPECIAL SPECIAL INSTRUCTIONS/							,								CHICAY INDITE AVO 335INISITE HSITE	ROUTINE		contaminants in these samples other than	those listed above? Yes No / If Yes 1st Known
CONTAINER TYPE	P. PLASTIC	/ / ss						У. Ж.	· ×	×	X Y	×	×	`<	×	`×.	×	`.	¥	<i>'</i> .			TIME 1/ 1/2 - 7		TIME:	
SAMPLE TYPE	1. WASTEWATER	2. SOIL	3. SLUDGE 4. OIL	5. DRINKING WATER	6. WATER (GW/MW/SW)	7. OTHER (SPECIFY	PRESERVATIVE	2.0014	\$	77	7.340 CA	348-4	2002	2.40.4	5000	SUBLI	23 10 1.2	20,4004	FED DC	211012				OR LAB BY		<i>I</i> PERATURE
			1000			4	SAMPLING DATE TIME	18/18/2 1102	10.00	1/2/47 15.00	<u> </u>	May Part		Water Loss		1/9/4 1045	148/ 111.C	Sec. 11 11 17 1811	121 014/	77463 1145	QUOTATION		KECEIVED BY:	RECEIVED FOR LAB BY		COOLER TEMPERATURE
		10:73	74) 305 00 FAX #: (181) 80-		. 1	VY1 / 17	ER #	-	- -		1 22		,,,-	- 0	-	-	-		- (2)				1		-	
Westward Case	11,1	17/2	FAX #		11.11 M	17:17	SAMPLE CONTAIN TYPE SIZE TYPE	13 0 2		10 ×		1.08.03	72.7%	74 18 (2)	100	203 1		272 11	20 - 11			ł		-) (,	ı
JW. NO	11.417	1 C 7 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2	1000X		ER: A	LION:		7 - 6		- 3.	3	A	77 2 2 2	SA Sec.	10 GE	1 V V	A. 97		537B Ca	88A Se	DATE	TIME	TIME	DATE	TIME	
1 1			#:		PROJECT MANAGER: Notes Hallicary	PROJECT ID/LOCATION: (17)	SAMPLE IDENTIFICATION	ME SEL	- Sec. 18	1982 - JM	WC SRS	MC-564A	A trade SM	MC-505A	WC SBSB	Wc- 58 6A	WC- 586B	MERSERA	WC-53	9 · JM	. BY:	1145 F 140	MELINACISHED BT.	SHED BY		METHOD OF SHIPMENT
COMPANY	ADDRESS		PHONE #:	P.O. #:	PROJE	PROJE	TOXIKON *		ςĮ.	5	>	147	2	4.	مزا	5	0/	1.5	151	Q	SAMPLED BY.	104 7	AELINGUISH AELINGUISH	RELINQUISHED BY		METHOD OF



ζ.

CHAIN OF CUSTODY RECORD

WORK ORDER #: 27 - 17 - 272

DUE DATE

COMPANY: ADDRESS:	(Sood	Water						SAMPLE TYPE	{	CONTAINER TYPE	R TYPE				ANA	ANALYSES			
PHON	(781) #	3 2000 c	FAX	() #	7.3	\$50M	100	2. SOIL 3. SLUDGE 4. OIL		G-GLASS V-VOA									
PROJE	PROJECT MANAGER: 10/2012 PROJECT ID/LOCATION: 7.7	1. 10/21 ON: 1-1		Houlday	1.124 x			5. DRINKING WATER 6. WATER (GWIMN/SW) 7. OTHER (SPECIFY	S WATER SWMM/SM SPECIFY										
TOXIKON	SAMPLE IDENTIFICATION	SAMPLE TYPE	_ lo	CONTAINER	R #	SAM	SAMPLING NATE TIME	PRESERVATIVE	1									INS	SPECIAL INSTRUCTIONS/
<i>[h]</i>	M/C-588	3	C.	27		(6/1.1/11	1100	AGOUT C	 	×		-		-		-	-		
15	MC-589A	1 501		(3)	-	1411	7.14.17	24014		-,,				_					
76	8695-7W		(xo)	\S	· -	1.1/1./4.)	2	2 13000	×										
17	WC-SEINA	A		۷)	-	1. 5/1. 1/11	1 125	S none		×									
3/	adiss on		11	5	_	1/4-1/1	::	14 D 19	<u> </u>										
5/	MC-4811 A	ASP	12.	5		1 / is/	7.7	2 Por								-	-		
م. م. ه	WC - 2811 E	186 3	1.	, i ,		$F_{f_{i},f_{i},f_{i}}$	1.3.1) (cor	*										
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SAMPLED BY:) BY:	DATE:	•			ಶ	QUOTATION #	:# NO					_						
	E. Noving	TIME	•		•									מוכר	-		2	Ē	<u>.</u>
LANGUISHED BY	ANALINGUISHEU BY	UALE: 11	. リン ロ エ	=	- - -	7	KEÇEIVEL 	AY.		DATE: / TIME: //		20 - 7		ROUT	INE .		50.00	אַ אַרַ	AROUTINE
RELINGUI	RELINQUISHED BY	DATE	1 1		. .	HH 1	RECEIVED	FOR LAB BY		DATE				Sample disposal information Are there any other known or suspected	dispo:	sal info r known	rmatic or susp	in ected	
METHOD (TED)	METHOD OF SHIPMENT					8	OLER 1	COOLER TEMPERATURE					\$ \$ \$ \$	those listed above?	d above	ese samples	pes our	ne man	

Work Order # 97-11-452

Received: 11/21/97

12/03/97 14:31:14

REPORT	WOODWARD - CLYDE CONSULTA	NTS	PREPARED	TOXIKON CORPORATION			1
10	ONE CRANBERRY HILL		BY	15 WIGGINS AVE		(1)/1	
	LEXINGTON, MA. 02173			BEDFORD, MA 01730		Voula gr	all
	617-863-0667 FAX: 863-080	17				CERTIFIED BY	المرا
ATTEN	MARK HOULDAY		ATTEN	PAUL LEZBERG			
			PHONE	(617)275-3330		CONTACT JOHNM	
CLIENT	WOODWARD SAMPLE	s <u>23</u>					
COMPANY	WOODWARD - CLYDE CONSULTA	NTS	MA CERT #	M-MAO64: TRACE METAL	S, SULFA	TE, CYANIDE, RES. FR	REE
FACILITY	ONE CRANBERRY HILL		CHLORINE	Ca, TOTAL ALK., TDS	pH, THM	S, VOC. PEST. NUTR	RIENTS.
	LEXINGTON, MA. 02173		DEMAND. C	&G, PHENOLICS, PCBs	CT DHS	#PH-0563, NY #1077	<u>'8</u>
			FL HRS EE	7143, NJ DEP 59538, N	C DNR286	, SC 88002, NH 204	091-C.
WORK ID	EPRI/LENOX						
TAKEN	11/19/97 AND 11/20/97		VERIFIED	BY: / Mil high	46-		
TRANS			CERT # M-	MA064			
TYPE	SOIL			9			
P.O. #							
INVOICE	under separate cover						
SAMPLE	IDENTIFICATION			TEST CODES and NAMES	used on	this workorder	
01 WC-SS1		8260	PURGEABL	E ORGANICS VOA			
02 MC-285		EPETS	EXTRACTI	ON GC PET SOIL			
03 <u>wc-ss</u> 3	<u> </u>	GC PET	PETROLEU	M SCAN BY GC			
04 WC-554		MEX HG	METALS,	EXT. FOR MERCURY			
05 WC-585		MEX TS	METALS,	TOTAL EXT., SOIL			
<u>06 wc-sse</u>	<u> </u>	PCB S	PCB - SW	846-8080			
07 <u>wc-ss</u> 7	,	PP13	METALS, 1	3 PRI.POLL.			
<u>08 wc-ss8</u>							
09 WC-SS9							
10 wc-ss1							
11 WC-SS1							
12 WC-SS1							
13 WC-SS1							
14 WC-SS1				•			
15 WC-SS1							
16 WC-SS1							
17 WC-SS1							
18 WC-SS1							
<u>19 WC-SB1</u> 20 WC-SB1							
21 WC-SB1							
22 WC-SB1							
23 WC-SD1							
wu-301							

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID WC-SS1

FRACTION <u>O1A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>11/20/97 09:35:00</u> Category <u>SOIL</u>

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND ND
No. 2 fuel Dil	ND ND
No. 4 Fuel Oil	ND ND
No. 6 Fuel Oil	ND 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 Definitio	ns for this Report:
EXTRACTED 12/01/97	
DATE RUN 12/02/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Other	wise Specified
ND = Compound(s) n	ot detected
above detection li	mit
Comments	C18-C32

TOXIKON CORP.

REPORT

Work Order # 97-11-452

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 <u>ND</u> <u>0.50</u> mg/kg Aroclor 1016

11104-28-2 ND 0.50 mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> 0.50 mg/Kg Aroctor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED:

12/02/97

DATE RUN:

12/02/97

ANALYST:

CK

INSTRUMENT: DIL. FACTOR:

TOXIKON CORP.

REPORT

Work Order # 97-11-452

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

RESULT LIMIT UNITS ANALYTE CAS NUM.

12674-11-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1221

11141-16-5 ND 0.50 mg/Kg Aroctor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> 0.50 mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> 0.50 mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN:

12/02/97

ANALYST:

_CK

INSTRUMENT: DIL. FACTOR: 1

HP2

TOXIKON CORP. REPORT Work Order # 97-11-452

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 <u>ND</u> 0.50 mg/Kg Aroclor 1016

11104-28-2 ND 0.50 mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 ND 0.50 mg/Kg Aroclor 1248

11097-69-1 <u>ND 0.50</u> 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:

INSTRUMENT: HP2

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-452

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

PARAMETER JP-4 Gasoline Kerosene Diesel No. 2 Fuel Oil No. 4 Fuel Oil No. 6 Fuel Oil	ND ND ND ND ND ND ND ND
Kerosene Diesel No. 2 Fuel Oil No. 4 Fuel Oil No. 6 Fuel Oil	ND ND ND
Diesel No. 2 Fuel Oil No. 4 Fuel Oil No. 6 Fuel Oil	ND ND
No. 2 Fuel Oil No. 4 Fuel Oil No. 6 Fuel Oil	ND
No. 4 Fuel Oil No. 6 Fuel Oil	ND
No. 6 Fuel Oil	
	ND
11	ND
Waste Dil	ND
Petroleum Constituent	NO
Total Petro. Hydrocarbons	ND
Water Matrix	10.0 mg/Kg
Notes and Definitions fo	
EVIDACIED 12/01/07	
EXTRACTED <u>12/01/97</u> DATE RUN 12/02/97	
ANALYST PL	
INSTRUMENT HP 5	
N.D.S. = Not Otherwise	Specified
ND = Compound(s) not de	etected
above detection limit	
Comments	
Commonto	

-s'

TOXIKON CORP.

REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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 <u>ND 0.50</u> mg/Kg Aroctor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroctor 1242

12672-29-6 ND 0.50 mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> 0.50 mg/Kg Aroctor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/02/97

ANALYST: CK

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID WC-SS5

FRACTION <u>05A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>11/20/97 10:40:00</u> Category <u>SOIL</u>

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

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID MC-SSS 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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN:

12/02/97

ANALYST:

<u>CK</u>

INSTRUMENT: HP2

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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

PARAMETER	RESULT
JP-4	ND
Gasoline	ND ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND.
No. 4 Fuel Oil	ND
No. 6 Fuel Dil	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 Definition	ons for this Report:
EXTRACTED 12/01/97	, -
DATE RUN 12/02/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Other	wise Specified
ND = Compound(s) n	•
above detection li	mit
	C18-C32

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID WC-SS6 FRACTION OGA 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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/02/97

ANALYST:

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID MC-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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Arocior 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroctor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/03/97

ANALYST:

INSTRUMENT:

DIL. FACTOR: 1

TOXIKON CORP. REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID WC-SS8 FRACTION OBA 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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND 0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> 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

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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 <u>ND 0.50</u> mg/Kg Aroctor 1016

11104-28-2 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> 0.50 mg/Kg Aroctor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 ND 0.50 mg/Kg Araclar 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/03/97

ANALYST: _CK

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> 0.50 mg/kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Araclor 1260

Notes and Definitions for this Report:

EXTRACTED:

12/02/97

DATE RUN:

12/03/97

ANALYST:

CK

INSTRUMENT:

DIL. FACTOR:

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE 1D MC-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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/03/97

ANALYST: _CK

INSTRUMENT:

DIL. FACTOR: ___1

...

TOXIKON CORP.

REPORT

Work Order # 97-11-452

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 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>1.2</u> <u>1.0</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Arocior 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 11/26/97

DATE RUN:

12/03/97

ANALYST:

CK

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP. REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID MC-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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroctor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND 0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/03/97

ANALYST:

INSTRUMENT:

DIL. FACTOR: ___1

TOXIKON CORP. REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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 <u>ND 0.50</u> mg/Kg Aroclor 101o

11104-28-2 ND 0.50 mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroctor 1242

12672-29-6 <u>ND</u> 0.50 mg/kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 125-

11096-82-5 <u>0.70</u> <u>0.50</u> mg/Kg Aroctor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN:

12/03/97

ANALYST:

CK

INSTRUMENT:

____нР2

DIL. FACTOR: 1

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE 1D 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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroctor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>0.70</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/03/97

ANALYST:

INSTRUMENT:

DIL. FACTOR:

TOXIKON CORP. REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE ID WC-SS16 FRACTION 16A TEST CODE PCB 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 <u>ND 0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND 0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND 0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/03/97
ANALYST: CK

ANALYST: CK
INSTRUMENT: HP2

DIL. FACTOR: ___1

TOXIKON CORP.

REPORT Work Order # 97-11-452

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 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1016

11104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1232

53469-21-9 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND</u> 0.50 mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN: 12/03/97

_CK ANALYST:

INSTRUMENT:

DIL. FACTOR: ___1

ND = Not detected at detection limit

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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 <u>ND</u> <u>0.50</u> mg/Kg Aroctor 1016

111104-28-2 <u>ND 0.50</u> mg/Kg Aroclor 1221

11141-16-5 <u>ND 0.50</u> mg/Kg Aroclor 1232

53469-21-9 <u>ND 0.50</u> mg/Kg Aroclor 1242

12672-29-6 <u>ND 0.50</u> mg/Kg Aroclor 1248

11097-69-1 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1254

11096-82-5 <u>ND</u> <u>0.50</u> mg/Kg Aroclor 1260

Notes and Definitions for this Report:

EXTRACTED: 12/02/97

DATE RUN:

12/03/97

ANALYST:

INSTRUMENT:

HP2

DIL. FACTOR: 1

ND = Not detected at detection limit

REPORT

Work Order # 97-11-452

ND 5.0

Received: 11/21/97

Results by Sample

SAMPLE ID WC-SB12

Ethyl Benzene

p-Isopropyltoluene

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 10 1,3-Dichlorobenzene ND 5.0 ND Methylene Chloride 10 1,4-Dichlorobenzene ND ND 5.0 1,1-Dichloroethene Naphthalene ND ____10 Trichlorofluoromethane ND 10 n-Propylbenzene ND 10 1,1-Dichloroethane ND 5.0 ND 5.0 Bromobenzene 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 ND _5.0 1,1,1-Trichloroethane ND 10 tert-Butylbenzene 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 Dibromomethane <u>ND</u> __5.0 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-Dichtorpropane 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 <u>ND</u> __5.0 Tetrachloroethene 1,2,3-Trichloropropane ND 5.0 5.0 ND 10 Methyl tertiary butyl ether ND _ 1,2,4-Trimethylbenzene Toluene 5.0 1,3,5-Trimethylbenzene ND 10 ND Chlorobenzene ND 5.0 cis-1,3-Dichloropropene ND 5.0

ND 5.0

ND 10

ANALYST	XL		
INSTRUMENT		<u>B</u>	
DIL. FACTOR	1		
UNITS	ug/Kg		
COMMENTS			

Styrene

trans-1,3-Dichloropropene

REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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

PARAMETER	RESULT
JP-4	ND
Gasoline	ND ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Dil	ND
No. 4 Fuel Oil	ND 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 Defini	tions for this Report:
EXTRACTED 12/01	<u>/97</u>
DATE RUN <u>12/02/</u>	97
ANALYST P	<u>L</u>
INSTRUMENT	HP 5
N.O.S. = Not Ot	herwise Specified
ND = Compound(s) not detected
above detection	limit
Comments	C30-C32

REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

SAMPLE 1D WC-SB13 FRACTION 20A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA Date & Time Collected 11/19/97 15:00:00 Category SOIL

	RESULT L	.IMIT		RESULT I	.IMIT
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
Chloroetha ne	ND	10	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	ND	10	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	<u>ND</u>	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-Trichtoroethane	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	<u>5.0</u>	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
Tetrachloroeth ene	ND	<u>5.0</u>	1,2,3-Trichloropropané	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	NO	5.0

DATE RUN	12/02/97	
ANALYST	<u>XL</u>	
INSTRUMENT	В	
DIL. FACTOR	1	
JNITS	ug/Kg	
COMMENTS		

TOXIKON CORP. REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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

PARAMETI	ER	RESUL	Ť	
JP-4	-"		ND	
Gasoli	ne		ND	
Kerosei	ne		ND	
Diesel			ND ND	
No. 2 I	Fuel Oil		ND	
No. 4	Fuel Oil		ND	
No. 6 I	Fuel Oil		ND	
Waste O	il		<u>ND</u>	
Petrolei	um Constituent		ND	
Total Pe	etro. Hydrocarbons		ND	
Solid N	Matrix	10.0	mg/Kg	
	Notes and Definition			
	Notes and permittion.	3 101 (111	s report.	
	EXTRACTED 12/01/97			
	DATE RUN 12/02/97			
	ANALYST PL			
	INSTRUMENT <u>HP 5</u>			
	N.O.S. = Not Otherw	ise Speci	fied	
	ND = Compound(s) no	t detecte	ď	
	above detection lim	it		
	Comments			

Page 28 TOXIKON CORP. REPORT Work Order # 97-11-452
Received: 11/21/97 Results by Sample

SAMPLE ID WC-SB14

FRACTION 21A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 11/19/97 15:30:00 Category SOIL

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	NC	10	o-Xylene	N	5.0
Bromomethane	NI	5.0	m+p-Xylene	N	5.0
Vinyl Chlori de	NC	2.0	1,2-Dichtorobenzene	N	<u>5.0</u>
Chloroethane	NC	10	1,3-Dichlorobenzene	N	5.0
Methylene Chloride	NC	10	1,4-Dichlorobenzene	N	5.0
1,1-Dichloroethene	NC	5.0	Naphthalene	NI	10
Trichlorofluoromethane	NC	10	n-Propylbenzene	NI	10
1,1-Dichloroethane	NC	5.0	Bromobenzene	N	5.0
Trans-1,2-Dichloroethene	NC	5.0	Bromchloromethane	NI	5.0
Chloroform	NC	5.0	n-Butyl benzene	N	10
1,2-Dichloroethane	NC	5.0	sec-Butylbenzene	N	10
1,1,1-Trichtoroethane	ND	5.0	tert-Butylbenzene	N	10
Carbon Tetrachloride	NC	5.0	2-Chlorotoluene	NE	5.0
Bromodichloromethane	NC	5.0	4-Chlorotoluene	N	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	NI	5.0
Trichloroethene	ND	_5.0	1,2-Dibromomethane	N(5.0
Dibromochloromethane	NO	5.0	Dibromomethane	NO	5.0
1,1,2-Trichloroethane	ND	_5.0	Dichlorodifluoromethane	N[10
Benzene	ND	5.0	cis-1,2-Dichloroethene	N	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	N	5.0
2-2-Dichlorpropane	ND	5.0	1,1,1,2-Tetrachloroethane	N[5.0
Bromoform	ND	_5.0	1,2,3-Trichlorobenzene	N	5.0
Hexachlorobutadiene	ND	10	1,1,2,2-Tetrachloroethane	N(5.0
I sopropyl ben zene	ND	10	1,2,4-Trichlorobenzene	N(5.0
Tetrachloroethene	ND	_5.0	1,2,3-Trichloropropané	N	5.0
Methyl tertiary butyl ether	ND	5.0	1,2,4-Trimethylbenzene	N[10
Totuene	ND	5.0	1,3,5-Trimethylbenzene	N(10
Chlorobenzene	ND	_5.0	cis-1,3-Dichtoropropene	NE	5.0
Ethyl Benzene	ND	5.0	trans-1,3-Dichloropropene	N.C	5.0
p-Isopropyltoluene	ND	10	Styrene	NC	5.0

DATE RUN	12/02/97	
ANALYST	XL	
INSTRUMENT	8	
DIL. FACTOR	1	
UNITS	ug/Kg	
COMMENTS		

TOXIKON CORP. REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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

	•
PARAMETER	RESULT
JP-4	ND
Gasoline	NO
Kerosene	ND
Diesel	<u>ND</u>
No. 2 Fuel Oil	ND
No. 4 Fuel Dil	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	s for this Report:
EXTRACTED 12/01/97	
DATE RUN 12/02/97	
ANALYST PL	
INSTRUMENT <u>HP 5</u>	
N.O.S. = Not Otherwi	ise Specified
ND = Compound(s) not	•
above detection limi	
Comments	

Received: 11/21/97

Results by Sample

SAMPLE ID WC-SB15

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

	RESULT	LIMIT		RESULT	LIMIT
Chloromethane	N	ID 10	o-Xyl ene	ND	5.0
Bromomethane	N	ID 5.0	m+p-Xylene	ND	5.0
Vinyl Chloride	N	D 2.0	1,2-Dichlorobenzene	ND	5.0
Chioroethane	N	<u>10</u>	1,3-Dichlorobenzene	ND	5.0
Methylene Chloride	N	<u>10</u>	1,4-Dichlorobenzene	ND	5.0
1,1-Dichloroethene	<u>`</u> N	<u> 5.0</u>	Naphthalene	ND	10
Trichlorofluoromethane	N	<u>10</u>	n-Propylbenzene	ND	10
1,1-Dichloroethane	N	<u> 5.0</u>	Bromobenzene	ND	5.0
Trans-1,2-Dichloroethene	N	D 5.0	Bromchloromethane	ND	5.0
Chloroform	N	<u> 5.0</u>	n-Butyl benzene	ND	10
1,2-Dichloroethane	N	D 5.0	sec-Butylbenzene	ND	10
1,1,1-Trichloroethane	N	D <u>5.0</u>	tert-Butylbenzene	ND	10
Carbon Tetrachloride	N	D 5.0	2-Chlorotoluene	ND	5.0
Bromodichloromethane	N	D 5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	N	D 5.0	1,2-Dibromo-3-chloropropane	ND.	5.0
Trichloroethene	N	D <u>5.0</u>	1,2-Dibromomethane	ND	5.0
Dibromochloromethane	N	D 5.0	Dibromomethane	ND	5.0
1,1,2-Trichloroethane	N	D 5.0	Dichtorodifluoromethane	ND	10
Benzene	N	<u> 5.0</u>	cis-1,2-Dichloroethene	ND	5.0
1,1-Dichloropropene	N	0 5.0	1,3-Dichloropropane	ND	5.0
2-2-Dichlorpropane	N	<u> 5.0</u>	1,1,1,2-Tetrachloroethane	ND	5.0
Bromoform	N	<u> 5.0</u>	1,2,3-Trichtorobenzene	ND	5.0
Hexachlorobutadiene	N	0 10	1,1,2,2-Tetrachloroethane	ND	5.0
I sopropyl benzene	Ni	10	1,2,4-Trichlorobenzene	ND	5.0
Tetrachloroethene	NI	5.0	1,2,3-Trichloropropane	ND	5.0
Methyl tertiary butyl ether	NI	5.0	1,2,4-Trimethylbenzene	ND	10
Toluene	N	5.0	1,3,5-Trimethylbenzene	ND	10
Chlorobenzene	N1	5.0	cis-1,3-Dichloropropene	DM	5.0
Ethyl Benzene	NE	5.0	trans-1,3-Dichloropropene	<u>ND</u>	5.0
p-!sopropyltoluene	N(10	Styrene	ND	5.0

ATE RUN	12/02/97		
NALYST	<u>XL</u>		
NSTRUMENT		<u>B</u>	
IL. FACTOR	1		
NITS	ug/Kg		
OMMENTS			

REPORT

Work Order # 97-11-452

Received: 11/21/97

SAMPLE ID WC-SB15

Results by Sample

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 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 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

TOXIKON CORP. REPORT Work Order # 97-11-452

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

ND = Not detected at detection limit

TOXIKON CORP. REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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

	RESULT	LIMIT		RESULT L	IMIT
Chloromethane	NC	50	o-Xylene	195	25
Bromomethane	NC	25	m+p-Xylene	204	25
Vinyl Chloride	NC	10	1,2-Dichlorobenzene	ND	25
Chloroethane	NC	50	1,3-Dichlorobenzene	ND	25
Methylene Chloride	NE	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	NC	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-Dichtorpropane	NO	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-Trichloropropané	ND	25
Methyl tertiary butyl ether	ND	25	1,2,4-Trimethylbenzene	859	50
Toluene	ND	25	1,3,5-Trimethylbenzene	691	50
Chlorabenzene	ND	25	cis-1,3-Dichloropropene	ND	25
Ethyl Benzene	55.9	25	trans-1,3-Dichloropropene	ND _	25
p-lsopropyltoluene	181	50	Styrene	ND	25

DATE RUN	12/02/97		
NALYST	<u> XL</u>		
NSTRUMENT		B	
IL. FACTOR	5		
INITS	ug/Kg		
COMMENTS			

TOXIKON CORP. REPORT Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	<u>ND</u>
No. 4 Fuel Oil	ND
No. 6 Fuel Oil	ND ND
Waste Oil	<u>ND</u>
Petroleum Constituent	53000 mg/Kg
Total Petro. Hydrocarbons	53000 mg/Kg
DETECTION LIMIT	
Water Matrix	*
Solid Matrix	10.0 mg/Kg
Notes and Definiti	ons for this Report:
EXTRACTED 12/01/9	<u>7</u>
DATE RUN 12/03/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. ≈ Not Other	rwise Specified
NO = Compound(s)	not detected
above detection l	imit
Comments	C18-C32

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Results by Sample

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

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

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Test Methodology

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

TOXIKON CORP.

REPORT

Work Order # 97-11-452

Received: 11/21/97

Test Methodology

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.

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

CHAIN OF CUSTODY RECORD

WURK URUER #: 17-11-434

DUE DATE

ANALYSES						SPECIA SPECIA COMMENT COMMENT											•	die de la company				LI KUSH BUSINESS DAY TURN AROUND BIRDI ITINE	Sample disposal information	Are there any other known or suspected contaminants in these samples other than	those listed above? Tes No If Tes 1st Known
ш	60.	No.	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \											5 *							21.57	ردر . عد		
CONTAINER TYPE	P.PLASTIC G-GLASS	V-VOA				10	×	X	X	×	×	×	×	×	×	×	×	×	×			DATE: //	DATE	TIME	
SAMPLE TYPE	1. WASTEWATER 2. SOIL	3. SLUDGE	5. DRINKING WATER	6. WATER (GWIMMISW)	7. OTHER (SPECIFY	PRESERVATIVE	none	hone.	none	กะทะ	nonc	none	none	honc	honc	hone	nonc	nonc	hone			<u>_</u>	OR LAB BY:		TEMPERATURE
COMPANY: Whodward C'yde	One Crantifry Hills			Z	OCATION: FORT / LONGK	LE SAMPLE CONTAINER SAMPLING	1 50 1 124 (2)	1 6 12 105	50:1 22 6 1	1 15 76, 1:05	301 1/2 G 1 1/1/47/104	501 1/2 (5 1 1/120/97)	1961 1 6 1 11091	Spil 126 G	1 3 79 135	Sol 1/2 G 1	1 Soll-1 6 1	1 9 74 105	1 9 79 1195	QUOTAT	TIME:	1/ - 7 RECEIVED B	DATE: 14/7/ - RECEIVED F		COOLEP
COMPANY: 124	ADDRESS: ()	PHONE #: (78)	P.O.#:	PROJECT MANAGER:	PROJECT ID/LOCATION:	TOXIKON SAMPLE IDENTIFICATION	/ WC-58	2 WC-552	3 WC-553	4 WC-554	5 WC-555	955-JM 9	7 WC-557	8 WC-558	9 WC-589	N WC-5510	11 WC-5511	12 WC-5512	B WC-5513	SAMPLED BY:	1. H05hc45	RELINQUISHED BY	RELINQUISHED BY		METHOD OF SHIPMENT



CHAIN OF CUSTODY RECORD

Jof D.

**ORK UNUER #. 17 - 11 - 420

DUE DATE

ANALYSES	//////////////////////////////////////			SPECIAL INSTRUCTIONS COMMENTS							₫.							LU KUSH BUSINESS DAY TURN AROUND	MROUTINE Cample disposal information	Sample disposal monthlation Are there any other known or suspected	contaminants in these samples other than	those listed above? Thes No If Yes, 1st Known
CONTAINER TYPE	G. GLASS G. GLASS V. VOA	237 900 (35)	3						(R)	××	XX	×	* × ×	× ×				DATE: // -31 -97	TIME: /8 -00	DATE:	TIME	
SAMPLE TYPE CO	1. WASTEWATER P - 1 2. SOIL G - 4 3. SLUDGE V - 7	4. OIL 5. DRINIGNG WATER	7. OTHER (SPECIFY	PRESERVATIVE	o hone X	5 hone X	none X	5 none X	None X	~~	hone	o nonc	nonc	non	•	e ·	.# Z	_		FOR LAB BY D		COOLER TEMPERATURE
rd alude	1 1/4 02173	P.O. #:	MAIK HOWICAN	SAMPLE CONTAINER SAMPLING TYPE SIZE TYPE # DATE TIME	122	50:1 131 (3 1 11/20/97 1225	50.1 1/2 G 1 1/1/47 1235	50-1 22 6 1 120/97 1305	_	501 100 G 2 "1917 1430	6011 WA G 2 11/9/17 1500	6 2 11/19/11/15	501 /24 G 2 14/20/97 1035	Sed in 12 G 2 1247 0830	7	j	DATE: QUOTATION #	11- 20 - 9 7 RECEIVED	1447 - 141	DATE: - RECEIVED	TIME	COOLER TI
COMPANY: (1) DISCUIRTA CLUCK	ADDRESS: FOR Clarker CA	PHONE #: (781) 8632 P.O. #:	PROJECT ID/LOCATION:	TOXIKON SAMPLE S	14 WC-5514	15 WC-5515	115 - JW - 5516	17 WC-5517	18 WC-5518	19 Wc-5B12	20 WC-5B13	21 WC-5814	22 WC-5815	$\neg \neg$						RELINQUISHED BY		METHOD OF SHIPMENT

REPORT

Work Order # 97-12-229

Received: 12/10/97

12/23/97 11:17:31

REPORT	WOODWARD - CLYDE CONSULTANTS	PREPARED TOXIKON CORPORATION	
TO	ONE CRANBERRY HILL	BY 15 WIGGINS AVE	$\Omega = 0$
	LEXINGTON, MA, 02173	BEDFORD, MA 01730	Quy or heder
	617-863-0667 FAX: 863-0807		CERTAFIED BY
ATTEN	MARK HOULDAY	ATTEN PAUL LEZBERG	•
		PHONE (617)275-3330	CONTACT JOHNM
CLIENT	WOODWARD SAMPLES 11		
COMPANY	WOODWARD - CLYDE CONSULTANTS	MA CERT # M-MA064: TRACE METALS, SULFA	TE, CYANIDE, RES. FREE
FACILITY	ONE CRANBERRY HILL	CHLORINE, Ca. TOTAL ALK., TDS, pH, THE	Is. VOC. PEST., NUTRIENTS
	LEXINGTON, MA. 02173	DEMAND. O&G. PHENOLICS, PCBs . CT DHS	#PH-0563, NY #10778
		FL HRS E87143, NJ DEP 59538, NC DNB286	SC 88002, NH 204091-C
WORK ID	LENOX MA		
TAKEN	12/10/97	VERIFIED BY: / MEN KEY	_
TRANS		CERT # M-MA064	
TYPE	VATER		
INVOICE	under separate cover		
SAMPLI	IDENTIFICATION	TEST CODES and NAMES used or	this workorder
01 WC-MW	8260	PURGEABLE ORGANICS VOA	
02 WC-MW2	EPETH	EXTRACTION GC PET WATER	
03 WC-MW3	GC PE	T PETROLEUM SCAN BY GC	
04 MW1	MEX D	W METALS, DIS. EXT., WATER	
05 MW2	MEX H	G METALS, EXT. FOR MERCURY	
06 MW3	PP13	METALS, 13 PRI.POLL.	
07 MW4			
08 MW5			
09 MW7			
10 MW8			
11 MW9			

REPORT Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID WC-MW1

FRACTION D1A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA

Date & Time Collected 12/10/97 09:00:00 Category WATER

	RESULT LIMIT	:	RESULT LIMIT
Chloromethane	ND 10	o-Xyl ene	<u>ND</u> 5.0
Bromomethane	ND 5.0	m+p-Xylene	ND 5.0
Vinyl Chloride	<u>ND 2.0</u>	1,2-Dichlorobenzene	<u>ND</u> 5.0
Chloroethane	<u>ND 10</u>	1,3-Dichlorobenzene	ND 5.0
Methylene Chloride	<u>ND</u> <u>10</u>	1,4-Dichlorobenzene	<u>ND 5.0</u>
1,1-Dichloroethene	ND 5.0	Naph thalene	<u>ND</u> 10
Trichlorofluoromethane	<u>ND 10</u>	n-Propylbenzene	<u>ND</u> 10
1,1-Dichloroethane	<u>ND 5.0</u>	Bromobenzene	<u>ND</u> 5.0
Trans-1,2-Dichloroethene	ND 5.0	Bromchloromethane	<u>ND 5.0</u>
Chloroform	ND 5.0	n-Butylbenzene	<u>ND</u> 10
1,2-Dichloroethane	<u>ND 5.0</u>	sec-Butylbenzene	<u>ND</u> 10
1,1,1-Trichloroethane	ND 5.0	tert-Butylbenzene	<u>ND</u> 10
Carbon Tetrachloride	<u>ND 5.0</u>	2-Chlorotoluene	<u>ND</u> 5.0
Bromodichloromethane	ND 5.0	4-Chlorotoluene	<u>ND</u> 5.0
1,2-Dichloropropane	ND5.0	1,2-Dibromo-3-chloropropane	ND _5.0
Trichloroethene	ND _5.0	1,2-Dibromomethane	<u>ND</u> 5.0
Dibromochloromethane	ND _5.0	Dibromomethane	<u>ND 5.0</u>
1,1,2-Trichloroethane	ND 5.0	Dichlorodifluoromethane	<u>ND</u> 10
Benzene	ND 5.0	cis-1,2-Dichloroethene	ND 5.0
1,1-Dichloropropene	ND5.0	1,3-Dichloropropane	<u>ND 5.0</u>
2-2-Dichlorpropane	<u>ND</u> 5.0	1,1,1,2-Tetrachloroethane	<u>ND 5.0</u>
Bromoform	<u>ND 5.0</u>	1,2,3-Trichlorobenzene	<u>ND 5.0</u>
Hexachlorobutadiene	<u>ND</u> 10	1,1,2,2-Tetrachloroethane	<u>ND 5.0</u>
Isopropylbenzene	<u>ND</u> 10	1,2,4-Trichlorobenzene	ND 5.0
Tetrachloroethene	ND 5.0	1,2,3-Trichloropropane	ND 5.0
Methyl tertiary butyl ether	ND	1,2,4-Trimethylbenzene	<u>ND</u> 10
Toluene	<u>ND</u> 5.0	1,3,5-Trimethylbenzene	ND10
Chlorobenzene	ND _5.0	cis-1,3-Dichloropropene	<u>ND</u> 5.0
Ethyl Benzene	ND 5.0	trans-1,3-Dichloropropene	<u>ND</u> 5.0
p-Isopropyltoluene	<u>ND</u> 10	Styrene	ND _5.0

DATE RUN	12/18/97	
MALYST	<u>CMD</u>	
INSTRUMENT	<u>G</u>	
DIL. FACTOR	1	
JNITS	ug/L	
COMMENTS		

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID WC-MU1

FRACTION <u>01A</u> TEST CODE <u>GC PET NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 09:00:00</u> Category <u>WATER</u></u>

					,	
PARAMET	ER			RESUL		
JP-4					<u>ND</u>	
Gasol					<u>ND</u>	
Keros					<u>ND</u>	
Diese					<u>ND</u>	
	Fuel C				<u>ND</u>	
	Fuel C				<u>ND</u>	
	Fuel (Dil			<u>ND</u>	
Waste (<u>ND</u>	
. •		nstituer	· -		<u>ND</u>	
Total F	Petro.	Hydroca	rbons		<u>ND</u>	
DETECT	ION LIM	IIT				
Water	Matrix	.		1.0	mg/L	
Solid	Matrix	ı			*	
	Not	es and	Definitions	s for thi	s Report:	
	EXT	RACTED	12/13/97			
	DAT	E RUN	12/19/97			
			PL			
	INS	TRUMENT	HP 5			
	N.	o.s. =	Not Otherwi	ise Speci	fied	
	ND	= Comp	ound(s) not	detecte	d .	
	ab	ove det	ection limi	it		
	Corr	ments				

TOXIKON CORP.

REPORT Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MC-MM1 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	<u>ND</u>	0.010
Nickel	ND	0.020
Lead	ND	0.050
Antimony	ND	0.150
Selenium	ND	0.250
Thallium	<u>ŅD</u>	0.300
Zinc	<u>ND</u>	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

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MC-MM2 FRACTION 02A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA Date & Time Collected 12/10/97 16:15:00 Category WATER

	RESULT LIMIT	ı	RESULT LIMIT
Chloromethane	ND10	o-Xylene	<u>ND</u> 5.0
Bromomethane	<u>ND 5.0</u>	m+p-Xylene	<u>ND 5.0</u>
Vinyl Chloride	<u>ND 2,0</u>	1,2-Dichtorobenzene	ND 5.0
Chloroethane	<u>ND</u> 10	1,3-Dichlorobenzene	<u>ND 5.0</u>
Methylene Chloride	ND10	1,4-Dichtorobenzene	<u>ND 5.0</u>
1,1-Dichloroethene	ND _5.0	Naphthalene	6.2 10
Trichlorofluoromethane	<u>ND</u> 10	n-Propylbenzene	ND10
1,1-Dichloroethane	<u>ND</u> 5.0	Bromobenzene	<u>nd</u> 5.0
Trans-1,2-Dichloroethene	<u>ND 5.0</u>	Bromchloromethane	ND _ 5.0
Chloroform		n-Butylbenzene	ND10
1,2-Dichloroethane	ND 5.0	sec-Butylbenzene	<u>ND</u> 10
1,1,1-Trichloroethane	ND _5.0	tert-Butylbenzene	ND10
Carbon Tetrachloride	<u>ND 5.0</u>	2-Chlorotoluene	ND _5.0
Bromodichloromethane	ND 5.0	4-Chlorotoluene	<u>ND</u> 5.0
1,2-Dichloropropane	<u>ND</u> 5.0	1,2-Dibromo-3-chloropropane	<u>ND</u> 5.0
Trichloroethene	ND 5.0	1,2-Dibromomethane	<u>ND</u> 5.0
Dibromochloromethane	ND 5.0	Dibromomethane	ND 5.0
1,1,2-Trichloroethane	ND 5.0	Dichlorodifluoromethane	ND10
Benzene	<u>ND</u> 5.0	cis-1,2-Dichloroethene	<u>ND</u> 5.0
1,1-Dichloropropene	<u>ND</u> 5.0	1,3-Dichloropropane	<u>ND</u> 5.0
2-2-Dichlorpropane	<u>ND</u> 5.0	1,1,1,2-Tetrachloroethane	ND 5.0
Bromoform	ND 5.0	1,2,3-Trichlorobenzene	ND
Hexachlorobutadiene	<u>ND</u> 10	1,1,2,2-Tetrachloroethane	<u>ND</u> 5.0
Isopropylbenzene	<u>ND</u> 10	1,2,4-Trichlorobenzene	<u>ND 5.0</u>
Tetrachloroeth ene	ND _5.0	1,2,3-Trichloropropane	<u>ND</u> 5.0
Methyl tertiary butyl ether	<u>ND</u> 5.0	1,2,4-Trimethylbenzene	<u>5.5</u> 10
Toluen e	<u>ND 5.0</u>	1,3,5-Trimethylbenzene	<u>ND</u> 10
Chlorobenzene	ND 5.0	cis-1,3-Dichloropropene	<u>ND 5.0</u>
Ethyl Benzene	<u>ND 5.0</u>	trans-1,3-Dichloropropene	<u>ND</u> 5.0
p-Isopropyltoluene	ND10	Styrene	<u>ND</u> 5.0

ANALYST	<u>CMD</u>
INSTRUMENT	<u>G</u>
DIL. FACTO	·1
UNITS	<u>ug/L</u>
COMMENTS	

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID WC-MW2

FRACTION <u>02A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 16:15:00</u> Category <u>MATER</u>

PARAMETER	RESULT
JP-4	ND ND
Gasoline	ND ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND 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 Definition	ons for this Report:
EXTRACTED 12/13/97	2
DATE RUN 12/20/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Other	wise Specified
ND = Compound(s) r	not detected
above detection li	mit
Comments	

REPORT Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID UC-MUS

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

}	RESULT LIMIT	:	RESULT LIMIT
Chioromethane	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	<u>ND</u> 5.0
Chloroethane	ND10	1,3-Dichlorobenzene	<u>ND</u> 5.0
Hethylene Chloride	<u>ND 10</u>	1,4-Dichlorobenzene	<u>ND 5.0</u>
1,1-Dichloroethene	<u>ND 5.0</u>	Naphthalene	5.5 10
Trichlorofluoromethane	<u>ND 10</u>	n-Propylbenzene	<u>ND</u> 10
1,1-Dichloroethane	ND 5.0	Bromobenzen e	ND 5.0
Trans-1,2-Dichloroethene	<u>ND 5.0</u>	Bromchloromethane	ND _ 5.0
Chloroform	ND 5.0	n-Butylbenzene	<u>ND</u> 10
1,2-Dichloroethane	ND 5.0	sec-Butylbenzene	<u>ND</u> 10
1,1,1-Trichloroethane	<u>ND</u> 5.0	tert-Butylbenzene	<u>ND</u> 10
Carbon Tetrachloride	ND 5.0	2-Chlorotoluene	<u>ND 5.0</u>
Bromodichloromethane	<u>ND 5.0</u>	4-Chlorotoluene	<u>ND 5.0</u>
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	<u>ND 5.0</u>	Dibromomethane	<u>ND 5.0</u>
1,1,2-Trichloroethane	<u>ND</u> 5.0	Dichlorodifluoromethane	<u>ND 10</u>
Benzen e	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	<u>ND 5.0</u>	1,1,1,2-Tetrachloroethane	ND _5.0
Bromoform	<u>ND 5.0</u>	1,2,3-Trichlorobenzene	NO _5.0
Hexachlorobutadiene	<u>ND</u> <u>10</u>	1,1,2,2-Tetrachloroetha ne	<u>ND 5.0</u>
lsopropylbenzene	<u>ND</u> 10	1,2,4-Trichlorobenzene	<u>ND 5.0</u>
Tetrachloroethene	ND 5.0	1,2,3-Trichloropropane	ND 5.0
Methyl tertiary butyl ether	<u>ND</u> <u>5.0</u>	1,2,4-Trimethylbenzené	<u>24.3</u> <u>10</u>
Toluene	<u>ND</u> 5.0	1,3,5-Trimethylbenzene	8.9 10
Chlorobenzene	<u>ND 5.0</u>	cis-1,3-Dichloropropene	ND 5.0
Ethyl Benzene	6.5 5.0	trans-1,3-Dichloropropene	<u>ND</u> 5.0
p-Isopropyltoluene	<u>ND</u> 10	Styrene	ND 5.0

ANALYST	<u>CMD</u>
INSTRUMENT	G
DIL. FACTOR	1
UNITS	<u>ug/L</u>
COMMENTS	

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID WC-MUS

FRACTION <u>03A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 16:00:00</u> Category <u>MATER</u>

PARAMETER	RESULT
JP-4	ND
Gasoline	MD
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	<u> </u>
DETECTION LIMIT	
Water Matrix	1.0 mg/L
Solid Matrix	<u></u>
Notes and Definition	ons for this Report:
EXTRACTED 12/13/97	7
DATE RUN 12/20/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Other	wise Specified
ND = Compound(s) r	not detected
above detection li	imit
Comments	

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

Received: 12/10/97

Results by Sample

SAMPLE ID MN1

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

	RESULT I	.IHIT	2	RESULT	LIMIT
Chloromethan e	ND	10	o-Xylene	NI	5.0
Bromomethane	ND	5.0	m+p-Xylene	N	5.0
Vinyl Chloride	ND	2.0	1,2-Dichlorobenzene	N	5.0
Chloroethane	ND	10	1,3-Dichlorobenzene	NC	5.0
Methyl ene Chloride	ND	10	1,4-Dichlorobenzene	NC	5.0
1,1-Dichloroethene	ND	5.0	Naph tha lene	N	10
Trichlorofluoromethane	MD	10	n-Propylbenzene	NI	10
1,1-Dichloroethane	MD	5.0	Bromobenzene	NE	5.0
Trans-1,2-Dichloroethene	ND	5.0	Bromchloromethane	NI	5.0
Chloroform	ND	5.0	n-Butylbenzene	NC	10
1,2-Dichloroethane	ND.	5.0	sec-Butylbenzene	NI	10
1,1,1-Trichloroethane	<u>ND</u>	5.0	tert-Butylbenzene	ND	10
Carbon Tetrachloride	ND	5.0	2-Chlorotoluene	NC	5.0
Bromodichloromethane	ND	5.0	4-Chlorotoluene	ND	5.0
1,2-Dichloropropane	ND	5.0	1,2-Dibromo-3-chloropropane	NE	5.0
Trichloroethene	ND	5.0	1,2-Dibromomethane	NC	5.0
Dibromochloromethane	ND	5.0	Dibromomethane	NC	5.0
1,1,2-Trichloroethane	ND	5.0	Dichlorodifluoromethane	NC	10
Benzene	ND	5.0	cis-1,2-Dichloroethene	NC	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichloropropane	NE	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
I sopropyl benzene	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

NALYST	<u>CMD</u>	
NSTRUMENT	G	
IL. FACTOR	1	
NITS	<u>ug/L</u>	
OMMENTS		

TOXIKON CORP.

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MU1

FRACTION <u>O4A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 16:50:00</u> Category <u>WATER</u>

TPH by Modif		211		J _ U
PARAMETER		RESUL	.T	
JP-4			<u>ND</u>	
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. Hydrocarbo	ns		ND	
Water Matrix Solid Matrix		1.0	mg/L *	
Notes and Def	initions	for thi	s Report:	
EXTRACTED 12	/13/97			
DATE RUN 12/				
ANALYST	PL			
INSTRUMENT	HP 5			
N.O.S. = Not	Otherwi	se Speci	fied	
ND = Compound	d(s) not	detecte	d	
above detect	ion limi	t	ŕ	
Comments				

REPORT Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MM2 FRACTION 05A TEST CODE 8260 NAME PURGEABLE ORGANICS VOA Date & Time Collected 12/10/97 15:20:00 Category WATER

	RESULT I	.IMIT	ž	RESULT	L	IHIT
Chloromethan e	ND	10	o-Xyl ene		ND	5.0
Bromomethane	ND	5.0	m+p-Xylene		ND	5,0
Vinyl Chloride	<u>ND</u>	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	Bromchioromethane		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	<u> </u>	ND	10
Benzene	ND	5.0	cis-1,2-Dichloroethene		ND .	5.0
1,1-Dichloropropene	ND	5.0	1,3-Dichtoropropane		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
I sopropy i benzene	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

DATE RUN	12/18/97
NALYST	CMD
INSTRUMENT	<u>G</u>
DIL. FACTO	R <u>1</u>
UNITS	_ug/L
COMMENTS	

TOXIKON CORP.

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMP	. =	īΠ	14.72
SAMP	ᇆᆮ	10	MU.

FRACTION <u>05A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 15:20:00</u> Category <u>WATER</u>

PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND
No. 2 Fuel Oil	ND
No. 4 Fuel Dil	ND
No. 6 Fuel Oil	<u>ND</u>
Waste Oil	ND
Petroleum Constituent	ND
Total Petro. Hydrocarbons	ND
DETECTION LIMIT	
Water Matrix	1.0 mg/L
Solid Matrix	*
Notes and Definition	ons for this Report:
EXTRACTED 12/13/97	
DATE RUN 12/20/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Other	wise Specified
ND = Compound(s) r	not detected
above detection li	mit

REPORT Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MAS

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

	RESULT I	.IMIT	,	RESULT	L	IMIT
Chloromethane	ND	10	o-Xylene		ND	5.0
Bromometha ne	ND.	5.0	m+p-Xylene		ND .	5.0
Vinyl Chloride	ND.	2.0	1,2-Dichlorobenzene		ND .	5.0
Chloroethan e	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.	<u>5.0</u>	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	<u>5.0</u>	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-Trimethylbenzené		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	<u>10</u>	Styrene		ND .	5.0

Notes and d	efinitions for this report:
DATE RUN	12/18/97
ANALYST	<u>CMD</u>
INSTRUMENT	<u>_</u>
DIL. FACTOR	1
UNITS	<u>_ug/L</u>
COMMENTS	

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MAS

FRACTION <u>06A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 14:40:00</u> Category <u>MATER</u>

PARAMETER	RESULT
JP-4	ND
Gasoline	ND ND
Kerosene	_ ND
Diesel	ND 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	<u>ND</u>
Water Matrix Solid Matrix	1.0 mg/L
Notes and Definition	ns for this Perort:
Notes and services	vo. timo mopo. ci
EXTRACTED 12/13/97	
DATE RUN 12/20/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Other	wise Specified
ND = Compound(s) no	•
above detection lim	nit
Comments	

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

Received: 12/10/97

Results by Sample

SAMPLE ID MAK

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

	RESULT	LIMIT	¥	RESULT	L!	IMIT
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	<u>5.0</u>	Naphthal ene		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	<u>ND</u>	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

DATE RUN	12/18/97
ANALYST	CHD
INSTRUMENT	<u>G</u>
DIL. FACTOR	1
UNITS	ug/L
COMMENTS	

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

Received: 12/10/97

Results by Sample

SAMPLE ID MUA

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

PARAMETER	RESULT '
JP-4	ND
Gasoline	ND
Kerosene	ND
Diesel	ND 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	<u>ND</u>
DETECTION LIMIT	
Water Matrix	1.0 mg/L
Solid Matrix	•
Notes and Definition	ns for this Report:
EXTRACTED 12/13/97	
DATE RUN 12/20/97	
ANALYST PL	
INSTRUMENT HP 5	i
N.O.S. = Not Otherw	rise Specified
ND = Compound(s) no	
above detection lim	nit

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MM5

FRACTION <u>OBA</u> TEST CODE <u>8260</u> NAME <u>PURGEABLE ORGANICS VOA</u>

Date & Time Collected <u>12/10/97 11:10:00</u> Category <u>WATER</u>

	RESULT	TIMIL	1	RESULT	LIMIT
Chloromethane	ND	10	o-Xyl ene		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		<u>ND 10</u>
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		<u>ND</u> 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	<u>5.0</u>	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

DATE RUN	12/18/97
ANALYST	<u>CMD</u>
INSTRUMENT	<u>_</u>
DIL. FACTOR	1
UNITS	<u>ug/L</u>
COMMENTS	

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MAS

FRACTION <u>08A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 11:10:00</u> Category <u>MATER</u>

	ž
PARAMETER	RESULT
JP-4	ND
Gasoline	ND
Kerosene	<u>ND</u>
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 Definiti	ons for this Report:
EXTRACTED 12/13/9	<u>7</u>
DATE RUN 12/20/97	
ANALYST PL	
INSTRUMENT HP	<u>5</u>
N.O.S. = Not Othe	rwise Specified
ND = Compound(s)	not detected
above detection l	imit
Comments	

REPORT Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MAT

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

	RESULT LI	MIT	1	RESULT	LIMIT
Chloromethane	ND	10	o-Xyl ene		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-Dichlarobenzene		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
Benzen e	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
Isopropytbenzene	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 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

ANALYST	CMD	
INSTRUMENT	G	
DIL. FACTOR	1	
UNITS	<u>ug/L</u>	
COMMENTS		

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MAT

FRACTION <u>09A</u> TEST CODE <u>GC PET</u> NAME <u>PETROLEUM SCAN BY GC</u>

Date & Time Collected <u>12/10/97 11:52:00</u> Category <u>MATER</u>

PARAMETER	RESULT
JP-4	ND
Gasoline	ND 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	N <u>D</u>
Total Petro. Hydrocarbons	ND
DETECTION LIMIT	
Water Matrix	1.0 mg/L
Solid Matrix	*
Notes and Definitions	s for this Report:
EXTRACTED 12/13/97	
DATE RUN 12/20/97	
ANALYST PL	
INSTRUMENT <u>HP 5</u>	
N.O.S. = Not Otherw	ise Specified
ND = Compound(s) not	t detected
above detection limit	it
Comments	

REPORT Work Order # 97-12-229

Received: 12/10/97

Results by Sample

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

	RESULT LIMIT	•	RESULT LIMIT
Chloromethane	<u>ND</u> 10	o-Xyl ene	<u>ND 5.0</u>
Bromomethane	ND _5.0	m+p-Xylene	<u>ND 5.0</u>
Vinyl Chloride	<u>ND</u> 2.0	1,2-Dichlorobenzene	<u>ND 5.0</u>
Chloroethane	<u>ND</u> 10	1,3-Dichlorobenzene	<u>ND</u> 5.0
Methylene Chloride	<u>ND</u> <u>10</u>	1,4-Dichlorobenzene	<u>ND</u> 5.0
1,1-Dichloroethene	ND _ 5.0	Naphthalene	<u>ND 10</u>
Trichlorofluoromethane	<u>ND</u> 10	n-Propylbenzene	<u>ND</u> 10
1,1-Dichloroethane	<u>ND 5.0</u>	Bromobenzene	ND 5.0
Trans-1,2-Dichloroethene	<u>ND 5.0</u>	Bromchloromethane	ND 5.0
Chloroform	ND 5.0	n-Butylbenzene	<u>ND</u> 10
1,2-Dichloroethane	ND 5.0	sec-Butylbenzene	<u>ND</u> 10
1,1,1-Trichloroethane	<u>ND 5.0</u>	tert-Butylbenzene	ND10
Carbon Tetrachloride	<u>MD 5.0</u>	2-Chlorotoluene	ND _5.0
Bromodichloromethane	ND _5.0	4-Chlorotoluene	<u>ND 5.0</u>
1,2-Dichloropropane	<u>ND 5.0</u>	1,2-Dibromo-3-chloropropane	ND _ 5.0
Trichloroethene	<u> ND 5.0</u>	1,2-Dibromomethane	<u>ND</u> 5.0
Dibromochloromethane	ND _5.0	Dibromomethane	<u>ND 5.0</u>
1,1,2-Trichloroethane	<u>ND 5.0</u>	Dichlorodifluoromethane	<u>ND</u> 10
Benzene	<u>ND 5.0</u>	cis-1,2-Dichloroethene	<u>ND 5.0</u>
1,1-Dichloropropene	ND 5.0	1,3-Dichloropropane	ND 5.0
2-2-Dichlorpropane	<u>ND 5,0</u>	1,1,1,2-Tetrachloroethane	ND _5.0
Bromoform	<u>ND</u> 5.0	1,2,3-Trichlorobenzene	<u>ND 5.0</u>
Hexachlorobutadiene	<u>ND</u> 10	1,1,2,2-Tetrachloroethane	<u>ND 5.0</u>
Isopropylbenzene	<u>ND</u> 10	1,2,4-Trichlorobenzene	<u>ND 5.0</u>
Tetrachloroethene	ND 5.0	1,2,3-Trichloropropane	<u>ND 5.0</u>
Methyl tertiary butyl ether	ND 5.0	1,2,4-Trimethylbenzene	<u>ND</u> 10
Toluene	<u>ND</u> 5.0	1,3,5-Trimethylbenzene	<u>ND</u> 10
Chlorobenzene	<u>ND</u> 5.0	cis-1,3-Dichloropropene	<u>ND 5.0</u>
Ethyl Benzene	<u>ND</u> 5.0	trans-1,3-Dichloropropene	<u>ND 5.0</u>
p-Isopropyltoluene	<u>ND</u> 10	Styrene	<u>ND</u> 5.0

DATE RUN	12/18/97
NALYST	<u>CMD</u>
INSTRUMENT	G
DIL. FACTOR	1
JNITS	ug/L
COMMENTS	

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPL	=	t n	
SAMPL	•	עו	PMC .

FRACTION 10A TEST CODE GC PET NAME PETROLEUM SCAN BY GC

Date & Time Collected 12/10/97 12:28:00 Category WATER

PARAMETER		RESUL	.T	
JP-4			ND	
Gasoline			ND	
Kerosene			ND	
Diesel			ND	
No. 2 Fuel Oil			ND	
No. 4 Fuel Oil			ND	
No. 6 Fuel Oil			ND ND	
Waste Oil			ND	
Petroleum Consti	tuent		<u>ND</u>	
Total Petro. Hyd	rocarbons		ND	
DETECTION LIMIT				
Water Matrix		1.0	mg/L	
Solid Matrix			*	
Notes a	and Definitions	s for thi	s Report:	
EXTRAC	TED <u>12/13/97</u>			
DATE RI	JN <u>12/20/97</u>			
ANALYS	<u> </u>			
INSTRU	ENT HP 5			
N.O.S.	. = Not Otherwi	ise Speci	fied	
ND = (Compound(s) not	detecte	d	
	detection limi		•	
Commen	_		•	

Received: 12/10/97

Results by Sample

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

	RESULT LIMI	, T	RESULT LIMIT
Chloromethane	ND	10 o-Xylene	<u>ND 5.0</u>
Bromomethane	ND5	<u>i.0</u> m+p-Xylene	<u>ND 5.0</u>
Vinyl Chloride	ND _2	2.0 1,2-Dichlorobenzene	ND 5.0
Chloroethane	ND	10 1,3-Dichlorobenzene	<u>ND 5.0</u>
Methylene Chloride	ND	10 1,4-Dichlorobenzene	ND 5.0
1,1-Dichloroethene	ND _5	<u>.0</u> Naphthalene	<u>ND</u> 10
Trichlorofluoromethane	ND	10 n-Propylbenzene	ND10
1,1-Dichloroethane	ND _5	<u>.0</u> Bromobenzene	ND 5.0
Trans-1,2-Dichloroethene	ND _5	<u>.0</u> Bromchloromethane	ND _5.0
Chloroform	<u> </u>	<u>.0</u> n-Butylbenzene	ND10
1,2-Dichloroethane	ND _5	.0 sec-Butylbenzene	ND10
1,1,1-Trichloroethane	ND _5	<u>.0</u> tert-Butylbenzene	ND10
Carbon Tetrachloride	ND _5	.0 2-Chlorotoluene	<u>ND</u> 5.0
Bromodichloromethane	<u>D D 5</u>	.0 4-Chlorotoluene	<u>ND</u> 5.0
1,2-Dichloropropane	ND _5	.0 1,2-Dibromo-3-chloropropane	ND _5.0
Trichloroethene	ND5	<u>.0</u> 1,2-Dibromomethane	<u>ND</u> 5.0
Dibromochloromethane	ND _5	.0 Dibromomethane	<u>ND 5.0</u>
1,1,2-Trichloroethane	<u>ND 5</u>	<u>.0</u> Dichlorodifluoromethane	<u>ND</u> 10
Benzene	<u>ND</u> 5	.0 cis-1,2-Dichloroethene	<u>ND 5.0</u>
1,1-Dichloropropene	<u>ND</u> 5	.0 1,3-Dichloropropane	<u>ND 5.0</u>
2-2-Dichlorpropane	<u>ND 5</u>	<u>.0</u> 1,1,1,2-Tetrachloroethane	<u>ND 5.0</u>
Bromoform	ND _5	.0 1,2,3-Trichlorobenzene	<u>ND</u> 5.0
Hexachlorobutadiene	ND	10 1,1,2,2-Tetrachloroethane	<u>ND 5.0</u>
Isopropylbenzene	ND	10 1,2,4-Trichlorobenzene	<u>ND 5.0</u>
Tetrachloroethene	<u>ND 5</u>	.0 1,2,3-Trichloropropane	ND 5,0
Methyl tertiary butyl ether	<u>ND</u> 5	.0 1,2,4-Trimethylbenzene	<u>ND</u> 10
Toluene	<u>ND</u> 5	.0 1,3,5-Trimethylbenzene	<u>ND</u> 10
Chlorobenzene	ND _5	<u>.0</u> cis-1,3-Dichloropropene	ND 5.0
Ethyl Benzene	<u>ND 5</u>	.0 trans-1,3-Dichloropropene	<u>ND</u> 5.0
p-Isopropyltoluene	ND	10 Styrene	<u>ND</u> 5.0

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

REPORT

Work Order # 97-12-229

Received: 12/10/97

Results by Sample

SAMPLE ID MAY9

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 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 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

TOXIKON CORP.

REPORT

Work Order # 97-12-229

Received: 12/10/97

Test Methodology

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 EPETY 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>



CHAIN OF CUSTODY RECORD

WORK ORDER #: 97 - 12 - 5.17

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13-61: **DUE DATE**

Tax. (701) 2	017/13-1410	-6												١٩	ANAIYSES	SHS			
JMPANY: VVIOCI	MOGUINIUM						SAMPLE TYPE	ဂ ်	CONTAINER TYPE	TYPE				`		2			
DDRESS: Chr (DOC CRANNER	F.	<u>= </u>				1. WASTEWATER	<u>Ф</u>	P - PLASTIC	\	\ \	7	\	\	\	\	\	\	\
LCXIN	Cxington 1	4	07	12173			2. SOIL	o :	G.GLASS	\	1		\	\	\	\	\	<u></u>	\
40NE #: (781) 86 3060 FAX #: (781)	3 300h	₹ FA>	(#:	781)	081-898	1807	3. SLUDGE	V OV - V		्रे		<u> </u>	\	\		\		\ \ '	\
#:0							5. DRINKING WATER	æ				<u>\</u>	\	\	\	\	\	<u></u>	
ROJECT MANAGER:		Nork Houlday	DINO	197			8. WATER (GWMM/SW)	(ws//	ر 			\	\	\	\		\	\	
ROJECT ID/LOCATION:	- iooi	LUUJ	7	MAY			7. OTHER (SPECIFY					<u> </u>	\	\	\	\	\	_	
KON SAMPLE	SAMPLE		CONTAINER	NER	SA	SAMPLING	PRESERVATIVE			<u> </u>	<u> </u>	\	\	\	\	\	\	SPECIAL SPECIAL INSTRUCTIONS/	PECIAL
IDENTIFICATION		_	SIZE TYPE	*	DATE	TIME										1		MOD	MENTS
/ WC-MWI	-	40ml. 1L	rt G	196/	12/10/21	20 40 17 104 00	1 HEL/ 11100	\times	×	×									
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IMW H	0	UK. Will 12	ř	50	12/ic/97	1 11,50	1 C.C.	×	<i>;</i> <										
F MW2	٥	4 crat	\$5 } } - }	3	12/10/47	7 152c	HCC	×	X										
MW3	5	-10mC	35	3	1/1/2;	0 # H L Hay C:	Hic	_ >	X										-
7 MW4	-3	71 c	1/6 W6	47	13tek	185	17.71	×	×										
7 MW5	6-	40111	1/2	3		7 110	HCL	×	×										
LMW 5	S	11	3/ 70	00	ı	1 15,3	1166	>	×										
0 MW8	0	2 tione	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	ω	12/1.47	7 1238	HILL	×	×										
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Joseph /G. Tsumplate	t, TIME:	1005		,									i						
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くりがいと	TIME:	•			1		Military Lance	F	TIME: / ?	,	د ا		N N		ш Т	ROUTINE	.,,		
NOUISHED BY:	DATE			,	2	RECEIVED I	FOR LAB BY:	à	DATE:				Samp Are the	le dis	posar	Sample disposal information Are there any other known or suspected	nation Susper	Ţ	
	TIME			,			7.7	Ē	TIME:	,	•		contam	inants i	n these	contaminants in these samples other than	s other	than	
HOD OF SHIPMENT					<u>8</u>	OLER TE	COOLER TEMPERATURE						those listed above?	sted at	.,.	74 + + 2 - 2 h	· ·		