

Final

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**REVISED REMEDIAL INVESTIGATION REPORT
FOR
HARDER TREE SERVICE SITE
63 JERUSALEM AVENUE
HEMPSTEAD, NEW YORK**

NYSDEC REGISTRY # 1-30-035

**FOR SUBMITTAL TO
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION**

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- 1 Site Plan with Soil & Groundwater Sampling Locations
- 2 Summary of Total Pesticides in Soil
- 3 Groundwater Relative Elevation Contours and Pesticides Concentrations

APPENDICES

- A MW-10 Well Installation Log and Development Form, Well Sampling Forms and Survey Notes
- B Chemical Analytical Data, Chains of Custody
- C Resume of QAO
- D Data Validation Report

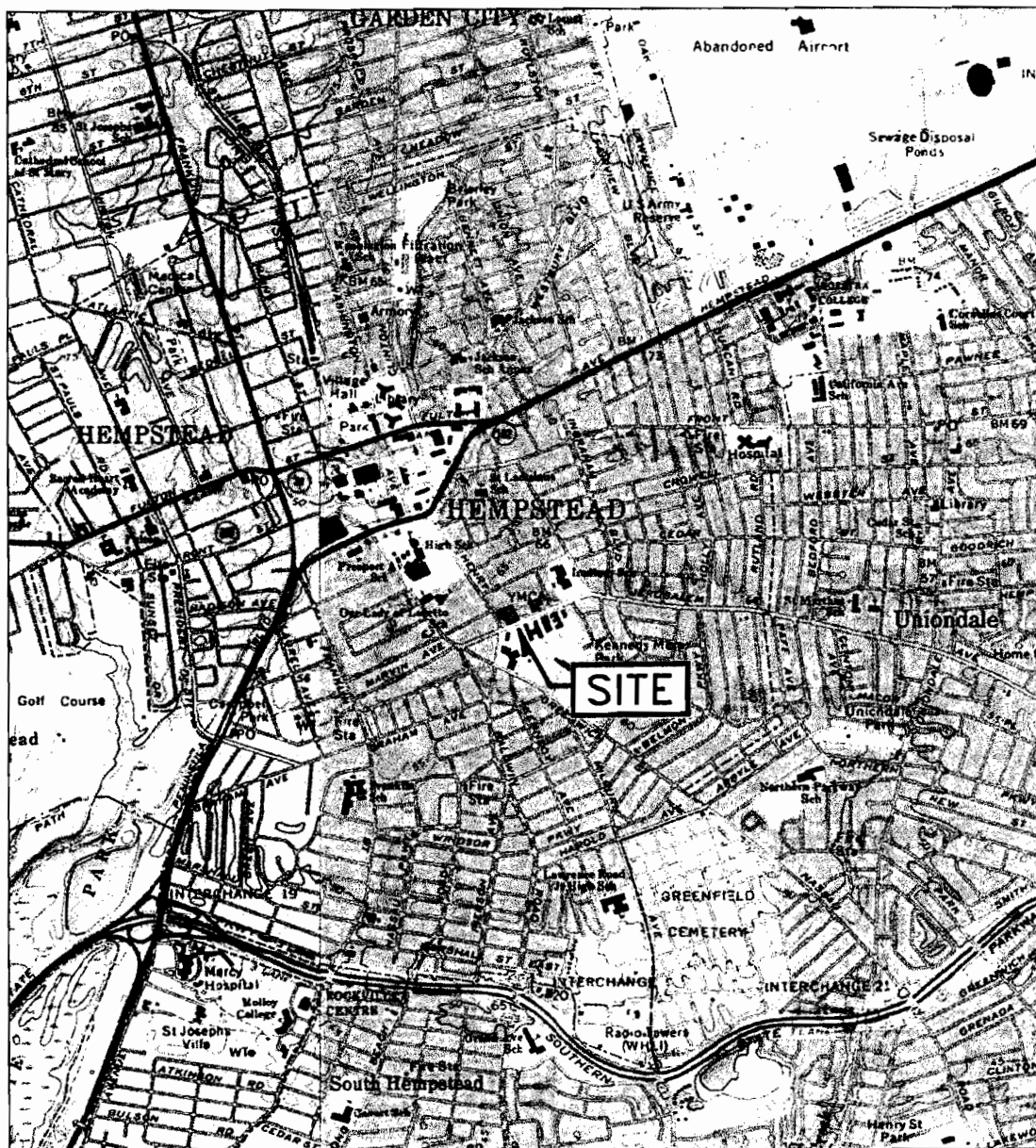
SECTION 1.0 INTRODUCTION

1.1 Overview

This Revised Remedial Investigation (RI) report has been prepared by FPM Group (FPM) for the New York State Department of Environmental Conservation (NYSDEC) Inactive Hazardous Waste Disposal Site (IHWDS) identified as Harder Tree Service (Harder), Registry #1-30-035 (the Site). An additional sampling event was performed to address additional areas of concern identified at the Site based on the results of the Site Assessment Update Investigation (FPM, May 1999), the original RI (FPM, September 2001) and subsequent comments by the NYSDEC and the New York State Department of Health (NYSDOH). It was proposed to perform the additional sampling event and include the resulting data in a Revised RI Report prior to evaluating potential remedial alternatives or performing remediation. A Feasibility Study (FS) will be performed to evaluate potential remedial actions for the Site.

The Harder Site is located at 63 Jerusalem Avenue in Hempstead, New York and consists of approximately 1.3 acres. The Site location is shown in Figure 1.1.1. Buildings on the Site include one residential structure, one multi-bay garage, one garage with an attached greenhouse shed, and a two-story office building. A residence was formerly located on the western portion of the Site but has been removed. The Site is currently used for office space and storage of various landscaping machinery, equipment, and materials. The Site is bounded by residential areas to the north and east, including apartment buildings to the east, a Mobil gas station to the west, various commercial properties to the west, across Henry Street, and a shopping plaza to the south across Jerusalem Avenue.

The Harder Site was the site of a methoxychlor spill in 1984. Most of the spilled material was recovered and the NYSDEC and the Nassau County Department of Health (NCDOH) monitored the remediation activities. During the winter of 1984 and 1985, sampling was conducted by the NYSDEC during a Phase I Investigation at the Site. The samples reportedly contained concentrations of methoxychlor, technical chlordane, and heptachlor. A Phase II Investigation was subsequently performed in 1986 and 1987 by Energy & Environmental Analysts, Inc. (EEA, 1987). This investigation indicated the presence of pesticides, primarily chlordane, in groundwater upgradient and beneath the Site. Additional soil and groundwater sampling was performed by EEA in 1988. The results of this additional investigation indicated that pesticides, primarily chlordane, had impacted soil in a 50 by 50-foot area of the Site.



SCALE:



FPM GROUP

FIGURE 1.1.1

SITE LOCATION

HARDER TREE SERVICES SITE
63 JERUSALEM AVENUE
HEMPSTEAD, NEW YORK

Drawn By: JDS | Checked By: KAS | Date: 6/5/01

Additional groundwater samples were collected and analyzed and the results indicated that although pesticides were present in the groundwater beneath the Site, an upgradient source of chlordane may be present. The Site was subsequently placed on the NYSDEC Registry as a Class 2 IHWDS.

A Site Assessment Update Investigation (SI) was performed by FPM in 1999 to provide additional soil and groundwater data to characterize the Site. Soil and leaching pool sediment sampling was performed during the SI for the purposes of delineating the extent of the previously-identified impacts and evaluating the potential for additional source areas. The sampling results were used to identify potential remediation targets; however, additional sampling was recommended by FPM to further delineate the vertical and lateral extent of contamination. Groundwater sampling was also performed during the SI to evaluate current Site groundwater conditions.

The data collected during the SI indicated that an upgradient chlordane groundwater source may be present and that the chlordane concentration in groundwater is decreasing away from the presumed on-site source area (50 by 50-foot area). The data also suggested that an additional on-site source area may be present. Based on the results of the SI, additional sampling was recommended to further evaluate the potential for an off-site source and to delineate the extent of the impacted groundwater. It was also recommended to perform a receptor survey of the area within one-half mile downgradient of the Site to evaluate the potential for human exposure to groundwater.

The recommended sampling and receptor survey were performed during the RI and the results were presented in a September 2001 RI Report. The data indicated that the extent of pesticide-impacted soil had been defined in some portions of the site; however, additional delineation was indicated in select areas. Downgradient groundwater pesticide concentrations were also found to be lower than on-site concentrations; however, additional delineation was indicated. No groundwater receptors were identified within one-half mile downgradient of the Site. The NYSDEC provided comments on the RI report in a November 14, 2001 letter and an additional investigation was requested.

Based on the additional data needs, FPM prepared a Work Plan for Additional Investigation, which was submitted to the NYSDEC on January 31, 2002. The NYSDEC provided comments on February 15, 2002 and FPM responded on March 26, 2002. On April 9, 2002, the NYSDEC approved the revised Work Plan for Additional RI Sampling.

This report includes the results of the additional RI sampling together with the original September 2001 RI results and a summary of previous investigation results. The Revised RI and previous analytical results will be utilized to prepare an FS to evaluate potential remedial alternatives for the Site.

SECTION 2.0 SITE BACKGROUND AND SETTING

A detailed description of the Site was previously presented in the Phase II Investigation Report (EEA, 1987). This information is summarized below.

2.1 Site History

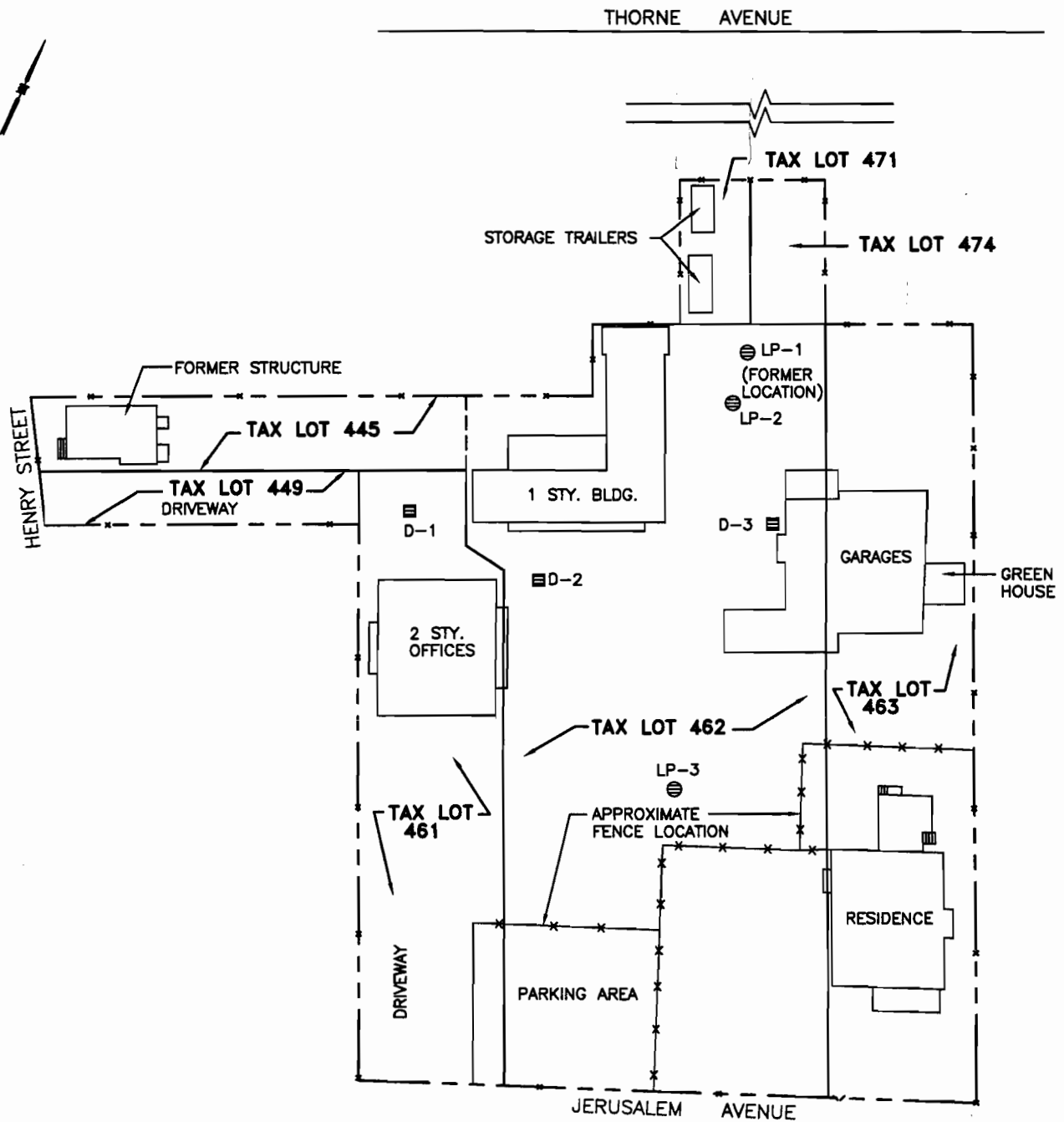
Harder Services, Inc. has operated at 63 Jerusalem Avenue, Hempstead since 1939. Over time, the configuration of the property has changed. A site plan showing the lots comprising the Site is included in Figure 2.1.1. Between 1945 and 1952 the rear portion of this property, including the area behind the office building and the area behind the garages, was paved. The areas to the west and south of the garages and the western portion of the area to the south of the office building have also been paved since about 1952. In 1965, three lots on the north side of the Site, including lots 445, 471, and 474, were acquired. By 1966, the remainder of the area to the south of the office building and much of the area of the former residential property on the northwest side of the Site (lots 445 and 449) had also been paved. Pesticide operations managed at the Site have varied over time. A variety of materials associated with pesticide control and tree-related services, including chlordane, have been present at the Site.

In 1984, a several-hundred-gallon spill of methoxychlor occurred on the Site (EEA, 1987). Most of the spilled material was collected and returned to its original containers. Some of the methoxychlor entered a stormwater leaching pool, LP-1, located immediately south of a 50 by 50-foot area on the north side of the Site (see Plate 1 for Site layout). The leaching pool was remediated by Marine Pollution Control (now known as Miller Environmental Group). Soil and sediment were excavated from LP-1, the pool was backfilled to grade and sealed with concrete, and a new leaching pool (LP-2) was constructed to the southwest. The NYSDEC and NCDOH monitored the remediation operations and the NYSDEC assigned NYSDEC Spill No. 84-2123.

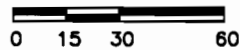
The NYSDEC subsequently conducted a Phase I Investigation at the Site in 1985 and additional investigations have been performed at the Site between 1986 and the present. The results of these investigations are discussed in the following section.

2.2 Previous Investigation Results

The NYSDEC performed sampling at the Site during 1984 and 1985. The results from drain and sludge pile soil samples collected in December 1985 were presented in the 1987 Phase II Investigation



SCALE (in feet):



FPM GROUP

FIGURE 2.1.1
SITE PLAN
SHOWING APPROXIMATE LOT BOUNDARIES
HARDER TREE SERVICES SITE
HEMPSTEAD, NEW YORK

Drawn By: H.C. Checked By: S.D. Date: 7/11/02

SOURCE: OCTOBER 18, 1988

SURVEY BY JOHN P. FERRANTELO, P.C.

SECTION 31, BLOCK 401, LOTS 445, 449, 461, 462, 463, 471 & 474

Report (EEA, March, 1987) and indicated the presence of methoxychlor, technical chlordane, and heptachlor in the sampled materials. A Consent Order was executed on January 22, 1986.

A Phase II Investigation was performed by EEA in 1986 and 1987. Six groundwater monitoring wells (wells 1 through 6) were installed and associated soil and groundwater samples were collected and analyzed. The groundwater monitoring well locations are shown on Plate 1. Concentrations of chlordane and other pesticides were detected in the soil samples. However, none of the detected concentrations exceeded the NYSDEC Recommended Soil Cleanup Objectives (Objectives) with the exception of four samples collected from the boring for well MW-1 which exhibited chlordane concentrations ranging from 0.59 to 5.1 parts per million (ppm) with the highest concentrations in the near-surface samples. These data were also compared to the NYSDEC Soil Cleanup Objectives Protective of Groundwater Quality (Objectives-GW). Only the two near-surface samples exceeded the NYSDEC Objective-GW for chlordane (2 milligrams per kilogram, or mg/kg).

The groundwater samples from the Phase II Investigation exhibited concentrations of various pesticides. Exceedances of the NYSDEC Class GA Ambient Water Quality Standards (standards) were noted for the pesticides lindane (well 4 at 0.21 to 0.51 parts per billion, or ppb), dieldrin (well 2 at 2.5 to 6 ppb, well 3 at 0.05 to 0.08 ppb, well 5 at 0.05 ppb and well 6 at 0.05 ppb), heptachlor epoxide (well 3 at 0.07 ppb and well 5 at 0.05 ppb), chlordane (well 1 at 0.19 ppb, well 2 at 9 ppb, well 5 at 0.42 ppb, and well 6 at 0.49 ppb), and 4,4'-DDT (well 1 at 0.24 ppb, well 3 at 0.43 ppb, well 4 at 0.48 ppb, well 5 at 0.38 ppb, and well 6 at 0.48 ppb). An exceedance of the NYSDEC standard for benzene was also noted at well 4 (26 ppb). The shallow groundwater flow was found to be to the south, which indicates that wells 2, 3, 4, 5, and 6 were located downgradient of the release area. The vertical hydraulic gradient was noted to be downward and chlordane was noted to be present in the deep well which had been installed in the Magothy Aquifer approximately 120 feet below grade (well 6). However, it was noted that no upgradient groundwater sampling had been conducted and, therefore, it was possible that the chlordane may have originated from an off-site source since chlordane had been used extensively on Long Island.

Additional soil and groundwater samples were collected by EEA in 1988. The soil samples were collected at various depths in the 50 by 50-foot area and the data indicated that the soil had been impacted by pesticides, primarily chlordane. The locations of these samples within the 50 by 50-foot area are not known and, therefore, these data cannot be utilized to accurately define the lateral and vertical extent of contamination. However, although exceedances of the NYSDEC Objective for chlordane were noted for samples from five soil borings at depths up to 30 feet below grade, it was also noted that the

concentrations generally decreased significantly with increasing depth. It was also noted that, in general, only the soil samples collected at the shallower depths exceeded the NYSDEC Objective-GW to be protective of groundwater. Most of the pesticide impact appeared to be limited to within six feet of the ground surface, although chlordane was detected above the NYSDEC Objective at two locations to 12 feet below grade and at one location to 30 feet below grade. Exceedances of the NYSDEC Objectives for 4,4'-DDD, 4,4'-DDE, 4,4'-DDT and/or Dieldrin were noted in the near-surface samples from two borings.

Two additional groundwater monitoring wells (wells 7 and 8) were installed during this investigation and all of the groundwater monitoring wells were sampled in 1988. The locations of the additional wells are shown on Plate 1. The groundwater samples exhibited concentrations of several pesticides exceeding the NYSDEC standards, including chlordane (well 6 at 0.8 ppb, well 7 at 0.31 ppb, and well 8 at 44 ppb), dieldrin (well 2 at 0.46 ppb well 3 at 0.04 ppb, well 4 at 0.3 ppb, and well 5 at 0.047), and heptachlor epoxide (well 3 at 0.085 ppb and well 5 at 0.12 ppb). Well 7 is located approximately 260 feet upgradient of the release area. The detection of 0.31 ppb of chlordane in this well suggests that chlordane is present regionally in the groundwater in this area. A review of the Suffolk County Department of Health Services (SCDHS) report regarding pesticide contamination in groundwater in Nassau and Suffolk Counties (SCDHS, June, 1999) indicates that chlordane has been detected in groundwater in various areas of Nassau County at concentrations up to 6.1 micrograms per liter ($\mu\text{g/l}$). The areas where chlordane has been detected have mixed residential and commercial uses and it is interpreted that these chlordane detections have resulted from the use of chlordane to control termites.

Concentrations of two VOCs exceeding the NYSDEC standards were also detected during this investigation, including tetrachloroethene (well 1 at 332 ppb, well 3 at 12 ppb, well 5 at 720 ppb, and well 6 at 5.8 ppb), and trichloroethene (well 6 at 10 ppb). The source of these VOCs is unknown.

The SI was performed in 1999 (FPM, May 1999) to provide additional soil and groundwater data to characterize the Site. Soil sampling results indicate that the Site soil in the 50 by 50-foot area is impacted with pesticides, but that the depth of the impact varies. In general, the majority of the impact appears to be limited to the upper two to four feet of soil. However, in the vicinity of the pesticide storage area (GP-4) and former leaching pool LP-1 (GP-3) it appears that the impact extends to greater depths. The impacted soil generally appears to be limited at depth, therefore, additional near-surface soil sampling was recommended.

Near-surface soil samples were collected from several areas of the Site during the SI. Several of these samples exhibited pesticide concentrations and it was recommended that the vertical and lateral extent of the pesticide impact be evaluated in the vicinity of soil samples SS-1 and SS-4. In addition, the vertical and lateral extent of the pesticide impact were recommended to be evaluated in the vicinity of soil samples SS-6 and SS-7. These data would be utilized together with previously-collected data to evaluate potential remedial alternatives for the Site soil.

Pesticides were detected in all of the leaching pool samples, although the level of impact varies. Additional data were requested by the NYSDEC to evaluate the lateral extent of impact in the soil in the vicinity of leaching pool D-2. These data would be utilized together with previously-collected data to select remedial alternatives for the Site leaching pools.

Pesticides were detected in all of the groundwater samples collected during the SI. However, the chlordane concentration in groundwater was noted to decrease away from the presumed source area (the 50 by 50-foot area). The groundwater data also suggested that an additional source area may be present on the west side of the Site. Previously-collected data also suggested a potential upgradient, off-site source. It was recommended that additional groundwater data be collected from wells that were not sampled during the SI and that a well located on an adjoining property be sampled for the purpose of providing additional groundwater information downgradient of the Site. Off-site well MW-5, which was sampled during the SI, was also recommended to be resampled to further evaluate the downgradient groundwater.

It was also recommended to perform a receptor survey of the area within one-half mile downgradient of the Site to evaluate the potential for human exposure to groundwater.

The RI was performed in 2001 (FPM, September 2001) to provide additional soil and groundwater data. Soil sampling was performed near the 50 by 50-foot area to evaluate the lateral extent of impact to surrounding properties. Somewhat elevated pesticide concentrations were detected in near-surface soil from three off-site locations within five to ten feet of the fence surrounding the 50 by 50-foot area. The detected concentrations are much lower than those in the 50 by 50-foot area and indicate that pesticide concentrations decrease significantly off site.

Additional soil sampling in the vicinity of the SS-4 location delineated the lateral extent of impact beneath the pavement to the north and west and off site to the east. However, soil pesticide concentrations were somewhat higher on site to the south at SS-11.

Additional soil sampling performed in the SS-1/MW-8 area delineated the vertical impact to soil at most locations. However, at SS-17 and SS-22, soil pesticide concentrations were noted to increase with increasing depth.

The vertical and lateral extent of soil pesticide contamination were delineated in the SS-6 area during the RI. Similarly, the vertical extent of impact was delineated in the vicinity of SS-7, although the lateral extent of impact was not defined.

Soil samples collected at several depths at two borings next to drywell D-2 contained only low concentrations of pesticides and, therefore, the lateral extent of pesticide impact appeared to be limited in the vicinity of this structure.

Groundwater sampling performed during the RI indicated that groundwater pesticide concentrations appeared to decrease downgradient of presumed source areas. The majority of the impact appears to be limited to the Site and an area downgradient of the west side of the Site. VOC concentrations were noted to have decreased significantly and were not elevated enough to indicate an on-site source.

A receptor survey indicated that there were no potential groundwater receptors (public water supply wells, private water supply wells, or other types of water supply wells) within one-half mile downgradient of the Site.

Following completion of the RI, additional sampling was requested and performed to more fully delineate soil and groundwater contamination at the Site. The results of the additional sampling have been combined with the previous RI results into this Revised RI Report.

This Revised RI Report includes the results of the following work:

- Off-site near-surface and deeper soil sampling in the vicinity of the 50 by 50-foot area to define the lateral and vertical extent of pesticide-impacted soil;
- Subsurface soil sampling in the vicinity of the 50 by 50-foot area to define the vertical extent of pesticide-impacted soil at GP-4;
- Near-surface and subsurface soil sampling in the vicinity of two potential additional source areas to define the lateral and vertical extent of impacted soil;

- Near-surface and subsurface soil sampling in the vicinity of the SS-6 and SS-7 locations to define the lateral and vertical extent of impacted soil;
- Near-surface and/or subsurface soil sampling in the vicinity of SS-8, SS-9, and SS-10 locations to define the lateral extent of impacted soil;
- Near-surface and subsurface soil sampling in the vicinity of SS-4 and SS-11 locations to define the lateral and vertical extent of impacted soil;
- Subsurface soil sampling in the vicinity of leaching pool D-2 to evaluate the lateral and vertical extent of impacted soil in the vicinity of the structure;
- Select soil samples collected from areas showing the highest concentrations of pesticides were analyzed for pesticides using the Toxicity Characteristic Leaching Procedure (TCLP) to evaluate remedial alternatives;
- Installation and sampling of an additional off-site downgradient monitoring well (MW-10) to evaluate the downgradient extent of impacted groundwater;
- Groundwater sampling at select existing wells to evaluate potential impacts from upgradient off-site sources and to evaluate the downgradient extent of impacted groundwater to the southwest of the Site;
- A receptor survey to evaluate if there is the potential for Site groundwater to impact downgradient receptors; and
- A qualitative risk assessment to evaluate the potential for human exposure to pesticide-impacted soil.

This Revised RI Report documents the previous and recent RI results. Following NYSDEC approval of the Revised RI Report, an FS will be prepared to evaluate potential remedial alternatives for the Site.

SECTION 3.0 ENVIRONMENTAL SETTING

3.1 Topography and Drainage

The elevation of the Site is approximately 65 feet above mean sea level (MSL) and the surface drainage is predominantly to the southwest, as controlled by Site topography. Since the surface grade at the Site is generally flat and the majority of the Site is paved or covered by the Site buildings, most of the surface water runoff is captured by on-site stormwater leaching pools. The regional topographic gradient was obtained from the US Geological Survey Freeport, NY 7.5-minute topographic quadrangle (1979). The topographic gradient in the vicinity of the Site slopes gently to the southwest at the average rate of approximately 26 feet per mile (0.5 percent). There are no natural surface water bodies (streams, rivers, or lakes) within one mile downgradient of the Site.

3.2 Soil and Surface Geology

To assess the soil types at the Site, the U.S. Soil Conservation Service Soil Survey for Nassau County, New York (1987) was reviewed. The Site was determined to be underlain by "Urban land - Hempstead Complex " soil. The Urban land-Hempstead complex soil is generally described as silt loam which has been urbanized.

The surficial geology of the Site was obtained from US Geological Survey Water-Supply Paper 1613-A entitled "Geology and Ground-Water Conditions in Southern Nassau and Southeastern Queens Counties, Long Island, N.Y." (1963). The surface materials at the Site (prior to urbanization) consisted of glacial outwash deposits of the Wisconsin glaciation. These deposits include stratified sand and gravel that were deposited in meltwater stream channels and outwash plains.

3.3 Geology

The generalized regional geology of the Site area consists of a base of Precambrian crystalline bedrock predominantly composed of schist and gneiss overlain by the Cretaceous Lloyd Sand Member of the Raritan Formation. The Lloyd Sand Member is predominantly composed of light-colored sand and gravel and lenses of clay and silty clay.

The clay member of the Raritan Formation overlies the Lloyd Sand Member and acts as a confining unit. It is referred to as the Raritan Clay. The Raritan Clay is composed of multicolored clay, silt, and some very fine-grained to fine-grained sand.

Overlying the Raritan Formation is the Cretaceous Magothy Formation, which consists of nonfossiliferous beds and lenses of gray and white fine-grained quartz sand, clayey and silty sand, and clay.

The upper Pleistocene Glacial Deposits overlie the Magothy Formation in the Site vicinity. These deposits consist primarily of stratified sand, silt, and gravel outwash deposits and are approximately 100 feet thick beneath the Site.

Site-specific geologic information was obtained from boring logs prepared by EEA in 1986 and from observations recorded during the SI. In general, fill material consisting of brown to dark brown sandy loam is present to a depth of approximately two to three feet beneath the Site. Beneath the fill material is approximately 100 feet of upper Pleistocene Glacial Deposits. These deposits consist of well-graded to poorly-graded fine to coarse-grained sand with gravel.

The base of the upper Pleistocene Glacial Deposits was observed in the boring for well MW-6 at a depth of 105 feet and was marked by a dark silty sand and clay. Several silt or clay intervals were also noted in the lower portion of the Upper Pleistocene Glacial Deposits above this contact. Generally, a brown/gray to orange-brown silt and fine sand with fine gravel is present in the Magothy Formation below the Upper Glacial Deposits.

3.4 Hydrogeology

There are two primary aquifers beneath the Site. The Upper Glacial Aquifer is a shallow water table aquifer and is associated with the upper Pleistocene Glacial Deposits. The depth to water in the Site area is approximately 25 to 30 feet and the base of the Upper Glacial Aquifer is approximately 100 feet below grade. Therefore, this aquifer has a saturated thickness of approximately 70 to 75 feet beneath the Site. The regional groundwater flow direction across the Site is generally to the south-southwest.

The deeper aquifer is the Magothy Aquifer, which underlies the Upper Glacial Aquifer. It is estimated to be approximately 400 feet thick in the Site area and is associated with the Magothy Formation. The regional groundwater flow direction in this aquifer is also to the south-southwest.

Beneath the Magothy Aquifer, the Raritan Clay is expected to be present and act as a confining layer between the Magothy Aquifer and underlying aquifers.

The water table elevation and the regional flow direction in the vicinity of the Site were obtained from the March 1997 Nassau County Water Table Elevation map (NCDPW, 1997). The groundwater elevation at the Site is approximately 35 feet above MSL. Based on a surface elevation of approximately 65 feet, the depth to groundwater below ground surface at the Site is approximately 30 feet. This is consistent with the depth to groundwater measurements obtained during the RI and previous investigations. The generalized regional horizontal groundwater flow direction in the Site area is south-southwest.

Site-specific groundwater flow direction information was obtained during the Phase II Investigation (EEA, 1987) and indicated that the groundwater at the Site flows generally to the south. Additional groundwater level measurements were obtained during the SI and RI and indicate a similar groundwater flow direction. Groundwater elevation contours based on data collected during the 2001 RI are shown on Plate 2.

An estimate of the average hydraulic conductivity of the Upper Glacial Aquifer for the Site area is given in the U.S. Geological Survey Paper 627-E, "Water Transmitting Properties of Aquifers on Long Island, New York" (1972). The estimated average hydraulic conductivity for the Site area is 250 cubic feet per day per square foot ($\text{ft}^3/\text{d}/\text{ft}^2$).

3.5 Climatology

The Site is located in Nassau County, New York. The Nassau County climate is characterized as coastal, being influenced by the adjacent water masses. The prevailing wind directions are northeast and south, reflecting the dominance of the cold Arctic air masses in the winter and cooling ocean breezes in the summer. Rainfall averages between 42 and 45 inches per year (USGS, 1963). Water losses occur due to evapotranspiration and direct runoff with the remainder of the precipitation being recharged to the aquifers. This recharge predominately occurs in the late fall and early spring.

SECTION 4.0 REMEDIAL INVESTIGATION

Based on a review of the previous sampling results and historical records for the Site, additional data needs were identified to fully characterize the nature and extent of contamination at the Site and to evaluate potential remedial actions for the Site. Although some of these data needs were addressed during the initial RI work in 2001, additional sampling was performed in 2002 to complete delineation. The following data needs were noted and were addressed during the RI and the additional sampling:

- Evaluation of the lateral and vertical extent to the north, east, and west of near-surface soil contamination present in the 50 by 50-foot area;
- Evaluation of the vertical extent of soil contamination present at GP-4 in the 50 by 50-foot area;
- Evaluation of the lateral and vertical extent of pesticide-impacted soil located off-site in the vicinity of SS-8, SS-9, and SS-10;
- Evaluation of the vertical and/or lateral extent of soil contamination present in the vicinity of SS-4 and SS-11;
- Evaluation of the lateral and vertical extent of soil contamination present in the vicinity of the former SS-1/MW-8 area;
- Evaluation of the vertical and lateral extent of pesticide-impacted soil located on the southeast portion of the Site through additional soil sampling in the vicinity of SS-6 and SS-7;
- Evaluation of the vertical and lateral extent of contamination previously identified in leaching pool D-2;
- Soil samples from select locations (SS-1, SS-11, D-2, and GP-4) were analyzed using the TCLP method to evaluate remedial alternatives;
- Additional groundwater data were obtained from select Site wells and from an appropriate well located at the adjoining property to the southwest (MW-9). Also, off-site groundwater monitoring well MW-10 was installed and sampled;

- Performance of a receptor survey to evaluate the potential presence of downgradient groundwater receptors; and
- Evaluation of potential human exposure to pesticide-impacted soil by performing a qualitative risk assessment.

The following sections present the RI and additional sampling field investigation scope and procedures, analytical methods, and quality assurance/quality control procedures. The RI was performed substantially in accordance with the Remedial Investigation/Feasibility Study Work Plan prepared by FPM in August 2000 and approved by the NYSDEC on August 3, 2000, and the additional investigation work plan approved by the NYSDEC on April 9, 2002. Any changes from the approved work plans are noted in the following sections.

4.1 RI Scope of Work

4.1.1 Soil Sampling Procedures

Soil sampling was performed using several methodologies, including a direct-push sampling rig, a hand auger, and/or sampling spoons. In general, a decontaminated stainless steel hand auger or sampling spoon was used to obtain the near-surface and deeper soil samples in the unpaved areas and a direct-push sampling rig was used to obtain the soil samples from paved areas. The soil samples obtained using a direct-push rig were contained in a decontaminated large-bore or macro-core sampler lined with a disposable acetate sleeve. The retrieved soil samples were screened with a calibrated photoionization detector (PID) to evaluate the potential presence of organic vapors and then the soil from the pre-selected sampling interval was homogenized by placing the soil from the entire sample interval into a decontaminated stainless steel bowl and mixing the sample prior to placement in the sample jars. During soil sampling at the Site, soil that was not retained for analysis was replaced into the boring from which it was collected or was placed on the ground in the vicinity of the borehole.

Each homogenized sample was transferred to a laboratory-supplied sample container using a dedicated or decontaminated sampling spoon. Each sample container was labeled with the Site location, boring number, depth interval, date and time of sampling, and analysis to be performed. The labeled sample containers were placed in laboratory-supplied coolers with ice packs to depress the temperature to four degrees Celsius. A chain-of-custody form was completed and kept with the samples in the cooler to document the sequence of sample possession. The filled sample cooler was delivered by an overnight

courier to the laboratory on the day following sample collection. The chemical analytical laboratory was Severn Trent Laboratories of Shelton, Connecticut. This laboratory is a New York State Department of Health (NYSDOH)-certified ELAP facility and the analyses were performed using USEPA Contract Laboratory Protocol (CLP) with NYSDEC ASP Category B deliverables. All soil samples were analyzed for Target Compound List (TCL) pesticides by USEPA Method 8081A. Select soil samples were analyzed for TCLP pesticides using USEPA Method 1311.

4.1.2 Groundwater Monitoring Well Installation and Sampling Procedures

FPM obtained permission from the occupant of the property adjoining the southwest side of the Site to sample one of the existing wells at this property (MW-9). FPM accessed an appropriately-located well on the south side of this property, evaluated its configuration, and determined that it is functioning properly. This well is shown as well MW-9 on Plates 1 and 2. The evaluation was performed by first determining the well depth, which was 39 feet, and the depth to water, which was approximately 29 feet. Since this well is screened across the water table and is completed between 5 and 15 feet below the water table, it was used for sampling purposes. To confirm that the selected well is functioning properly, approximately one gallon of water was purged from the well and then the static water level was re-measured to confirm that the selected well is hydraulically connected to the aquifer.

An additional groundwater monitoring well (MW-10) was installed approximately 550 feet south-southwest of the Site (downgradient) as shown on Plates 1 and 3. Well MW-10 was installed using a hollow-stem auger rig in conformance with accepted industry practice and in a similar manner to the other on-site groundwater monitoring wells. The well includes a two-inch diameter 0.01-inch machine-slotted screen approximately 15 feet long with approximately 10 feet installed below the water table and five feet above the water table. The annulus was backfilled with Morie #1 well gravel to approximately two feet above the top of the screen with an overlying two-foot bentonite seal, and the balance was backfilled with drill cuttings and capped with cement-bentonite grout. The top of the well casing was capped with an expansion-fit locking well cap and the casing was protected with a bolt-down flush-mounted manhole cover set in concrete. Following installation, the well was developed. Copies of the well installation log and development log are included in Appendix A.

At each well sampled, the depth to the static water level and depth of the well were measured. Then a dedicated disposable bailer or a decontaminated submersible pump was used to purge a minimum of three to a maximum of five casing volumes of water from each well. Following the removal of each

casing volume, field parameters, including pH, turbidity, specific conductivity, and temperature, was monitored. When all stability parameters varied by less than 10 percent between the removal of successive casing volumes, the wells were sampled. Well sampling forms documenting the well purging and sampling procedures were completed and are included in Appendix A. During purging prior to groundwater sampling, the produced water was discharged onto the ground in the vicinity of the wells and allowed to infiltrate.

Following purging, sampling was performed. Samples were obtained using dedicated disposable polyethylene bailers suspended from dedicated cotton or polypropylene lines. The retrieved samples were decanted into laboratory-supplied sample containers. Each sample container was labeled, transported, and tracked as described for the soil samples in Section 4.1.1. The groundwater samples were analyzed by a NYSDOH-certified ELAP laboratory for TCL pesticides and, in some cases, TCL volatile organic compounds (VOCs).

Following well sampling, surveys were performed in which the relative elevation of the top of the PVC casings for the recently-sampled well on the adjoining property to the southwest (MW-9) and the newly installed well (MW-10) were determined to the nearest 0.01 foot. The relative elevation measurements were referenced to the same datum as the other Site wells. Copies of the survey notes are included in Appendix A. The static water level for each of the accessible Site wells was measured and was used in conjunction with the previously-surveyed well casing elevations to calculate the Site-specific groundwater flow direction.

4.1.3 Receptor Survey Procedures

A receptor survey was performed to evaluate the potential for public exposure to Site groundwater. The depth to groundwater at the Site is approximately 30 feet below grade and, as discussed in Section 3.1, there are no natural surface water bodies (streams, rivers, or lakes) which might receive groundwater discharge within one mile downgradient of the Site. Therefore, it appears that there are no surface water receptors for groundwater discharge originating from the Site.

A survey of public and private supply wells within one-half mile downgradient of the Site was conducted to evaluate the potential presence of groundwater receptors. The NYSDEC databases of public water supply wells and other types of wells (irrigation, non-contact cooling water, etc.) was accessed and reviewed to evaluate if any of these types of wells are located within one-half mile downgradient of the Site.

To identify potential private wells, a survey was performed by examining each residence or other building in this area from the vantage point of public streets to confirm that a public water supply connection is present as evidenced by the presence of a water meter or street markings. These data were evaluated to ascertain if a potential for public exposure to Site groundwater is present.

4.1.4 Qualitative Risk Assessment

Following receipt of the soil chemical analytical data, a qualitative risk assessment was performed to evaluate the potential for human exposure to pesticides associated with on-site and off-site soil. Factors evaluated include concentrations of pesticides in near-surface and subsurface soil both on site and off site, the effects of pavement and turf, site access, and other factors.

4.2 **Soil Quality Data**

The nature of soil encountered in the soil borings was evaluated qualitatively on the basis of visual observations during sampling. A calibrated PID was also used to screen for the potential presence of organic vapors. In general, no visual indications of contamination or PID readings were noted for any of the soil samples.

During the RI, soil samples were collected and analyzed for TCL pesticides as discussed in Section 4.1.1. The resulting chemical analytical data were used to evaluate the soil quality. A summary of the soil chemical analytical data from the RI and additional sampling is presented in Table 4.2.1. These data are also summarized on Plate 2. Several samples collected during the additional sampling event were analyzed for TCLP pesticides. A summary of the chemical analytical data for these samples is presented in Section 4.2.8. The complete chemical analytical laboratory data packages and the chains of custody are presented in Appendix B. For comparison, data collected during the previous SI are also discussed in the following sections.

4.2.1 Adjoining the 50 by 50-Foot Area

The shallow (0 to 0.25 feet below grade) soil borings performed during the RI near the 50 by 50-foot area included SS-8, SS-9, and SS-10. These sample locations were each positioned approximately five to ten feet from the fence surrounding the 50 by 50-foot area and were chosen to evaluate the lateral off-site extent of the pesticide impact in soil in the vicinity of the previous on-site GP-1, GP-2, GP-3, and GP-4 sample locations. Deeper soil samples were also collected at SS-8 and SS-10 (3 to 4 feet below grade) during the RI sampling.

TABLE 4.2.1
SOIL SAMPLE CHEMICAL ANALYTICAL DATA
REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

TCL Pesticides in mg/kg																			
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
Heptachlor	0.012 JB	0.00057 J	0.760 B	ND	0.012	ND	ND	ND	ND	ND	0.830	3,300,000 B	7.600	10,000 JB	1,400 J	0.230 B	0.370	0.360 J	0.10
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.041
Heptachlor Epoxide	0.099	ND	3.100	0.790	0.010 J	0.230 J	0.093	0.580	0.440	ND	ND	ND	ND	2,600 J	2,200	0.370	ND	ND	0.02
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9
Dieldrin	0.120 B	0.0014 J	8,600 B	1,700 B	0.015	0.170 J	0.140	0.740	1,200	3,300	2,700,000 B	7.600	120,000 B	5,600	0.640 B	1,300	1,200 J	0.044	
4,4'-DDE	0.210	0.011 J	3,300	2,700	0.047	ND	0.510	3,200 J	4,400 J	ND	ND	ND	1,400 J	2,000 J	0.320 J	ND	ND	ND	2.1
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.200 J	87,000 J	ND	3,500 J	ND	ND	ND	ND	ND	0.10
Endosulfan II	0.024 J	ND	ND	0.470 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9
4,4'-DDD	0.042 J	0.0057 NJ	2,300	0.980 J	0.015 J	0.670 J	ND	0.760	ND	0.540 J	410,000	ND	21,000 J	ND	1,000	ND	ND	ND	2.9
Endosulfan Sulfate	ND	ND	ND	0.290 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0
4,4'-DDT	0.340	0.014 J	7,300	7,700	0.065	0.670	0.680 J	3,800	7,000 J	0.940	370,000 J	1,900 J	24,000	17,000	3,200	1,400	1,800 J	2.1	
Methoxychlor	ND	ND	ND	0.350 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.053 J	ND	ND	ND	10
Endrin/aldehyde	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	+
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.110 J	17,000 J	ND	0.690 J	ND	ND	ND	ND	ND	+
alpha-Chlordane	0.260 B	0.0035 NJ	4,800 B	3,000 B	0.043 J	2,000 J	0.640 NJ	2,200 J	2,500 NJ	2,100 J	630,000 B	22,000 J	11,000 B	12,000	1,200 B	7,000 J	6,800 J	0.54	
gamma-Chlordane	0.240 B	0.0023	4,700 B	3,000 B	0.023	1,100	0.270	1,100	1,000	2,000	1,100,000 B	21,000	17,000 B	11,000	1,200 B	5,200	4,800	0.54	
Total Pesticides	1,347	0.038	34.86	20.98	0.23	4.84	2,333	12,38	16,54	10,02	8,614	60.1	211.19	51,200	8,213	15,27	14,96	10	

Notes:

TCL = Target Compound List.
mg/kg = Milligrams per kilogram.
ND = Not Detected.
B = Analyte was detected in blank sample(s).
J = Concentration is estimated
Bold values exceed the NYSDEC Recommended Soil Cleanup Objectives.
+ = No Soil Cleanup Objective is available.
* = Not Sampled
N = Analyte is tentatively identified based on presumptive evidence.

TABLE 4.2.1 (CONTINUED)
SOIL SAMPLE CHEMICAL ANALYTICAL DATA
REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

TCL Pesticides in mg/kg																
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	0.046	ND	ND	ND	ND	ND	ND	0.3
Heptachlor	0.025 JB	0.190 JB	0.0081 JB	0.008 JB	0.040 B	0.084 JB	3,100,000 B	360,000 B	13,000 B	0.250 B	0.085 B	7,900 B	0.110 B	0.970 JB	0.020 JB	0.10
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5,300 J	0.043 J	0.041
Heptachlor Epoxide	0.018 J	ND	ND	ND	ND	ND	ND	38,000	0.480 J	0.130	ND	5,200	0.110	ND	0.450 J	0.02
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.210	ND	18,000	0.071	ND	ND	0.9
Dieldrin	0.150 B	1,800 JB	0.064 JB	0.290 B	0.099 B	0.420 B	2,400,000 B	ND	0.120 JB	0.730 B	0.058 JB	38,000 B	0.440 B	ND	8,000 B	0.044
4,4'-DDE	0.280	4,500	0.051 J	0.260	0.110	3,000	ND	4,800 J	0.190 J	0.120	0.019 J	4,200 J	0.036 J	3,700 J	0.035 J	2.1
Endrin	ND	ND	ND	ND	ND	ND	96,000 J	ND	ND	0.040 J	ND	3,000 J	0.016 J	ND	ND	0.10
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.150	ND	14,000	0.080 J	ND	ND	0.9
4,4'-DDD	0.120	5,200	0.130	1,600	0.600	0.860	ND	59,000 J	1,700 J	0.180	0.190	7,600 J	0.049 J	32,000	0.280	2.9
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.019 J	ND	4,400 J	0.034 J	ND	ND	1.0
4,4'-DDT	0.290 B	21,000 B	0.210 B	1,600	0.750	1,900	390,000 J	64,000 J	1,800	0.790 B	0.630 B	30,000 B	0.230	ND	4,100 B	2.1
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	+
Endrin Ketone	ND	ND	ND	ND	ND	ND	15,000 J	ND	ND	0.0074 J	ND	0.580 J	0.0082 J	ND	ND	+
alpha-Chlordane	0.066 B	5,200 B	0.270 B	0.340 B	0.130 B	0.550 B	530,000 B	42,000 B	1,400 B	0.590 B	0.280 B	4,500 B	0.200 B	63,000 B	0.490 B	0.54
gamma-Chlordane	0.100 B	4,900 B	0.210 B	0.900 B	0.190 B	1,200 B	990,000 B	150,000 B	5,100 B	0.570 B	0.230 B	10,000 B	0.170 B	52,000 B	3,200 B	0.54
Total Pesticides	1.049	42.79	0.9431	4.998	1.919	8.014	7,521	717.8	23.79	3.7864	1.538	147.38	1.5542	156.97	25.938	10

Notes:

TCL = Target Compound List.

mg/kg = Milligrams per kilogram.

ND = Not Detected.

B = Analyte was detected in blank sample(s).

J = Concentration is estimated

Bold values exceed the NYSDEC Recommended Soil Cleanup Objectives

+ = No Soil Cleanup Objective is available.

N = Analyte is tentatively identified based on presumptive evidence.

TABLE 4.2.1 (CONTINUED)
SOIL SAMPLE CHEMICAL ANALYTICAL DATA
REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

Sampling Area		SS-6 Area			SS-7 Area			D-2 Area			D-2B Area			NYSDEC Recommended Soil Cleanup Objectives
Location	SS-6	SS-6	SS-6	SS-7	SS-7	SS-7	D-2	D-2	D-2	D-2A	D-2B	D-2B		
Sample Depth (feet)	1-4	0-0.25	0-0.25	1-4	0-0.25	0-0.25	5-4 (below top of sediment) 1-1.5 (below grade)	>18 (below top of sediment) 15-21 (below grade)	14-16 (below top of sediment) 25-27 (below grade)	4-10	14-15	0-10	10-15	
TCL Pesticides in mg/kg														
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
delta-BHC	0.0026	ND	0.210	ND	0.740	ND	ND	ND	ND	ND	ND	ND	ND	0.3
Hepachlor	0.0012 JB	0.990 B	ND	0.005 JB	0.060 JB	0.038 JB	ND	1.300 J	0.087 NJ	0.0090 B	0.011 JB	0.00031 JB	0.020 B	0.10
Aldrin	ND	ND	ND	ND	ND	ND	11.000 J	ND	ND	0.0016 J	ND	ND	0.0016 J	0.041
Hepachlor Epoxide	0.0035	0.130 J	0.090 J	0.014	0.800	0.350 J	ND	ND	ND	0.0019 J	ND	ND	ND	0.02
Endosulfan I	ND	0.063 J	ND	ND	ND	ND	50.000 NJ	3.600 NJ	0.870 NJ	0.0028 J	ND	ND	0.0026 J	0.9
Dieldrin	0.0036 JB	0.930 B	0.310 B	0.012 JB	ND	0.190 JB	ND	4.600	0.240 J	0.011 B	0.027 JB	0.00080 JB	0.0060 JB	0.044
4,4'-DDE	0.0047	0.680	0.980	0.016 J	1.300	1.300	ND	2.500	ND	0.034	ND	ND	0.014	2.1
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9
4,4'-DDD	0.0048	1.400	0.360	0.026	1.600	2.000	570.000	15.000 J	5.400	0.038	ND	0.0036	0.69	2.9
Endosulfan Sulfate	ND	0.100 J	0.047 J	ND	ND	0.092 J	ND	0.520 J	0.094 J	ND	0.018 J	ND	ND	1.0
4,4'-DDT	0.0057 B	1.300	1.900 B	0.033 B	1.600 B	2.400 B	ND	17.000	0.210 J	0.022	0.250	0.0034	0.012	2.1
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA	NA	NA	NA	+
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	+
alpha-Chlordane	0.010 B	1.400 B	0.470 B	0.069 B	5.400 B	2.800 B	120.000	5.800	1.900	0.033 B	0.790 B	0.0037 B	0.012 B	0.54
gamma-Chlordane	0.0075 B	1.300 B	0.110 B	0.042 B	3.200 B	1.800 B	140.000	5.500	1.900	0.035 B	0.620 B	0.0028 B	0.031 B	0.54
Total Pesticides	0.0436	8.293	4.477	0.217	14.7	10.97	891	53.82	10.7	0.1883	1.716	0.01461	0.1682	10

Notes:

TCL = Target Compound List.
mg/kg = Milligrams per kilogram.
ND = Not Detected.
B = Analyte was detected in blank sample(s).
J = Concentration is estimated
Bold values exceed the NYSDEC Recommended Soil Cleanup Objectives.
+ = No Soil Cleanup Objective is available.
N = Analyte is tentatively identified based on presumptive evidence.

The off-site surface soil samples at SS-8 through SS-10 exhibited slight exceedances of the NYSDEC Objectives for heptachlor, heptachlor epoxide, dieldrin, 4,4'-DDE, 4,4'-DDT, alpha- and gamma-chlordane and/or total pesticides as shown on Table 4.2.1. The concentrations at SS-9 and SS-10 were somewhat higher than at SS-8. Although several targeted compounds were detected in the deeper soil samples at SS-8 and SS-10, none of the concentrations in the deeper samples exceeded NYSDEC Objectives. Based on these data, the off-site soil pesticide concentrations decrease with depth.

Surface soil samples were collected at four locations (SS-28 through SS-31) approximately 15 feet laterally away from SS-9 and SS-10 during the additional sampling event for the purpose of evaluating the lateral extent of the impacts detected at SS-9 and SS-10. These sampling locations are shown on Plate 1 and the results are summarized in Table 4.2.1 and Plate 2. The off-site surface soil samples at SS-28 and SS-29 exhibited slight exceedances for heptachlor epoxide, dieldrin, 4,4'-DDE, alpha-chlordane and/or gamma-chlordane. However, the detected concentrations are all less than those detected at nearby SS-9. Similar results were obtained at SS-30 and SS-31 and here, too, the detected concentrations were less than at nearby SS-10. Based on these data, surface soil pesticide concentrations decrease laterally away from the 50 by 50-foot area.

4.2.2 50 by 50-Foot Area

Additional soil samples were collected at GP-4 during the additional sampling event. Previously, samples had been collected to 10 feet below grade and the additional samples were collected from 18 to 20 and 28 to 30 feet below grade. The previous and recent GP-4 results are summarized on Table 4.2.2.1 and indicate that although elevated concentrations of pesticides were detected at up to 10 feet below grade, none of the detected pesticides in the deeper samples exceeded the NYSDEC Objectives. Based on these data, soil pesticide contamination at GP-4 extends to somewhat more than 10 feet below grade, but is reduced to below the NYSDEC Objectives by 18 feet below grade.

For reference, Table 4.2.2.1 also summarizes the previous soil sample chemical analytical data collected from nearby on-site locations GP-1 through GP-3 during the SI. Samples collected from the previous GP-1 through GP-3 locations showed lower pesticide concentrations than at GP-4, with the most elevated concentrations detected in the near-surface (zero to two feet below grade) samples, although the deeper samples at GP-3 showed increasing pesticide concentrations. In comparison, the detected concentrations at the off-site locations were significantly lower than the concentrations detected on site at GP-1 through GP-4.

TABLE 4.2.2.1
SOIL BORING CHEMICAL ANALYTICAL DATA, 50 BY 50-FOOT AREA
HARDER TREE SERVICES SITE
HEMPSTEAD, NEW YORK

Analyte	Location	GP-1						GP-2			GP-3				GP-4				NYSDEC Recommended Soil Cleanup Objectives	
	Depth (in feet)	0-2	4-6	8-10	18-20	28-30	0-2	4-6	8-10	0-2	4-6	8-10	18-20	28-30	0-2	4-6	8-10	18-20		28-30
TCL Pesticides in mg/kg																				
delta-BHC		ND	ND	ND	ND	ND	ND	0.0026 J	ND	ND	ND	ND	ND	ND	65,000 J	44,000 J	ND	ND	ND	0.3
gamma-BHC (Lindane)		0.190 J	ND	ND	ND	ND	0.170 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.06
Heptachlor		1.100 J	0.24	0.580 J	0.140 J	0.011 J	4.4	0.047	0.058	23	0.036	0.160 J	0.790 J	1.200 J	1,100.00	740	740	0.075	0.036	0.1
Aldrin		ND	ND	ND	ND	0.0054 J	2.4	0.0048 J	0.010 J	14,000 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.041
Dieldrin		ND	ND	ND	ND	0.022 J	5.7	0.027	0.031 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.044
4,4'-DDE		ND	ND	ND	ND	ND	4.5	0.021	ND	39	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1
Endosulfan II		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2,300 J	ND	ND	110,000 J	ND	ND	ND	0.9
4,4'-DDD		ND	ND	ND	ND	0.027 J	10	0.035	0.041	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9
4,4'-DDT		1,600 J	0.110 J	ND	ND	0.0067 J	19	0.074	0.039	9,100 J	ND	ND	ND	ND	140,000 J	ND	ND	ND	ND	2.1
Methoxychlor		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.750 J	ND	ND	ND	ND	ND	ND	-
alpha-Chlordane		35	1.6	3.5	0.48	0.12	32	0.14	0.17	190	0.21	1.6	12	17	3,700.00	2,400.00	2,500.00	0.400 NJ	0.180 J	0.54
gamma-Chlordane		27	1.4	2.9	0.44	0.096	33	0.12	0.18	160	0.18	1.3	11	16	3,300.00	2,200.00	1,800.00	0.320	0.150	0.54
Total Pesticides		64.89	3.35	6.98	1.06	0.2881	110.17	0.4714	0.529	435.1	0.426	3.06	26.86	34.2	8,305	5,494	5,040	0.795	0.366	10

Notes:

TCL = Target Compound List

mg/kg = Milligrams per kilogram.

ND = Not Detected.

J = Concentration is estimated.

- = No NYSDEC Recommended Soil Cleanup Objective established for this analyte.

Bold values exceed NYSDEC Recommended Soil Cleanup

N = Analyte is tentatively identified based on presumptive evidence.

Based on this information, it appears that the most impacted soil is limited to the 50 by 50-foot area, with the concentrations nearest to the pesticide storage area (GP-4) being the highest. Pesticide concentrations decrease away from the 50 by 50-foot area and also generally decrease with increasing depth.

4.2.3 SS-4 Area

Shallow borings were performed during the RI and additional investigation in the area of the previous SS-4 location. The area where these borings were performed is paved with concrete. Near-surface soil chemical analytical data were collected during the SI and indicated that elevated levels of various pesticides are present in the near-surface soil at SS-4. Near-surface soil samples were collected during the RI and additional investigation at on-site locations SS-11, SS-12, SS-13, SS-32, and SS-33 and off-site location SS-14 and the results are shown on Table 4.2.1. A deeper soil sample was also collected at SS-4 and SS-11, as shown on Table 4.2.1.

The near-surface soil at SS-11, located on site to the south of SS-4, exhibited exceedances of the NYSDEC Objectives for heptachlor, dieldrin, endrin, 4,4'-DDE, 4,4'-DDT, alpha- and gamma-chlordane and total pesticides. Moderate exceedances of the NYSDEC Objectives were detected at SS-11 and SS-4 in the samples collected from 3 to 4 feet below grade; these concentrations were much lower than the surface soil concentrations at these locations. The other near-surface soil samples in this area showed slight (SS-14, SS-32, and SS-33) to moderate (SS-12) exceedances of the NYSDEC Objectives for several pesticides. The off-site sample collected at SS-14 was obtained through an opening in the asphalt-paved parking lot; the low concentrations of pesticides detected in this sample indicate that pesticides have not significantly affected the off-site soils in this area.

In summary, the most elevated concentrations of pesticides detected in the SS-4 area were noted in near-surface soil at SS-4 and SS-11. The results from the deeper samples collected at SS-4 and SS-11 indicate that pesticide concentrations decrease with depth. The results at SS-12, SS-13, SS-32, and SS-33 indicate that pesticide concentrations decrease to the north, west, and south, respectively. Pesticide concentrations also decrease significantly to the east based on the off-site SS-14 sample.

4.2.4 SS-1/MW-8 Area

Soil borings were also performed in the SS-1/MW-8 area during the RI and additional sampling event. In each of borings SS-15 through SS-23 shallow (0 to 0.25 feet) and deeper (3 to 4 feet) soil

samples were collected. At off-site locations SS-35 through SS-37 a shallow (0 to 0.25 feet) sample was collected. A sample was also collected from the 3 to 4-foot interval at SS-1, where a shallow sample was collected during the SI. These sample locations were chosen to evaluate the lateral and vertical extent of pesticide-impacted soil in this area. Previous soil sampling at SS-1 indicated elevated concentrations of pesticides in the shallow soil and elevated concentrations of pesticides had also been detected in groundwater at nearby well MW-8.

It should be noted that no additional surface soil sampling was conducted to the south of SS-1 during the additional sampling event. This off-site area was found to be paved with concrete and a car wash had been constructed over the proposed sampling location. The NYSDEC representative who observed the additional sampling event concurred with this decision.

The soil chemical analytical data collected during the RI and additional investigation are shown on Table 4.2.1 and Plate 2 and indicate that the elevated concentrations of pesticides previously detected in the shallow soil at SS-1 do not extend to depth. The deeper sample at SS-1 (3 to 4 feet below grade) exhibited a slight exceedance of only one NYSDEC Objective (dieldrin). Soil samples SS-15 through SS-23 are located to the north, west and east of SS-1 and generally exhibit only slight to moderate exceedances of the NYSDEC Objectives for several pesticides. These data also generally indicate that pesticide concentrations decrease with increasing depth and many of the deeper samples do not exceed the NYSDEC Objective for total pesticides.

There are, however, several exceptions to these generalizations. At SS-17, located to the north of SS-1 and MW-8, elevated pesticide concentrations were detected in the deeper sample. At this location, pesticide concentrations were noted to increase with increasing depth. Somewhat elevated pesticide concentrations were also noted in the shallow sample at SS-18, located immediately east of SS-17. However, the pesticide concentrations were noted to decrease with increasing depth at SS-18. Finally, a somewhat elevated total pesticides concentration was also noted in the deeper sample at SS-22, located immediately to the south of SS-17 and east of SS-1. At SS-22, the concentration of one pesticide, 4,4'-DDT, was noted to increase with increasing depth, while other pesticide concentrations decreased with increasing depth.

Shallow (0 to 0.25 feet) soil samples were collected at off-site locations SS-35, SS-36, and SS-37 during the additional sampling event. These locations are immediately north (within five feet) of the fence adjoining the on-site SS-17, SS-18, and SS-20 locations, respectively, and are beneath a turf area.

Several pesticides were detected in these off-site samples; however, the detected concentrations only slightly exceeded the NYSDEC Objectives and the total pesticides concentration in each sample did not exceed the Objective. Based on these data, the pesticides detected in soils in the SS-1/MW-8 area do not extend significantly off site to the north.

In summary, slight to moderately elevated concentrations of pesticides were generally detected in soil samples from the SS-1/MW-8 area. In general, pesticide concentrations were noted to decrease with increasing depth in this area, with the exception of the SS-17 and SS-22 locations which appear to be anomalous. The shallow soil sample at SS-1, the deeper soil sample at SS-17, and the shallow soil sample at SS-18 exhibited the most elevated pesticide concentrations. However, at the SS-1 and SS-18 locations, pesticide concentrations were noted to decrease with increasing depth. Off-site shallow soils to the north exhibited pesticide concentrations only slightly exceeding the Objectives. It should be noted that the majority of this on-site area is paved; the only area noted to be unpaved is located to the northwest of the one-story garage building in the vicinity of SS-19 and SS-20. Pesticide concentrations did not appear to be highly elevated at either of these two locations.

4.2.5 SS-6 Area

Soil samples collected during the RI in the vicinity of the previous shallow soil sample SS-6 include shallow soil samples at SS-24 and SS-25, and a deeper soil sample at SS-6. The previous shallow soil sample at SS-6 exhibited slight exceedances of the NYSDEC Objectives for several pesticides. Since this soil sample was collected in the southeast portion of the Site, there was concern regarding the extent of pesticide impact in this area.

The chemical analytical results from the RI soil samples are shown on Table 4.2.1. The deeper soil sample collected at SS-6 did not exceed any of the NYSDEC Objectives for pesticides. Therefore, it appears that pesticide impact at SS-6 is limited to the shallow soil. The shallow soil samples from SS-24 and SS-25 exhibited slight exceedances of the NYSDEC Objectives for several pesticides. However, in both cases the total pesticides concentration did not exceed the NYSDEC Objective and the concentrations of the pesticides detected were below those previously detected in the shallow soil at SS-6.

Based on these data, the slight exceedances of NYSDEC Objectives for pesticides previously noted in the shallow soil at SS-6 do not extend to depth. These slightly elevated pesticide concentrations also do not appear to extend laterally.

4.2.6 SS-7 Area

Soil samples collected during the RI in the area of the previous shallow soil sample SS-7 include shallow samples at SS-26 and SS-27, and a deeper sample at the SS-7 location. As for the SS-6 area, the previous shallow soil sample at SS-7 exhibited slight exceedances of the NYSDEC Objectives for several pesticides. Since this soil sample was collected in the southeast portion of the Site, there was concern regarding the extent of pesticide impact in this area.

The deeper sample collected during the RI at SS-7 did not exhibit exceedances of any of the NYSDEC Objectives, as shown on Table 4.2.1. However, shallow soil samples at SS-26 and SS-27 slightly exceeded the NYSDEC Objectives for several pesticides.

Based on these data, it appears that the concentrations of pesticides decrease with increasing depth in the SS-7 area, similar to other areas of this Site. The slightly elevated levels of pesticides previously detected in the shallow soil at SS-7 appear to extend laterally to SS-26 and SS-27. However, the concentrations detected at SS-26 and SS-27 are comparable to those detected at SS-7, suggesting that pesticides are relatively uniformly slightly elevated in this area.

4.2.7 D-2 Drywell Area

A sediment sample previously collected from the D-2 drywell during the SI exhibited elevated concentrations of pesticides. This sample was collected from 1 to 2 feet below the top of sediments which were encountered at 11 feet below grade. Therefore, additional soil samples were collected from D-2 to delineate the vertical extent of pesticide impacts and soil samples were collected at several depths in two borings performed through the concrete pavement adjacent to D-2 to evaluate the lateral extent of potential soil contamination outside of the drywell structure.

Soils borings performed adjacent to drywell D-2 include D-2A and D-2B. Boring D-2A was performed adjacent to the north wall of drywell D-2 and boring D-2B was performed adjacent to the south wall of drywell D-2. Soil samples were collected at two depths in each boring: 9 to 10 and 14 to 15 feet below grade. In D-2, soil samples were collected at several depths ranging from 14 to 27 feet below grade, as shown on Table 4.2.1 and Plate 2.

Although several pesticides were detected in each of the D-2A and D-2B soil samples, the only exceedances of the NYSDEC Objectives were very slight and were noted for alpha- and gamma-chlordane in the deeper sample from boring D-2A. No exceedances of the NYSDEC Objective for total pesticides

were noted for any of these samples. These data indicate that the pesticide impact noted in the sediment in drywell D-2 does not appear to extend laterally to the surrounding soil.

In drywell D-2, exceedances of the NYSDEC Objectives for several pesticides were noted in each of the soil samples; however, the detected concentrations decreased with depth and the soil in the 25 to 27-foot interval showed only very low exceedances of the Objectives. Based on these data, the vertical extent of pesticide impact in drywell D-2 appears to have been delineated.

4.2.8 TCLP Results

Four near-surface soil samples were collected from locations exhibiting elevated pesticide concentrations: SS-1, SS-11, GP-4, and D-2. These samples were tested for Resource Conservation and Recovery Act (RCRA) pesticides using the TCLP method. The results are summarized on Table 4.2.8.1.

The only sample exhibiting exceedances of the RCRA regulatory levels was the shallow sample at SS-11, which exhibited exceedances for heptachlor and chlordane. The SS-11 near-surface soil sample collected during the SI exhibited very high concentrations of these compounds and also exhibited the highest concentration of total pesticides detected at the Site during the SI or RI. Based on these data, it appears that the near-surface soil at SS-11 exhibits RCRA hazardous characteristics. However, soil from other portions of the Site is unlikely to exhibit RCRA hazardous characteristics.

4.2.9 Summary of Soil Quality Data

In general, throughout the Site, it appears that pesticide concentrations decrease with increasing depth. Also, pesticide concentrations generally decrease laterally with increasing distance from areas where higher concentrations were detected.

Soil sampling performed off site adjacent to the 50 by 50-foot area shows somewhat elevated pesticide concentrations in near-surface soil. However, these concentrations are lower than those detected in the 50 by 50-foot area and to decrease with both depth and distance from the 50 by 50-foot area, as shown by the additional samples. At on-site location GP-4, elevated pesticide concentrations were detected to at least 10 feet below grade, but decreased significantly by 18 feet below grade.

In the vicinity of previous samples SS-4 and SS-11, pesticide concentrations in the soil beneath the pavement were noted to decrease on site to the north, west, and south. Pesticide concentrations also decreased with depth at SS-4 and SS-11 and also decreased significantly off site to the east.

TABLE 4.2.8.1
TCLP EXTRACTION CHEMICAL ANALYTICAL DATA
2001-2002 REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

Location	SS-11	SS-1	GP-4	D-2	RCRA Regulatory Level
Sample Depth (feet below grade)	0-0.25	0-2	0-2	0-2	
TCLP Pesticides in mg/l					
Heptachlor	0.011 J	ND	ND	0.0014	0.008
Chlordane	0.17	ND	ND	ND	0.03
Endrin	ND	ND	ND	0.00098 J	0.020

Notes:

ND = Not detected
mg/l = Milligrams per liter.
TCLP = Toxicity Characteristic Leaching Procedure
RCRA = Resource Conservation and Recovery Act
Bold values exceed RCRA regulatory level
J = Concentration is estimated.

In the SS-1/MW-8 area, slight to moderately-elevated pesticide concentrations were detected in the shallow and deeper soil. In general, pesticide concentrations were noted to decrease with increasing depth, with the exception of the SS-17 and SS-22 locations where pesticide concentrations increased with depth. The most elevated pesticide concentrations were noted at SS-1 (shallow), SS-17 (deeper), and SS-18 (shallow). Most of this area is covered with pavement. Off-site shallow soil samples collected to the north of this area did not contain elevated pesticide concentrations.

In the SS-6 area, the slightly elevated pesticide concentrations previously noted decreased with depth and do not appear to extend laterally. In the SS-7 area, pesticide concentrations were also noted to decrease with depth. However, slightly elevated concentrations of pesticides, similar to those previously detected in the shallow soil at SS-7, appear to extend laterally in this area.

Although elevated concentrations of pesticides were previously detected in the sediment in the D-2 drywell, soil sampling performed beneath the pavement adjacent to the drywell structure indicates that this impact does not extend laterally. Soil sampling performed beneath the D-2 structure indicates that the impact decreases with increasing depth; the soil in the 25 to 27-foot interval exhibited only very low exceedances of the NYSDEC Objectives.

TCLP testing indicates that near-surface soil at SS-11 exceeds RCRA regulatory levels for two pesticides. None of the other samples tested exceeded RCRA regulatory levels.

4.3 Groundwater Flow Direction

Water level data were obtained for all of the Site wells that could be accessed on August 3, 2001. Well MW-1 was inaccessible due to the presence of a truck that could not be moved. Well MW-8 was also inaccessible due to a large pile of wood chips covering the well. However, the data from the remainder of the Site wells were deemed adequate to evaluate the Site groundwater flow direction. These data are shown on Table 4.3.1.

The water level measurements were integrated with the previously-obtained well relative elevation data to calculate the relative elevation of the water table surface. This information is presented on Plate 3. These data indicate that the groundwater flow direction is generally to the south with a horizontal hydraulic gradient of 0.001. These data are consistent with the information obtained during the 1999 SI and previous sampling events.

TABLE 4.3.1
WELL AND WATER LEVEL DATA
HARDER TREE SERVICES SITE
63 JERUSALEM AVENUE, HEMPSTEAD, NEW YORK

Well No.	Top of Casing Relative Elevation	Depth of Well	Depth to Water	Water Table Relative Elevation
MW-1	99.58	40.35	Inaccessible	-
MW-2	99.14	39.80	30.82	68.32
MW-3	97.69	38.65	29.55	68.14
MW-4	97.23	39.00	29.19	68.04
MW-5	96.62	38.30	28.85	67.77
MW-6	98.59	119.98	30.39	68.20
MW-7	99.20	38.65	30.44	68.76
MW-8	98.70	38.55	Inaccessible	-
MW-9	96.77	39.00	28.78	67.99
MW-10	95.25	40.00	31.32	63.93

Notes:

*Water levels obtained August 3, 2001 except for MW-10 which was obtained on May 2, 2002.
Elevations measured relative to 100.00 elevation benchmark established on garage west step.

The water table relative elevations were noted to be approximately 0.9 feet lower in August 2001 than in February 1999, when they were last measured. This difference is likely due to normal seasonal changes.

4.4 Groundwater Quality Data

Groundwater samples were obtained and analyzed from wells MW-1, MW-5, MW-7, MW-8, MW-9, and MW-10 during the RI and additional sampling event, as per the NYSDEC-approved work plans. Each of the samples was analyzed for TCL pesticides and/or TCL VOCs. The chemical analytical results are summarized in Table 4.4.1. The complete chemical analytical laboratory data packages and the chains of custody are presented in Appendix B. For comparison, previously-obtained groundwater chemical analytical data are also provided in Table 4.4.1 and are summarized on Plate 3.

TCL pesticides and TCL VOCs were detected in all of the groundwater samples for which they were analyzed and exceedances of the NYSDEC Class GA Ambient Water Quality Standards (Standards) were noted for pesticides in all the samples. The pesticides detected most frequently were alpha- and gamma-chlordane. Only two VOCs, methylene chloride and tetrachloroethene (PCE), were detected at concentrations exceeding the NYSDEC Standards during the 2001 and 2002 sampling events. The recent and historic sampling results for each well are discussed below.

Well MW-7 is located approximately 260 feet upgradient of the Site and showed slight exceedances for alpha- and gamma-chlordane (0.10 and 0.061 ug/l, respectively), heptachlor, and heptachlor epoxide during the 2001 sampling event. This well was initially sampled in 1988 and chlordane was detected at a moderate concentration (0.31 ug/l). These data indicate that an off-site upgradient source of chlordane, heptachlor, and heptachlor epoxide groundwater contamination continues to exist in the Site vicinity.

Well MW-1, which is located in the 50 by 50-foot area, showed moderate exceedances of the NYSDEC Standards for alpha- and gamma-chlordane (0.56 and 0.66 ug/l, respectively) and PCE during the 2001 sampling event. Well MW-1 was previously sampled several times. Chlordane and 4,4'-DDT were detected at moderate concentrations in 1987 but were not detected in 1986 or 1988. Chlordane was again detected in 2001 at moderate concentrations. PCE was initially detected in this well in 1988 at 332 ug/l, which is much higher than the 2001 detection at 17 ug/l. PCE was also previously detected in 1988 in other Site wells at slight to elevated concentrations but was not detected during either of the most recent sampling events at other than low concentrations. Based on these data, a chlordane impact appears to be present at well MW-1 in the 50 by 50-foot area. This impact is greater, but of the same general order of

TABLE 4.4.1
GROUNDWATER CHEMICAL ANALYTICAL DATA
HARDER TREE SERVICES SITE
1986, 1987, 1988, 1999, 2001, AND 2002 SAMPLING EVENTS

Well No.	MW-1				MW-2				MW-3				MW-4				NYSDEC Class GA Ambient Water Quality Standards					
	Date	1986	1987	1988	2001	1986	1987	1988	1999	1986	1987	1988	1999	1986	1987	1988		1999				
Pesticides in ug/l																						
Lindane (Hexachlorocyclohexane)	ND	ND	ND	ND	ND	ND	ND	6	2.5	ND	0.46	1.7 J	0.08	ND	0.040	0.28	ND	0.21	0.25	0.35 J	0.05	
Dieldrin	ND	ND	ND	ND	ND	ND	0.022 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30	ND	1.9	0.004
Heptachlor	ND	ND	ND	ND	0.022 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.30	ND	ND	0.04
Heptachlor Epoxide	ND	NA	ND	ND	0.023 J	ND	NA	ND	NA	ND	ND	ND	0.07	NA	0.085	0.11	ND	NA	ND	ND	0.03	
Endrin Ketone	ND	ND	ND	ND	ND	0.2	1.8	ND	0.14 J	ND	ND	ND	ND	ND	ND	ND	1.0	0.31	ND	1.3	5	
alpha-BHC	NA	ND	ND	ND	ND	NA	ND	0.46	0.11 J	NA	ND	ND	NA	ND	ND	ND	NA	0.03	ND	0.21 J	0.01	
Chlordane	NA	0.19	ND	ND	-	NA	9.0	ND	-	NA	ND	ND	NA	ND	ND	-	NA	ND	ND	ND	0.05	
4,4'-DDD	NA	ND	ND	ND	ND	NA	ND	ND	0.86 J	NA	ND	ND	NA	ND	ND	ND	NA	ND	ND	ND	0.3	
4,4'-DDT	NA	0.24	ND	ND	ND	NA	ND	ND	ND	NA	0.43	ND	NA	ND	ND	ND	NA	0.48	ND	ND	0.2	
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	*	
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*	
alpha-Chlordane	NA	-	-	-	0.56	NA	-	-	3.4 B	NA	-	-	0.58 B	NA	-	-	NA	-	-	2.5 B	0.05	
gamma-Chlordane	NA	-	-	-	0.66	NA	-	-	4.8 B	NA	-	0.53 B	NA	-	-	-	NA	-	-	ND	0.05	
delta-BHC	ND	ND	ND	ND	ND	ND	ND	0.47	1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04	
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.35 J	0.04	
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	0.42 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.02	
Volatile Organic Compounds in ug/l																						
1,1-Dichloroethane	ND	NA	ND	ND	ND	1.1	NA	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	ND	5	
Tetrachloroethene	ND	NA	332	17	3.1	NA	2.4	ND	ND	ND	NA	12	ND	ND	ND	ND	ND	NA	ND	ND	5	
1,1,1-Trichloroethane	ND	NA	ND	ND	2.4	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	ND	5	
Trichloroethene	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	26.0	NA	ND	ND	5	
Benzene	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	26.0	NA	ND	ND	1	
Xylene	ND	NA	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	4.4	NA	ND	19	5	
Chloroform	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	1.9	7	
Toluene	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	0.8	5	
Ethylbenzene	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	4.8	5	
Methylene Chloride	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	ND	5	
Acetone	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	NA	ND	ND	50	

Notes:

Only detected compounds are reported.

- = For chlordane, either total chlordane or alpha- and gamma-chlordane are reported.

ug/l = Micrograms per liter

ND = Not Detected.

NA = Not Analyzed.

J = Concentration is estimated

B = Analyte was detected in blank sample(s)

* = No NYSDEC Class GA Ambient Water Quality Standard established for this analyte.

Bold values exceed NYSDEC Class GA Ambient Water Quality Standard.

TABLE 4.4.1 (CONTINUED)
GROUNDWATER CHEMICAL ANALYTICAL DATA
HARDER TREE SERVICES SITE
1986, 1987, 1988, 1999, 2001, AND 2002 SAMPLING EVENTS

Well No.		MW-5					MW-6			MW-7		NYSDEC Class GA Ambient Water Quality Standards
Date	1986	1987	1988	1999	2001	1986	1987	1988	1999	1988	2001	
Pesticides in ug/l												
Lindane (Hexachlorocyclohexane)	ND	ND	ND	ND	0.0028 J	ND	ND	ND	ND	ND	ND	0.05
Dieldrin	ND	0.05 J	0.047	1.4	0.67	ND	0.05 J	ND	ND	ND	ND	0.004
Heptachlor	ND	ND	ND	0.022 J	ND	0.04 J	0.19	ND	0.058	ND	0.11 J	0.04
Heptachlor Epoxide	0.05 J	NA	0.12	ND	0.10	ND	NA	ND	ND	ND	0.036 J	0.03
Endrin Ketone	ND	ND	ND	0.065 J	ND	ND	ND	ND	ND	ND	ND	5
alpha-BHC	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	0.01
Chlordane	NA	0.42	ND	-	-	NA	0.49	0.80	-	0.31	-	0.05
4,4'-DDD	NA	ND	ND	ND	ND	NA	0.09 J	ND	0.17	ND	ND	0.3
4,4'-DDT	NA	0.38	ND	ND	0.11	NA	0.48	ND	0.32	ND	ND	0.2
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	ND	ND	ND	ND	0.021 J	ND	ND	ND	ND	ND	ND	*
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	*
alpha-Chlordane	NA	-	-	0.94 B	0.28	NA	-	-	0.20 B	-	0.10	0.05
gamma-Chlordane	NA	-	-	0.92 B	0.21	NA	-	-	0.20 B	-	0.061	0.05
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	0.089	0.11	ND	ND	0.02
Volatile Organic Compounds in ug/l												
1,1-Dichloroethane	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	5
Tetrachloroethene	ND	NA	720	4	2.8	ND	NA	5.8	ND	ND	ND	5
1,1,1-Trichloroethane	ND	NA	1.2	ND	ND	ND	NA	ND	ND	ND	ND	5
Trichloroethene	ND	NA	ND	ND	ND	ND	NA	10	ND	ND	ND	5
Benzene	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	1
Xylene	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	5
Chloroform	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	7
Toluene	ND	NA	ND	ND	4.4	ND	NA	ND	ND	ND	ND	5
Ethylbenzene	ND	NA	ND	ND	ND	ND	NA	ND	ND	ND	ND	5
Methylene Chloride	ND	NA	ND	ND	7.6	ND	NA	ND	ND	ND	4.1	5
Acetone	ND	NA	ND	ND	13	ND	NA	ND	ND	ND	16	50

Notes:

Only detected compounds are reported.

- = For chlordane, either total chlordane or alpha- and gamma-chlordane are reported.

ug/l = Micrograms per liter

ND = Not Detected.

NA = Not Analyzed.

J = Concentration is estimated

B = Analyte was detected in blank sample(s)

* = No NYSDEC Class GA Ambient Water Quality Standard established for this analyte.

Bold values exceed NYSDEC Class GA Ambient Water Quality Standard.

TABLE 4.4.1 (CONTINUED)
GROUNDWATER CHEMICAL ANALYTICAL DATA
HARDER TREE SERVICES SITE
1986, 1987, 1988, 1999, 2001, AND 2002 SAMPLING EVENTS

	Well No. Date	MW-8 1986	MW-8 1989	2002	MW-9 2001	MW-10 2002	RTSDEC Class GA Ambient Water Quality Standards
Pesticides in ug/l							
Lindane (Hexachlorocyclohexane)		ND	ND	ND	ND	ND	0.05
Dieldrin		ND	ND	ND	5.7	ND	0.004
Heptachlor		ND	ND	ND	ND	ND	0.04
Heptachlor Epoxide		ND	ND	ND	2.1	ND	0.03
Endrin Ketone		ND	ND	ND	0.085 J	ND	5
alpha-BHC		ND	ND	ND	ND	ND	0.01
Chlordane		44	-	ND	-	ND	0.05
4,4'-DDD		ND	ND	ND	1.9 J	ND	0.3
4,4'-DDT		ND	ND	ND	0.70 J	ND	0.2
Endrin		ND	ND	ND	0.18 J	ND	ND
Endosulfan Sulfate		ND	ND	ND	0.77 J	ND	*
Endosulfan II		ND	ND	1.8 J	0.77 J	ND	*
alpha-Chlordane		-	28 B	30 NJ	2.8	ND	0.05
gamma-Chlordane		-	32 B	28 J	4.3	ND	0.05
delta-BHC		ND	ND	ND	ND	ND	0.04
beta-BHC		ND	ND	ND	ND	ND	0.04
4,4'-DDE		ND	ND	ND	ND	ND	0.02
Volatile Organic Compounds in ug/l							
1,1-Dichloroethane		ND	ND	NA	ND	NA	5
Tetrachloroethene		ND	ND	NA	ND	NA	5
1,1,1-Trichloroethane		1.4	ND	NA	ND	NA	5
Trichloroethene		ND	ND	NA	ND	NA	5
Benzene		ND	ND	NA	ND	NA	1
Xylene		ND	ND	NA	ND	NA	5
Chloroform		ND	ND	NA	ND	NA	7
Toluene		ND	ND	NA	ND	NA	5
Ethylbenzene		ND	ND	NA	ND	NA	5
Methylene Chloride		ND	ND	NA	3.5	NA	5
Acetone		ND	ND	NA	8.2	NA	50

Notes:

Only detected compounds are reported.

- = For chlordane, either total chlordane or alpha- and gamma-chlordane are reported.

ug/l = Micrograms per liter

ND = Not Detected.

NA = Not Analyzed.

N = Analyte is tentatively identified based on presumptive evidence.

J = Concentration is estimated.

B = Analyte was detected in blank sample(s).

magnitude as that at upgradient well MW-7, as discussed above. PCE appears to be decreasing in well MW-1; the concentrations recently detected in this well and the other Site wells do not suggest a PCE source in this area.

Wells MW-2 and MW-6 are located near the center of the Site, downgradient from well MW-1; neither of these wells was sampled during the RI or additional sampling event. Moderate to elevated levels of pesticides, primarily dieldrin and chlordane, have previously been detected in well MW-2. In general, the concentrations decreased between 1986 and 1988. However, slightly more elevated concentrations were detected in 1999 relative to 1988. At well MW-6, slight to moderate concentrations of pesticides, including chlordane, 4,4'-DDT and dieldrin, have been detected between 1987 and 1999. In general, the concentrations detected in well MW-6 are lower than those detected in well MW-2. Also, concentrations were generally noted to decrease between 1987 and 1999.

Wells MW-3 and MW-4 are located on the downgradient side of the Site; neither of these wells was sampled during the RI or additional sampling event. Both of these wells previously exhibited slight to moderate concentrations of several pesticides. No clear pattern of concentration changes were noted for these wells. However, the concentrations detected were generally lower than at on-site upgradient well MW-2.

Well MW-8, which is located on the west side of the Site, was sampled during the additional sampling event and also in 1988 and 1999. Chlordane was detected during all three sampling events at elevated concentrations. These data suggest that a chlordane source is likely present in the vicinity of well MW-8. Based on the similarity of the sampling results between 1988, 1999 and 2002, it also appears that the groundwater impact is not increasing.

Well MW-5, which is located downgradient approximately 200 feet south of the Site, exhibited slight to moderate exceedances of the NYSDEC Standards for dieldrin, heptachlor epoxide, alpha- and gamma-chlordane, and methylene chloride during the 2001 sampling event. Slight to moderate concentrations of pesticides, primarily chlordane and dieldrin, have previously been detected in this well and PCE was detected at a moderate concentration in 1988. Methylene chloride was not previously detected in this well and, as discussed in Section 4.6, may be related to laboratory contamination. In general, pesticide concentrations increased somewhat between 1987 and 1999 but decreased in 2001. These data suggest that the impact to downgradient groundwater is decreasing over time. The pesticide concentrations detected at well MW-5 were also noted to be somewhat lower than at the closest on-site well, MW-4, and

only slightly higher than those in the upgradient off-site well MW-7, suggesting that the magnitude of pesticide impact in groundwater at well MW-5 is only slightly greater than the ambient upgradient pesticide impact.

Well MW-9, which is located on the adjoining property to the west of the Site and approximately 220 feet downgradient of well MW-8, exhibited exceedances of the NYSDEC Standards for heptachlor epoxide, dieldrin, endrin, 4,4'-DDD, 4,4'-DDT, and alpha- and gamma-chlordane during the 2001 sampling event. The pesticide concentrations detected in this well were noted to be significantly less than those detected in the closest on-site upgradient well, MW-8.

Well MW-10 is located approximately 550 feet south of the Site and downgradient of wells MW-8 and MW-9. No pesticides were detected in this well.

Based on this evaluation, it appears that the majority of groundwater pesticide impact is limited to the Site and an area downgradient to the south of the Site. Some groundwater impact is observed at one location downgradient of the Site (well MW-5). However, the magnitude of this impact is comparable to the magnitude of the pesticide impact originating from an upgradient off-site source, as documented at well MW-7. No groundwater impact was observed at the well located furthest downgradient of the Site (MW-10). Therefore, the downgradient extent of groundwater impact exceeding the off-site upgradient groundwater impact is up to 200 feet in length. No impact is observed at 550 feet downgradient of the Site. Overall, most of the pesticide concentrations detected in the groundwater are very low, indicating that most of the pesticides detected at the Site remain adsorbed to the soil. No significant PCE source appears to be present in the Site vicinity.

4.5 Receptor Survey Results

A survey of public and private supply wells within 0.5 miles downgradient of the Site was conducted to evaluate the potential presence of groundwater receptors. The NYSDEC databases of public water supply wells and other types of wells (irrigation, non-contact cooling, etc.) were accessed and reviewed to evaluate if any of these types of wells were located within 0.5 miles downgradient of the Site.

This review indicated that no public water supply wells are located within 0.5 miles of the Site. The nearest public water supply wells are two Long Island Water Co. wells installed in the Magothy Aquifer (360

to 626 feet below grade) located approximately 1.75 miles south of the Site. Due to the distance to these wells and the depths at which they were completed, there does not appear to be a potential for these wells to be impacted by potential groundwater contaminants that may be present at the Site.

Information present in the NYSDEC database of Long Island wells indicates that no non-public water supply wells are present within 0.5 miles of the Site. The nearest well is located at FDR Services (a laundry facility) approximately 0.8 miles west-northwest of the Site. This well is installed in the Magothy Aquifer at a depth of 356 feet below grade. Due to the hydrogeologic position to this well relative to the Site and the depth at which it is installed, this well does not appear to have the potential to be impacted by the Site.

To identify potential private wells within 0.5 miles of the Site, a survey was performed by examining each residence or building from the vantage point of public streets to confirm that a public water supply connection was present, as evidenced by the presence of a water meter or street markings. The survey area included the following streets within 0.5 miles downgradient of the Site: Henry, Baldwin, Ann, Greenwich/Nassau, Thompkins Place, Kennedy Avenue, Oak Avenue, Willow Avenue, Harman Boulevard, Acacia Avenue, Kane Avenue, Brown Avenue, Pierson Avenue, Bernhard Street, Millburn, Lawson, and Jerusalem. Based on the results of this survey, all the residences and other buildings within 0.5 miles of the Site are connected to the public water supply.

Based on this information, there do not appear to be any public, non-public, or private water supply wells within 0.5 miles downgradient of the Site. Therefore, there do not appear to be any groundwater receptors in this area.

4.6 Quality Assurance/Quality Control

The Data Quality Objectives (DQOs) for the RI and additional sampling were applicable to all data-gathering activities at the Site. DQOs were incorporated into sampling, analysis, and quality assurance tasks associated with the investigation. The primary data user for this project is FPM. NYSDEC will also be provided with the data.

The collected data are intended to assess the nature and extent of soil and groundwater impacts at the Site. These data allow for the evaluation and possible implementation of potential remedial alternatives.

For this project, field screening was performed during soil and groundwater sampling. Field screening includes monitoring for organic vapors in the soil samples prior to placement in the sample jars and in the air in the work zone using a Photovac MicroTIP PID and also includes visual observations of soil and groundwater characteristics. All readings and observations were recorded by the FPM hydrogeologist in his or her field notebook.

4.6.1 Equipment Decontamination Procedures

All non-disposable downhole equipment (i.e., direct-push rig rods, submersible pump) used during the subsurface investigation was decontaminated by washing in a potable water and Alconox solution and rinsing in distilled water prior to use at each location to reduce the potential for cross contamination. All sampling equipment was either dedicated disposable equipment or was decontaminated prior to use at each location. For groundwater sampling, dedicated disposable bailers were used to obtain groundwater samples. The decontamination procedures utilized for all non-disposable equipment sampling equipment were as follows:

1. The equipment was scrubbed in a bath of potable water and low-phosphate detergent.
2. The equipment was then rinsed with distilled water; and
3. The equipment was allowed to air dry, if feasible, and wrapped in aluminum foil (shiny side out) for storage and transportation.

4.6.2 QA/QC Samples

The decontamination procedures were evaluated by the use of equipment blank samples. These samples consist of aliquots of laboratory-supplied water, which are poured over or through the dedicated or decontaminated sampling equipment and then submitted to the laboratory for analysis. An equipment blank sample was prepared for each matrix for each day that sampling was conducted at the Site and was analyzed for the target constituents for that day. The equipment blanks were labeled in a manner to prevent identification by the analytical laboratory.

The equipment blank samples results are shown in Table 4.6.2.1. The complete chemical analytical results are included in Appendix B. The results show the detection of low levels of two VOCs in the equipment blank sample associated with the groundwater samples collected during the RI. These VOCs were methylene chloride and acetone, which are common laboratory contaminants. The concentrations

TABLE 4.6.2.1
QA/QC SAMPLE CHEMICAL ANALYTICAL DATA
EQUIPMENT AND TRIP BLANK SAMPLES
HARDER TREE SERVICES SITE
HEMPSTEAD, NEW YORK

Sample Type	Equipment Blanks				Trip Blanks
Sample No.	SS-7F	MW-1F	FB-1	MW-8F	TB-1
Units	ug/l	ug/l	ug/l	ug/l	ug/l
Analyte					
TCL Pesticides					
Heptachlor	ND	ND	ND	ND	NA
Heptachlor Epoxide	ND	ND	ND	ND	NA
Dieldrin	0.015 J	ND	ND	ND	NA
4,4'-DDE	ND	ND	ND	ND	NA
delta-BHC	ND	ND	ND	ND	NA
4,4'-DDD	ND	ND	ND	ND	NA
Endosulfan Sulfate	ND	ND	ND	ND	NA
4,4'-DDT	ND	ND	ND	ND	NA
alpha-Chlordane	ND	ND	0.043 JB	ND	NA
gamma-Chlordane	0.038 J	ND	0.025 JB	ND	NA
TCL Volatile Organic Compounds					
Methylene Chloride	NA	3.9	NA	NA	4.8
Acetone	NA	28	NA	NA	31

Notes:

TCL = Target Compound List.

ug/l = micrograms per liter.

ND = Not Detected.

NA = Not Analyzed.

B = Analyte was detected in blank sample(s).

J = Concentration is estimated.

detected suggest that the methylene chloride and acetone concentrations in the groundwater samples may be affected by laboratory contamination. Low concentrations of dieldrin and gamma-chlordane were detected in the equipment blank sample associated with the second set of soil samples collected during the RI. The detected concentrations were very low and had little, if any, potential to affect the sample results. No pesticides were detected in the equipment blank samples associated with the additional sampling event. An equipment blank sample was inadvertently omitted from the first set of soil samples during the RI.

Trip blank samples were utilized to evaluate the potential for VOC cross-contamination between samples in the same cooler. Trip blank samples consist of aliquots of laboratory water which are sealed in sample bottles at the laboratory and which are then transported to the field with the empty sample bottles. A trip blank was placed in each cooler containing the samples to be analyzed for VOCs and was managed in the field and analyzed in the laboratory in the same manner as the primary environmental samples.

Trip blank sample results are shown in Table 4.6.2.1. The complete chemical analytical results are included in Appendix B. The results show that methylene chloride and acetone, both of which are common laboratory contaminants, were detected at low concentrations in the sample collected during the RI. The concentrations detected in the trip blank are comparable to those in the groundwater samples, which suggests that the groundwater results for these analytes may be affected by laboratory contamination.

Blind duplicate samples were obtained for each matrix at a frequency of at least one per every 10 environmental samples (10 percent) and were used to attest to the precision of the laboratory. A blind duplicate consists of a separate aliquot of sample collected at the same time, in the same manner, and analyzed for the same parameters as the primary environmental sample. The blind duplicate samples were labeled in a manner such that the laboratory could not identify them. The sample results were compared to those of the primary environmental samples to evaluate if the results were similar.

Blind duplicate sample results are shown in Table 4.6.2.2 and the complete chemical analytical sample results are included in Appendix B. The results show that, in general, the primary sample results and duplicate sample results vary by less than ten percent and, therefore, that the laboratory results are reasonably precise. Variation between the primary and duplicate sample results may be affected by differences in sample matrix, particularly for soil samples. The results for the primary and duplicate soil samples are consistent with minor variations in sample matrix.

TABLE 4.6.2.2
QA/QC SAMPLE CHEMICAL ANALYTICAL DATA
DUPLICATE SAMPLES
HARDER TREE SERVICES SITE
HEMPSTEAD, NEW YORK

Sample Type	Duplicate Samples															
	MW-2 (parent)	MW-7C (duplicate)	MW-7D (parent)	MW-7D (duplicate)	SS-7 (parent)	SS-11C (duplicate)	SS-11 (parent)	SS-14C (duplicate)	SS-16 (parent)	SS-16C (duplicate)	SS-21 (parent)	SS-25C (duplicate)	SS-25 (parent)	SS-25D (duplicate)	SS-31 (parent)	SS-33D (duplicate)
	ug/l	ug/l	ug/l	ug/l	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug	ug/lug
Analyte																
TCL Pesticides																
Heptachlor	0.011 J	ND	ND	ND	0.005 JB	0.0022JB	1,400 J	1,400 J	0.040 B	0.0045 JB	0.0058 JB	0.0050 JB	ND	ND	360 J	230 J
Heptachlor Epoxide	0.036 J	0.047 J	ND	ND	0.014	ND	2,200	2,200	ND	ND	ND	0.090 J	0.100 J	ND	ND	ND
Dieldrin	ND	ND	ND	ND	0.012 JB	0.0068 JB	5,600	5,600	0.099 B	0.050 JB	0.110 B	0.120 B	0.310 B	0.390 B	1,200 J	1,100
4,4'-DDE	ND	ND	ND	ND	0.016 J	0.038	2,000 J	2,000 J	0.110	0.083	0.390	0.360	0.980	1,300	ND	ND
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.210	0.220	ND	ND
4,4'-DDD	ND	ND	ND	ND	0.026	0.016 J	ND	ND	0.600	0.510	0.220	0.190	0.360	0.420	ND	ND
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.047 J	0.039 J	ND	ND
4,4'-DDT	ND	ND	ND	ND	0.033 B	0.020 B	17,000	16,000	0.750	0.620	0.240 B	0.200 B	1,900 B	2,100 B	1,800 J	1200 NJ
alpha-Chlordane	0.10	0.11	ND	ND	0.069 B	0.0098 B	12,000	12,000	0.130 B	0.130 B	0.120 B	0.130 B	0.470 B	0.590 B	6,800 J	5200 J
gamma-Chlordane	0.061	0.072	ND	ND	0.042 B	0.0094 B	11,000	11,000	0.190 B	0.200 B	0.180 B	0.170 B	0.110 B	0.160 B	4,800	3,900
TCL Volatile Organic Compounds																
Methylene Chloride	4.1	3.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	16	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

TCL = Target Compound List.

ug/l = micrograms per liter.

mg/kg = milligrams per kilogram.

ND = Not Detected.

NA = Not Analyzed.

B = Analyte was detected in blank sample(s).

J = Concentration is estimated.

* = SS-11C was mislabeled in the field. It should be **SS-7C from 3-4 feet**.

N = Analyte is tentatively identified based on presumptive evidence.

Matrix spike/matrix spike duplicate (MS/MSD) samples were collected at a frequency of one per 20 environmental samples for each matrix. The purpose of the MS/MSD samples is to confirm the accuracy and precision of laboratory results based on a particular matrix. The MS/MSD results were evaluated during the preparation of the Data Usability Summary Report (DUSR) as discussed below.

4.6.3 Chain-of-Custody Procedures

For each day of sampling, chain-of-custody (COC) sheets were completed and submitted to the laboratory with the samples collected that day. A copy of each COC sheet was retained by FPM for sample tracking purposes. Each COC sheet included the project name, the sampler's signature, the sampling locations and intervals, and the analytical parameters requested.

4.6.4 Data Usability Summary Report

The chemical analytical results collected during the RI were evaluated by the Quality Assurance Officer (QAO) using the sample data packages, sample data summary packages, and case narratives provided by the analytical laboratory. The resume of the proposed QAO is included in Appendix C. The remainder of the chemical analytical results collected during the additional sampling event were evaluated by an independent data validator. The data evaluations were performed to verify that the analytical results are of sufficient quality to be relied upon to assess the potential contamination in the soil and groundwater at the Site.

The RI soil and groundwater samples were analyzed in four sample delivery groups (SDGs); the soil samples were divided into three SDGs and the groundwater samples were divided into two SDGs, one of which included soil samples. Each SDG contained up to 20 primary environmental samples, one set of MS/MSD samples, up to two duplicate samples, and associated laboratory method blank samples. The soil samples were extracted and analyzed for TCL pesticides by GC/ECD using guidance provided in Methods 3550B and 8081A. The groundwater samples were extracted and analyzed for TCL pesticides by GC/ECD using guidance provided in Methods 3510C, 3550B and 8081A and were also analyzed for VOCs by purge and trap GC/MS using guidance provided in Method 624.

The sample extractions and analyses were all reported to have been performed within the required holding times. The laboratory QC data, including blanks, instrument tunings, calibration standards, calibration verifications, surrogate recoveries, spike recoveries, replicate analyses, and laboratory controls were reported to have been within the protocol-required limits and specifications with the following exceptions:

- For soil SDG 0898A the following discrepancies were reported: surrogates were diluted out of samples SS-18 (3 - 4'), SS-9 (0 - 0.25'), SS-10 (0 - 0.25'), SS-12 (0 - 0.25'), SS-11 (0 - 0.25'), SS-17 (3 - 4') and SS-18 (0 - 0.25'); spike percent recovery for heptachlor was over QC limits in SS-20 (3 - 4')MSB and was suspected to be high due to cross-contamination; spike percent recovery for endosulfan sulfate was below QC limits in PBLK50QC1; spike percent recoveries and RPDs for gamma-BHC, heptachlor, dieldrin, and 4,4'-DDT were outside of QC limits in SS-20 (3 - 4')MS/MSD due to sample dilution and the presence of target compounds in the unspiked sample; results for endosulfan I and alpha-chlordane were reported for the DB-1701 column in PBLK50QC1, SS-20 (3 - 4'), SS-20 (3 - 4')MS, SS-20 (3 - 4')MSD, D-2A (9 - 10'), SS-24 (0 - 0.25') and D-2B (14 - 15') due to coelution on the RTX-35 column; results for endosulfan II and 4,4'-DDD were reported from the RTX-35 column in PBLK50QC1 for SS-20 (3 - 4'), SS-20 (3 - 4')MS, SS-20 (3 - 4')MSD, SS-8 (0 - 0.25'), and SS-10 (0 - 0.25') due to coelution on the DB-1701 column; and alpha-chlordane was outside of the retention time windows on the DB-1701 column in samples SS-8 (0 - 0.25') and SS-10 (0 - 0.25') due to coelution with sample matrix interference and, therefore, results were reported from the RTX-35 column.
- For soil SDG 0898B, the following discrepancies were reported: the method blank, PBLK53, contained heptachlor over the reporting limit; surrogates were diluted out of samples SS-20 (0 - 0.25'), SS-26 (0 - 0.25'), SS-21 (0 - 0.25'), SS-15 (0 - 0.25'), SS-22 (0 - 0.25'), SS-22 (3 - 4'), and SS-23 (0 - 0.25'); spike percent recovery for endosulfan sulfate was below QC limits in PBLK53QC1; spike percent recoveries and RPDs for gamma-BHC, heptachlor, dieldrin, and 4,4'-DDT were outside the QC limits in SS-19 (0 - 0.25')MS/MSD due to sample dilution and the presence of target compounds in the unspiked sample; results for endosulfan I and alpha-chlordane were reported for the DB-1701 column in PBLK53QC1, SS-19 (0 - 0.25'), SS-19 (0 - 0.25')MS, SS-19 (0 - 0.25')MSD, and SS-20 (0 - 0.25') due to coelution on the RTX-35 column; results for endosulfan II and 4,4'-DDD were reported from the RTX-35 column in PBLK53QC1 for SS-19 (0 - 0.25'), SS-19 (0 - 0.25')MS, SS-19 (0 - 0.25')MSD, and SS-20 (0 - 0.25') due to coelution on the DB-1701 column; and alpha-chlordane was outside of the retention time windows on the RTX-35 column in samples SS-23 (0 - 0.25'), SS-23 (3 - 4'), SS-23C (3 - 4') and SS-11 (0 - 0.25') and these results were reported.
- For groundwater SDG 0898C, the following discrepancies were reported: results for endosulfan II and 4,4'-DDD were reported from the RTX-35 column in samples from

PBLK52QC1 due to coelution on the DB-1701 column; and results for endosulfan I and alpha-chlordane were reported from the DB-1701 column in samples from PBLK52QC1 due to coelution on the RTX-35 column.

- For groundwater/soil SDG 1501A, all compounds in the independent source laboratory quality control samples were within laboratory guidelines. The following discrepancies were noted for the VOC analyses: spike percent recoveries of chloroform, 2-butanone, bromoform, and 2-hexanone were outside of the laboratory-generated guidelines in sample MW-7 FMS. The following discrepancies were reported for the pesticide analyses: surrogates were diluted out of samples SS-13 (0 – 0.25'), SS-13 (0 – 0.25')MS, SS-13 (0 – 0.25')MSD and SS-13C; the spike percent recoveries and RPDs for heptachlor, dieldrin and 4,4'-DDT were outside the QC limits in SS-13 (0 – 0.25')MS/MSD due to sample dilution and the presence of target compounds in the unspiked sample; the breakdown of 4,4'-DDT was over QC limits in the IBS analyzed on July 7, 2001 at 18:46 on the DB-1701 column – this was the end standard for samples MW-9, MW-7C and MW-1F; the INDA3 analyzed on July 7, 2001 at 09:53 had endrin outside of the retention time window by 0.01 minutes - this was the beginning standard for MW-9, MW-7C, and MW-1F and the end bracketing standard for SS-13 (0 – 0.25')MSB, MW-7MSB, SS-13 (0 – 0.25')MS, SS-13 (0 – 0.25')MSD, MW-13C, MW-1, MW-5, MW-7, MW-7MS, MW-7MSD, PBLK44, PBLK49, PBLK44QC1 and PBLK49QC1 – this shift was taken into consideration when reviewing samples for target compounds; the INDB3 analyzed on the DB-1701 column on July 6, 2001 at 21:37 had the surrogate decachlorobiphenyl outside of QC criteria - this was the beginning calibration check for PBLK49 PBLK49QC1, SS-13 (0 – 0.25')MSB, MW-7MSB, SS-13 (0 – 0.25'), SS-13 (0 – 0.25')MSD, SS-13 (0 – 0.25')MS, SS-13C, PBLK44, PBLK44QC1, MW-1, MW-5, MW-7, MW-7MS and MW-7MSD; the spike compounds were diluted out of samples SS-13 (0 – 0.25')MS and SS-13 (0 – 0.25')MSD; the recovery of the spike compound dieldrin was over QC limits in SS-13 (0 – 0.25')MSB but was within QC limits in the corresponding LCS PBLK49QC1; the spike compounds endosulfan I and alpha-chlordane coelute on the RTX-35 column and, therefore, for PBLK44QC1 and PBLK49QC1 these compounds were reported from the DB-1701 column; the spike compounds endosulfan II and 4,4'-DDD coelute on the DB-1701 column and, therefore, for PBLK44QC1 and PBLK49QC1 these compounds were reported from the RTX-35 column; the compound heptachlor epoxide was just outside of the retention time windows on the RTX-35 column in samples MW-1, SS-13C, MW-7, MW-9, MW-7C, SS-

13 (0 – 0.25')MS, SS-13 (0 – 0.25')MSD, MW-7MS, and MW-7MSD, and these results were reported.

The raw data were spot-checked against the results provided on the data summary sheets and on the quality control verification forms and no discrepancies were noted. The data flagging was also checked and it was found that the correct data qualifiers have been applied.

No problems were reported for the VOC analyses for the groundwater samples and, therefore, these data may be relied upon as reported. The majority of the data quality issues identified for the pesticide analyses for the soil and groundwater samples appear to be related to the elevated concentrations of pesticides noted in several of the samples or to coelution of spike compounds in the laboratory equipment. These elevated concentrations resulted in contamination of the GC columns by select pesticides that were detected in the method blank results. As a result, the analytical results for these compounds in the associated samples may be suspect. These data are labeled with the "B" qualifier.

The heptachlor detections for the contaminated method blank samples ranged from 0.41 to 0.46 ug/kg in SDG 0898A to 2.2 ug/kg in SDG 0898B; the dieldrin detections in the method blanks ranged from 0.26 to 0.28 ug/kg in SDG 0898A at 3.1 ug/kg in SDG 0898B; alpha-chlordane detections from the same samples ranged from 0.17 to 0.18 ug/kg in SDG 0898A to 1.0 ug/kg in SDG 0898B and gamma-chlordane detections for the same samples ranged from 0.24 to 0.26 ug/kg in SDG 0898A to 1.6 ug/kg in SDG 0898B. 4,4'-DDT was also detected in the method blank sample associated with SDG 0898B at 3.2 ug/kg.

Using NYSDEC ASP 1995 guidance, if the associated primary sample results are at least 10 times above these concentrations, then the results are considered valid. The following evaluations were made for the affected samples: for SDG 0898A, all of the sample results are valid, with the exception of the heptachlor and dieldrin results from D-2B (9 – 10') which may have resulted from laboratory contamination; and for SDG-0898B all of the sample results are valid with the exception of heptachlor, dieldrin, 4,4'-DDT, and alpha- and gamma-chlordane from SS-11C (0 - 0.25') and SS-6 (3 – 4'), heptachlor, 4,4'-DDT and alpha- and gamma-chlordane from SS-19 (0 – 0.25')MSB, heptachlor and dieldrin from SS-7 (3 – 4') and SS-21 (3 – 4'), and heptachlor from SS-23C (3 – 4'), SS-23 (3 – 4') and SS-15 (3 – 4') which may have resulted from laboratory contamination.

As a result of the initial elevated pesticide detections, subsequent samples were diluted prior to analysis, resulting in the loss of surrogate and spiking compounds. Although this may have resulted in more questionable data for low-concentration detections, because of the elevated concentrations of the detected compounds, it is unlikely that this has significantly affected these data.

The independent data validator's report for the additional sampling event is included in Appendix D. In general, the data reported by the laboratory were found to be acceptable when reviewed using guidance from the most current editions of the USEPA CLP National Functional Guidelines and the USEPA Region 2 SOPs HW-23 and HW-6. Specific data showing deficiencies were noted in the data validator's report and the reported results on the data tables included herein were modified accordingly.

SECTION 5.0 FOCUSSED QUALITATIVE RISK ASSESSMENT

A focused qualitative risk assessment was performed to evaluate the potential for human exposure to on-site and off-site soils impacted with pesticides. As discussed in Section 4.5 of this report, a receptor survey has been performed and no potential groundwater receptors have been identified within one-half mile downgradient of the Site. In addition, based on the observed decrease in groundwater pesticide concentrations from the Site to near-background levels at downgradient groundwater monitoring wells MW-5 and MW-10, it appears that pesticide impact attributable to the Site and in exceedance of ambient groundwater pesticide concentrations is limited to within approximately 200 feet downgradient of the Site. It does not appear that there is the potential for public exposure to impacted groundwater associated with the Site and, therefore, groundwater exposure will not be further addressed in this qualitative risk assessment.

5.1 Human Health Evaluation

This section includes an exposure assessment, an evaluation of soil pesticide concentrations, and a comparison to appropriate criteria related to impacts to human health.

5.1.1 Exposure Assessment

This exposure assessment addresses potential migration routes by which pesticides in the soil may reach human receptors. This discussion is based on current and reasonably foreseeable on-site and off-site conditions.

At present, the Site is used primarily for commercial purposes, although a limited portion of the Site is occupied by a residence. The residential portion of the Site will be discussed below together with the off-site areas since it is segregated from the commercial portion of the Site by a fence.

The reasonably foreseeable uses of the commercial portion of the Site are for commercial purposes only, based on the Site owner's previously-stated plans and the Site zoning (business). It should be noted that the commercial portions of the Site are completely enclosed by a chain-link fence through which access to the Site may only be made by two gates: one each on Jerusalem Avenue and Henry Street. The gates are closed and locked during non-working hours and during working hours generally only the Site owners or their employees are present.

It should also be noted that the majority of the Site is paved with either concrete, asphalt or a combination of both. Unpaved areas include only the 50 by 50-foot area, a limited area behind the one-story garage building (the vicinity of locations SS-19 and SS-20), and an area immediately west of the residence where landscaping plants are stored (vicinity of locations SS-6, SS-7, and SS-24 through SS-27). Soils in other areas of the Site are located beneath pavement.

A complete exposure pathway must exist for a human population to be impacted by the pesticides in the Site soil. Several potential exposure pathways have been identified for the on-site soils. For the soils beneath paved areas, it is unlikely that exposure will occur for Site workers or visitors. However, exposure to impacted soils may occur during intrusive activities, which may include planned investigation or remediation activities or other construction or repair activities. Since the Site is currently recognized as a NYSDEC IHWDS, any investigation or remediation activities will be conducted using a Health and Safety Plan (HASP), which will include provisions for monitoring and/or personal protective equipment (PPE) for workers. Therefore, it is unlikely that unacceptable exposure to Site soil will occur during investigation or remediation activities. These provisions could be extended to other subsurface construction or repair activities, thereby eliminating this potential exposure pathway for construction or repair workers.

Exposure pathways have also been evaluated for the soils in the unpaved areas. In these areas, exposure to surface or near-surface soil may occur for Site workers conducting activities in these areas. Based on the locations of these areas, it is unlikely that Site visitor exposure will occur.

Exposure pathways have also been evaluated for off-site areas. Properties adjoining the Site to the west and south consist of commercial properties with paved surfaces. In addition, Jerusalem Avenue or Henry Street separate most of these properties from the Site boundary. Therefore, the potential for exposure to surface or subsurface impacted soil potentially associated with the Site is low for these commercial properties.

Residential areas are present to the north and east of the Site and are separated from the Site by an approximately six-foot-tall chain-link fence. Therefore, the potential for exposure to on-site soil from these off-site areas is low. In addition, the surface of the property to the east consists of an asphalt-paved parking lot associated with an apartment building and, therefore, the potential for exposure to near-surface or subsurface soil is low. The surface of the residential property to the north of the SS-1/MW-8 area and the west of the 50 by 50-foot area is covered with well-developed turf. Therefore, the potential for exposure to near-surface soil at this residence is low unless intrusive activities occur. Residences

adjoining to the north and east of the 50 by 50-foot area have undeveloped wooded areas adjoining the Site. No indications of ongoing residential activities were observed in these areas. However, due to the unpaved/unvegetated ground surface, there is the potential for exposure to near-surface soil in these areas.

5.1.2 Evaluation of Soil Pesticide Concentrations

Tables 5.1.2.1 and 5.1.2.2 present the range of soil pesticide concentrations for the surface/near-surface and deeper soils for the areas where exposure may occur based on the reasonably-feasible exposure scenarios discussed above. These summary tables include the range of concentrations detected for each analyte and the location where the maximum value was reported. These concentrations were then compared to the appropriate health-based criteria, as described below.

5.1.3 Hazard Identification and Comparison to Criteria

The potential hazards due to human exposures were evaluated based on the chemical-specific health-based criteria included in the NYSDEC TAGM 4046. Potential hazards were evaluated for both on-site and off-site soils where reasonable exposure pathways might exist.

For the on-site soils in the unpaved areas, including the 50 by 50-foot area, the SS-19/SS-20 area behind the garage and the SS-7/SS-8/SS-24 through SS-27 area to the west of the on-site residence, the surface/near-surface soils exceed some of the health-based criteria in all three areas. The exceedances were generally noted to be greatest in the 50 by 50-foot area, although some of the more elevated pesticide exceedances were also noted for the SS-19/SS-20 area. The exceedances noted in the SS-7/SS-8/SS-24 through SS-27 area to the west of the on-site residence were minor.

For the subsurface on-site soils in the unpaved areas, exceedances of some of the health-based criteria were noted in all three areas. The exceedances were greatest in the 50 by 50-foot area. The exceedances were noted to be minor in the SS-19/SS-20 area. No exceedances on the health-based criteria were noted in the SS-7/SS-8/SS-24 through SS-27 area to the west of the on-site residence.

For the surface/near-surface off-site soils, including the SS-14 area, the SS-8/SS-35 through SS-37 area to the north, the off-site area to the north and east of the 50 by 50-foot area, and the SS-5 location in proximity to the on-site residence, exceedances of some of the health-based criteria were noted for all areas. The exceedances were noted to be greatest in the off-site area to the north and east of the 50 by

TABLE 5.1.2.1
SUMMARY OF HEALTH-BASED RISK CRITERIA
SITE SOIL - UNPAVED AREAS
HARDER TREE SERVICES SITE
HEMPSTEAD, NEW YORK

Parameter (In mg/kg)	Surface/ Near-Surface Soil	Subsurface Soil	Location of Maximum	NYSDEC TAGM 4046 (USEPA Health-Based Criteria)
delta-BHC	ND - 65	ND - 44	GP-4	N/A
gamma-BHC (Lindane)	ND - 0.190	ND	GP-1	5.4
Heptachlor	ND - 1,100	0.011 - 740	GP-4	0.16
Heptachlor epoxide	0.0035 - 5.2	ND - 0.11	SS-20	0.077
Aldrin	ND - 14	ND-0.01	GP-3	0.041
Dieldrin	ND - 38	ND - 0.44	SS-20	0.044
4,4'-DDE	ND - 39	ND - 0.036	GP-3	2.1
Endosulfan I	ND - 18	ND - 0.71	SS-20	N/A
Endosulfan II	ND - 14	ND - 110	SS-20	N/A
4,4'-DDD	ND - 10	ND - 0.19	GP-2	2.9
4,4'-DDT	0.0057 - 140	ND - 0.63	GP-4	2.1
Methoxychlor	ND	ND - 0.750	GP-3	400
alpha-Chlordane	0.01 - 3,700	0.12 - 2,400	GP-4	0.54
gamma-Chlordane	0.0075 - 3,300	0.12 - 2,200	GP-4	0.54
Endrin	ND - 3.0	ND - 0.016	SS-20	20
Endosulfan Sulfate	ND - 4.4	ND - 0.034	SS-20	N/A
Endrin Keytone	0.0074 - 0.58	ND - 0.0082	SS-20	N/A

Notes:

ND = Not Detected.

mg/kg = milligrams per kilogram.

Bold values exceed NYSDEC TAGM 4046 USEPA Health-Based Criteria

N/A = Not Applicable.

TABLE 5.1.2.2
SUMMARY OF HEALTH-BASED RISK CRITERIA
OFF-SITE SOIL
HARDER TREE SERVICES SITE
HEMPSTEAD, NEW YORK

Parameter (in mg/kg)	Surface/ Near-Surface Soil	Subsurface Soil	Location of Maximum	NYSDEC TAGM 4046 (USEPA Health-Based Criteria)
Heptachlor	ND - 0.76	ND - 0.012	SS-9	0.16
Heptachlor epoxide	ND - 3.10	ND	SS-9	0.077
Dieldrin	0.078 - 8.6	0.0014 - 0.015	SS-9	0.044
4,4'-DDE	ND - 4.4	0.011 - 0.047	SS-31	2.1
Endosulfan II	ND - 0.47	ND	SS-10	N/A
4,4'-DDD	ND - 2.3	0.0057 - 0.015	SS-9	2.9
Endosulfan Sulfate	ND - 0.29	ND	SS-10, SS-5	N/A
4,4'-DDT	0.34 - 7.7	0.014 - 0.065	SS-10	2.1
Methoxychlor	ND - 0.35	ND	SS-10	400
alpha-Chlordane	0.16 - 4.8	0.0035 - 0.043	SS-9	0.54
gamma-Chlordane	0.089 - 4.7	0.0023 - 0.023	SS-9	0.54
Endrin	ND - 0.21	ND	SS-36	200

Notes:

ND = Not Detected.

mg/kg = milligrams per kilogram.

Bold values exceed NYSDEC TAGM 4046 USEPA Health-Based Criteria

N/A = Not Applicable.

50-foot area. The exceedances in the SS-8/SS-35 through SS-37 area to the north, the SS-5 area, and the SS-14 area were noted to be minor.

No exceedances of the health-based criteria were noted for the off-site subsurface soils.

5.2 Summary of Focussed Qualitative Human Health Risk Assessment

A qualitative risk assessment was performed for the on-site and off-site soils since there are several reasonably-feasible exposure pathways for this medium. A risk assessment was not performed for groundwater since the receptor survey did not identify any groundwater receptors within one-half mile of the Site.

The current and reasonably-anticipated Site uses are for commercial purposes and Site access is limited by a chain link fence with gates. A limited portion of the Site is occupied by a residence and is considered together with the off-site area since it is segregated from the commercial portion of the Site by a fence.

The majority of the Site is paved; unpaved areas include only the 50 by 50-foot area, a limited area behind the one-story garage building (the vicinity of locations SS-19 and SS-20), and an area immediately west of the residence where landscaping plants are stored (vicinity of locations SS-6, SS-7, and SS-24 through SS-27).

Several potential exposure pathways have been identified for the on-site soils. For the soils beneath paved areas, it is unlikely that exposure will occur during investigation or remediation activities since a HASP will be utilized. These provisions could be extended to other subsurface construction or repair activities, thereby eliminating this potential exposure pathway for construction or repair workers. For the soils in the unpaved areas, exposure to surface or near-surface soil may occur for Site workers conducting activities in these areas.

Exposure pathways have also been identified for select off-site areas where unpaved/unvegetated soil exists. Residences adjoining to the north and east of the 50 by 50-foot area have undeveloped wooded areas with unpaved/unvegetated ground surfaces. Although no indications of ongoing residential activities were observed in these areas, there is the potential for exposure to near-surface soil in these areas. Other off-site areas consist of either multi-family residential or commercial properties either with paved surfaces or separated from the Site by Jerusalem Avenue or Henry Street, or covered with a well-

developed turf. Therefore, the potential for exposure to near-surface soil at these off-site areas is considered to be low.

The soils in the areas where a reasonable exposure pathway is present were evaluated with respect to health-based criteria. The results of this evaluation indicate that for the on-site soils in the unpaved areas, the surface/near-surface soils exceed some of the health-based criteria in all three areas. The exceedances were generally noted to be greatest in the 50 by 50-foot area, although some of the more elevated pesticide exceedances were also noted for the SS-19/SS-20 area. The exceedances noted in the SS-7/SS-8/SS-24 through SS-27 area to the west of the on-site residence were minor.

For the subsurface on-site soils in the unpaved areas, exceedances of some of the health-based criteria were noted in all three areas. The exceedances were greatest in the 50 by 50-foot area. The exceedances were noted to be minor in the SS-19/SS-20 area. No exceedances on the health-based criteria were noted in the SS-7/SS-8/SS-24 through SS-27 area to the west of the on-site residence.

For the surface/near-surface off-site soils, exceedances of some of the health-based criteria were noted for all areas. The exceedances were noted to be greatest in the off-site area to the north and east of the 50 by 50-foot area. The exceedances in the SS-8/SS-35 through SS-37 area to the north, the SS-5 area, and the SS-14 area were noted to be minor. No exceedances of the health-based criteria were noted for the off-site subsurface soils.

Exposure to on-site or off-site soils that exceed the health-based criteria could pose a dermal, inhalation and/or ingestion risk. These soils should be addressed during the FS.

SECTION 6.0 CONCLUSIONS AND RECOMMENDATIONS

The data collected during the RI, the additional investigation, and during the previous investigations were utilized to evaluate the surface and subsurface conditions for the Site. An FS will be performed to evaluate remedial alternatives for the Site using these Site data.

6.1 Site Soil

The soil chemical analytical data collected during the RI and SI indicate, in general, that throughout the Site pesticide concentrations decrease with increasing depth below grade. Also, pesticide concentrations generally decrease laterally from areas where higher concentrations are detected.

6.1.1 50 by 50-Foot Area

The soil in the 50 by 50-foot area is impacted with pesticides, but the depth of the impact varies. In general, the majority of the impact appears to be limited to the upper two to four feet of soil. However, in the vicinity of the pesticide storage area (GP-4) and the former leaching pool LP-1 (GP-3), it appears that the impact extends to greater depths. At GP-4, soil pesticide contamination extends to somewhat more than 10 feet below grade, but is less than the NYSDEC Objectives by 18 feet below grade. At GP-3, the impact extends to at least 30 feet below grade.

6.1.2 Adjoining the 50 by 50-Foot Area

Near-surface and deeper sampling was performed during the RI and the additional sampling event to evaluate the lateral extent of impact, if any, to the surrounding properties. Somewhat elevated pesticide concentrations were detected in near-surface soil from three off-site locations (SS-8 through SS-10) within five to ten feet of the fence surrounding the 50 by 50-foot area. These concentrations are much lower than those detected in the near-surface soil samples from the 50 by 50-foot area and indicate that pesticide concentrations decrease significantly off site. Four locations (SS-28 through SS-31) were sampled during the additional sampling event and the detected pesticide concentrations were found to be lower than at SS-9 or SS-10, thereby confirming the anticipated decrease in pesticide concentrations laterally away from the Site. The slightly-elevated pesticide concentrations detected in the off-site soils were confirmed to decrease with depth based on deeper soil samples collected at SS-8 and SS-10.

6.1.3 SS-4 Area

Pesticide-impacted near-surface soil was identified at the SS-4 location during the SI. Additional sampling performed during the RI and the additional sampling event delineated the lateral extent of impact to soil beneath the pavement on site to the north and west and off-site to the east. However, soil pesticide concentrations were somewhat higher on site to the south at SS-11. The additional sampling results indicate that pesticide concentrations decrease to the north, west, and south of SS-4 and SS-11. The deeper samples collected at SS-4 and SS-11 also indicate that pesticide concentrations decrease with depth.

6.1.4 SS-1/MW-8 Area

Pesticide-impacted near-surface soil was identified at SS-1 during the RI and pesticides were also detected in nearby well MW-8. The majority of this area is paved. Additional soil sampling performed during the RI and additional sampling event delineated the vertical depth of impacted soil at most locations and pesticide concentrations in the near-surface soil samples were noted to be generally lower than at SS-1. The most elevated pesticide concentrations in the near-surface soil in this area were at SS-1 and SS-18. In general, pesticide concentrations decreased with increasing depth. However, at SS-17 and SS-22, soil pesticide concentrations were noted to increase with increasing depth.

Shallow soil samples collected off site to the north contained only low levels of pesticides slightly exceeding the Objectives. Therefore, pesticide contamination identified in the SS-1/MW-8 area does not appear to extend significantly off site to the north.

S.G. lower than on-site, but above T.A.G.M.

6.1.5 SS-6 Area

A near-surface soil sample collected at SS-6 during the SI showed slight exceedances of the NYSDEC Objectives for several pesticides. A deeper sample was collected at SS-6 during the RI and did not exhibit any exceedances of the Objectives. Two shallow soil samples collected in the vicinity of SS-6 showed slight exceedances of Objectives, but the detected concentrations were lower than at SS-6. Therefore, the slightly elevated pesticides previously detected in this area do not appear to extend laterally or to depth.

Conclude SS-6 is not a problem

6.1.6 SS-7 Area

A near-surface soil sample collected at SS-7 during the SI showed slight exceedances of the NYSDEC Objectives for several pesticides. An additional deeper sample was collected at SS-7 during the RI and did not exhibit any exceedances of the Objectives. Two shallow soil samples collected in the vicinity of SS-7 showed slight exceedances of Objectives similar to those previously detected at SS-7. Based on these data, the slightly elevated pesticides previously detected in this area appear to be somewhat uniformly distributed in the vicinity of SS-7 but do not appear to extend to depth.

6.1.7 Drywell D-2 and Other Leaching Pools

A sediment sample previously collected during the SI from drywell D-2 exhibited elevated levels of pesticides. Soil samples were, therefore, collected during the RI at several depths beneath the pavement from two borings to evaluate the lateral extent of potential soil contamination outside of the D-2 structure. Soil samples were also collected from several depths within the D-2 drywell during the additional sampling event. The soil sample results for D-2A (north of D-2) and D-2B (south of D-2) indicate very slight exceedances of the Objectives. Based on these data, the pesticide impact noted in the D-2 sediment does not appear to extend laterally to the surrounding soil.

Within the D-2 structure, the pesticide concentrations were noted to decrease with depth. The soil in the 25 to 27-foot interval showed only very low exceedances of the Objectives. Based on these data, the vertical extent of pesticide impact in drywell D-2 appears to have been delineated.

As discussed in the SI (FPM, April 1999), several leaching pools and drains are located on the Site, as shown on Plate 1, and pesticides have previously been detected in all of them. Table 6.1.7.1 summarizes the leaching pool and drain sampling results from the SI, the results are also summarized on Plate 2. Leaching pool D-2 previously exhibited the highest concentrations of pesticides; the vertical and lateral extent of this impact has been delineated, as described above.

LP-1, which has been backfilled and is no longer in service, was sampled during the SI and elevated pesticide concentrations were encountered in native soil at 15 to 17 feet below grade. Pesticide concentrations in a deeper sample at 24 to 25 feet below grade were lower, indicating that the impact decreases with depth.

Sediment in drain D-1 exhibited moderate levels of pesticides. This drain is reported to discharge to the storm sewer. Sediment in drain D-3 also exhibited moderate levels of pesticides.

drain is full of sediment

FPM

**TABLE 6.1.7.1
SUMMARY OF LEACHING POOL SEDIMENT/SOIL CHEMICAL ANALYTICAL DATA
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK**

Location	D-1		D-2				D-3		LP-1		LP-2	LP-3	NYSDEC Recommended Soil Cleanup Objectives
	1-2	3-4	0.08-1	3-4	14-15	19-21	14-16	0-1	15-17	24-25	0-1	1-2	
Depth Below Top of Sediment (feet)													
Depth Below Grade (feet)	3-4	11.5-12	14-15	19-21	25-27	25-27	14-16	0-1	15-17	24-25	0-1	1-2	7-8
TCL Pesticides in mg/kg													
beta-BHC	ND	36,000 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
delta-BHC	ND	15,000 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
Heptachlor	0.580 J	15,000 J	ND	1,300 J	0.087 NJ	0.087 NJ	0.087 NJ	0.270 J	1,000,000	51,000	ND	0.037 J	0.10
Aldrin	ND	39,000 J	11,000 J	ND	ND	ND	ND	2,100 J	750,000	ND	ND	ND	0.041
Endosulfan I	ND	610,000	50,000 NJ	3,600 NJ	0.870 NJ	0.870 NJ	0.870 NJ	ND	570,000	ND	ND	2,800	0.9
Dieldrin	3,000	ND	ND	4,600	0.240 J	0.240 J	0.240 J	ND	490,000	23,000	0.280 J	ND	0.044
4,4'-DDE	1,300 J	69,000 J	ND	2,500	ND	ND	ND	13,000	ND	ND	1,200	0.660 J	2.1
Endrin	ND	260,000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10
4,4'-DDD	5,700	1,600,000	570,000	15,000 J	5,400	5,400	5,400	12,000	150,000 J	13,000 J	0.680 J	2,400	2.9
Endosulfan Sulfate	ND	ND	ND	0.520 J	0.094 J	0.094 J	0.094 J	ND	ND	ND	ND	ND	1.0
4,4'-DDT	2,800	1,200,000	ND	17,000	0.210 J	0.210 J	0.210 J	ND	ND	3,300 J	0.190 J	ND	2.1
alpha-Chlordane	17,000 B	520,000 B	120,000	5,800	1,900	1,900	1,900	28,000 B	490,000 B	61,000 B	1,500	2,800 B	0.54
gamma-Chlordane	13,000 B	420,000 B	140,000	5,500	1,900	1,900	1,900	23,000 B	1,200,000 B	66,000 B	1,400	2,100 B	0.54
Total Pesticides	43.38	4,784	891	53.82	10.7	10.7	10.7	78.37	4,650	217.3	5.25	10.797	10

Notes:

TCL = Target Compound List
mg/kg = milligrams per kilogram
ND = Not Detected
B = Analyte was detected in blank sample(s).
J = Concentration is estimated.
Bold values exceed NYSDEC Recommended Soil Cleanup Objectives.
N = Analyte is tentatively identified based on presumptive evidence.

Leaching pool LP-2, which was installed to replace LP-1, contained sediments exhibiting only slight exceedances of the Objectives. Similarly, leaching pool LP-3 also contained sediments exhibiting only slight exceedances of the Objectives.

The leaching pool and drain sampling results from the SI, RI and additional sampling event will be used to evaluate remedial alternatives in the FS.

6.1.8 TCLP Data

Four near-surface soil samples collected from areas exhibiting the highest pesticide concentrations were tested for RCRA pesticides using the TCLP method. Only the SS-11 sample exhibited exceedances of the RCRA regulatory levels. Based on these data, soils from areas of the Site other than the SS-11 area would not be anticipated to exhibit RCRA hazardous characteristics.

6.2 **Site Groundwater and Groundwater Receptor Survey**

Groundwater chemical analytical data from the RI, the additional sampling event, and previous investigations were utilized to evaluate recent and historic groundwater quality at the Site. Groundwater flow is generally to the south.

Off-site upgradient well MW-7 exhibits concentrations of chlordane, heptachlor, and heptachlor epoxide and indicates that an off-site upgradient source of pesticide groundwater contamination is present.

The VOC PCE was previously detected in several Site wells, particularly well MW-1. However, the PCE concentrations have decreased significantly and are not elevated enough to indicate an on-site PCE source.

On-site wells MW-1, MW-2 through MW-4, MW-6 and MW-8 exhibit slight to elevated concentrations of pesticides. In general, concentrations appeared to decrease downgradient of the presumed source areas and appear to be either stable or decreasing. The majority of the pesticide-impacted groundwater appears to be limited to the Site and an area extending downgradient within 260 feet of the downgradient Site boundary.

Downgradient off-site well MW-5 is located approximately 200 feet from the Site and exhibits concentrations of several pesticides that are lower than those in the closest on-site upgradient well (MW-4), but slightly higher than and comparable to those detected in the off-site upgradient well MW-7.

Pesticide concentrations in off-site downgradient well MW-9 were moderately elevated but lower than those in the closest on-site upgradient well (MW-8). Downgradient well MW-10 is located approximately 550 feet south of the Site and did not contain detectable concentrations of pesticides. Based on these data, pesticide impact extends to approximately 200 feet downgradient of the Site but is not present at 550 feet downgradient of the Site.

The results of the groundwater receptor survey indicate that there are no potential groundwater receptors (public water supply wells, private water supply wells, or other types of water supply wells) within one-half mile downgradient of the Site. Based on the observed decrease in groundwater pesticide concentrations from the Site to downgradient wells MW-5, MW-9, and MW-10, and the presence of pesticide-impacted groundwater upgradient of the Site at well MW-7, the additional impact potentially attributable to the Site appears to be limited to a downgradient area within approximately 200 feet of the Site. Therefore, there does not appear to be the potential for Site groundwater to impact potential receptors.

6.3 Focussed Qualitative Human Health Risk Assessment

A qualitative risk assessment was performed for the onsite and offsite soils since there are several reasonably-feasible exposure pathways for this medium. A risk assessment was not performed for groundwater since the receptor survey did not identify any groundwater receptors within one-half mile of the Site.

The current and reasonably-anticipated Site uses are for commercial purposes and Site access is limited by a chain link fence with gates. The majority of the Site is paved; unpaved areas include only the 50 by 50-foot area, a limited area behind the one-story garage building (the vicinity of locations SS-19 and SS-20), and an area immediately west of the on-site residence where landscaping plants are stored (vicinity of locations SS-6, SS-7, and SS-24 through SS-27).

Several potential exposure pathways have been identified for the on-site soils. For the soils beneath paved areas, exposure to impacted soils is unlikely during investigation or remediation activities since a HASP will be utilized. These provisions could be extended to other subsurface construction or repair activities, thereby eliminating this potential exposure pathway for construction or repair workers. For the soils in the unpaved areas, exposure to surface or near-surface soil may occur for Site workers conducting activities in these areas.

For the on-site soils in the unpaved areas, the surface/near-surface soils exceed some of the human health-based criteria in the 50 by 50-foot area, the SS-19/SS-20 area, and the area to the west of the on-site residence. The exceedances were generally noted to be greatest in the 50 by 50-foot area, although some of the more elevated pesticide exceedances were also noted for the SS-19/SS-20 area. The exceedances noted in the SS-7/SS-8/SS-24 through SS-27 area to the west of the on-site residence were minor.

Exposure pathways have also been identified for select offsite areas where unpaved/unvegetated soil exists. Residences adjoining to the north and east of the 50 by 50-foot area have undeveloped wooded areas with unpaved/unvegetated ground surfaces. Although no indications of ongoing residential activities were observed in these areas, there is the potential for exposure to near-surface soil in these areas. Other off-site areas consist of either multi-family residential or commercial properties with paved surfaces or are separated from the Site by Jerusalem Avenue or Henry Street, or are covered with a well-developed turf. Therefore, the potential for exposure to near-surface soil at these off-site areas is considered to be low.

For the surface/near-surface offsite soils, exceedances of some of the health-based criteria were noted for several areas. The exceedances were noted to be greatest in the offsite area to the north and east of the 50 by 50-foot area. The exceedances in the SS-8/SS-35 through SS-37 area to the north, the SS-5 area, and the SS-14 area were noted to be minor. No exceedances of the health-based criteria were noted for the off-site subsurface soils.

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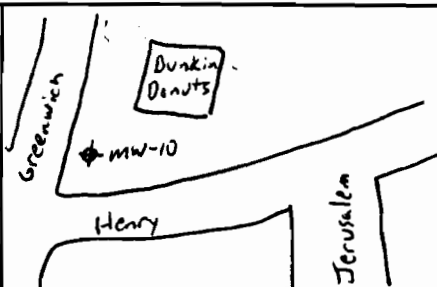
U.S. Soil Conservation Service, 1987. *Soil Survey for Nassau County, New York*.

APPENDIX A

**MW-10 WELL INSTALLATION LOG AND
DEVELOPMENT FORM,
WELL SAMPLING FORMS, AND
SURVEY NOTES**

FPM GROUP
Ronkonkoma, New York

PROJECT HARDER OWNER _____
 LOCATION 63 Jerusalem Ave W.O. No. _____
 WELL No. MW-10 TOTAL DEPTH 40 ft DIAMETER 2 inch
 SURFACE ELEV. 95.25 WATER LEVEL INITIAL 34' 24-hrs _____
 SCREEN DIA. 2 in LENGTH 15 ft SLOT SIZE .010
 CASING DIA. 2 inch LENGTH 25 ft TYPE Sch. 40
 DRILLING COMP. ADT DRILLING METHOD Hollow Stem Auger
 DRILLER GUY LOG BY JSB DATE DRILLED 4/25/02



DEPTH (FEET)	OVA (ppm)	WELL CONSTRU CTION	GRAPHIC LOG	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
2	0		concrete	0 - 4" Concrete and gravel.
4				4" - 4' Brown medium sand and medium gravel. Dry.
6				4 - ~20 Brown medium sand with small to medium gravel. Dry.
8			SW	20 ~ 40 Light brown fine to medium sand with trace fine gravel. Water at ~ 32' b.g.
10		SAND		
12		SAND		
14				
16				
18				
20				
22		Gravel		
24		Gravel		
26				
28			SP	
30				
32		Well Gravel		
34				
36				
38				
40				
42				
44				
46				
48				
50				
52				

Well installed with 2 inch PVC to a total
depth of 39' b.g. with 15 ft. of .010 screen.

WELL DEVELOPMENT DATA

Project: Harder Tree ServicesLocation: Jerusalem Ave HempsteadWell No.: MW-10Date and Time of Static Reading: 4/25/02 1430Amount of Water Injected during Drilling (gallons): 0Pump Type and Pumping Rate: Dual whale pump / ~2.0 gal per minute (Ground for pump failed)

Additional Development Techniques: _____

TIME (HRS:MIN)	DEPTH TO WATER (FEET)	GALLONS PUMPED	pH	SPECIFIC CONDUCTIVITY (uS)	TEMPERATURE (°F)	TURBIDITY (NTU)
:00	31.82	<1.0	5.33	170	65	340
:10	—	18	5.49	179	63	690
:20	—	35	5.67	186	62	71000
:30	—	58	5.80	189	61	520
:35	—	68	5.82	187	61	190
:40	—	75	5.79	190	61	90
:45	30.97	85	5.80	191	61	95
:50	—	95	5.77	186	61	85

clients/Hydro Dept Forms/welldevform

FPM

WELL SAMPLING DATA FORM

Client: HARDER TREE SERVICES

Project No.: 525-02-08

Location: Jerusalem Ave, Hempstead

Well No.: MW-8

Well Diameter: 2 inch

Date: 5/2/02

Start Time: 1430

Weather: Overcast 55°F

Finish Time: 1530

Sampled By: KS/JB

Depth to Bottom of Well: 38.50 Feet.

Depth to Water: 33.78 Feet.

Height of Water Column: 4.72 Feet.

Water Volume in Casing: 0.75 Gallons.

Water Volume to be Purged: 2.25 Gallons.

Water Volume Actually Purged: 5 Gallons.

Purge Method: Disposable Bailer

Physical Appearance/Comments: _____

FIELD MEASUREMENTS

Time	Volume (gal)	pH	Conductivity (uS)	Temperature (°F)	Turbidity (FTU)
	0.75	4.92	104	61	71000
	1.5	4.87	106	61	71000
	4.0	4.85	106	61	71000
	5.0	4.86	105	61	700

Sampling and Analytical Methods: Disp. Bailer / TCL Pesticides

Laboratory Name and Location: STL CT

4.72
+ .16

2832
4720

7552

WELL SAMPLING DATA FORM

Client: HARDER TREE SERVICES

Project No.: 525-02-08

Location: Jerusalem Ave, Hempstead

Well No.: MW-10

Well Diameter: 2 inch

Date: 5/2/02

Start Time: 1230

Weather: Overcast 55°F

Finish Time: 1330

Sampled By: JB/KS

Depth to Bottom of Well: 40.00 Feet.

Depth to Water: 31.30 Feet.

Height of Water Column: 8.68 Feet.

Water Volume in Casing: 1.38 Gallons.

Water Volume to be Purged: 4.16 Gallons.

Water Volume Actually Purged: 6 Gallons.

Purge Method: Whale Pump

Physical Appearance/Comments: _____

FIELD MEASUREMENTS

Time	Volume (gal)	pH	Conductivity (uS)	Temperature (°F)	Turbidity (FTU)
	2	5.66	195	62	>1000
	4	5.73	197	61	546
	6	5.81	198	61	290

Sampling and Analytical Methods: Disposable bailer / TCL Pesticides

Laboratory Name and Location: STL CT

* continued to purge an additional 30 gallons of water, no change in turbidity (300 ftu after 30 gal)

HARDER TREE SERVICES

TOC on mws
is the top of
the solid MC
casing. The
entire cap
housing comes
off.

~~2.6 in~~

0.78 A

from solid
PVC to old
TAC

[illegible]

WELL SAMPLING DATA FORM

Client: Harder
Project No.: 525-01-07
Location: Harder
Well No.: MW-1 Well Diameter: 2 in
Date: 6/13/01 Start Time: 10:40
Weather: Overcast 75°F Finish Time: 11:15
Sampled By: JSB/BC

Depth to Bottom of Well: 40.35 Feet.
Depth to Water: 30.57 Feet. 9.8
Height of Water Column: 9.78 Feet. .16
Water Volume in Casing: .978 Gallons. .978
Water Volume to be Purged: 3 Gallons.
Water Volume Actually Purged: 4 Gallons.
Purge Method: Disp. Bailer
Physical Appearance/Comments: Sheen

FIELD MEASUREMENTS

Time	Volume (gal)	pH	Conductivity (uS)	Temperature (°F)	Turbidity (FTU)
10:45	1	5.37	180	64	229
10:55	2.5	6.07	140	61	236
11:05	4	5.92	140	60	200

Sampling and Analytical Methods: Disp. Bailer / TCL VOCs : Rest.
Laboratory Name and Location: STL, CT

WELL SAMPLING DATA FORM

Client: Harder
Project No.: 525-01-07
Location: Harder / Hempstead
Well No.: MW-5 Well Diameter: 2 in
Date: 6/13/01 Start Time: 11:20
Weather: Overcast 75°F Finish Time: 12:00
Sampled By: JSB/BC

Depth to Bottom of Well: 38.30 Feet.
Depth to Water: 28.48 Feet.
Height of Water Column: 9.82 Feet.
Water Volume in Casing: 1.6 Gallons.
Water Volume to be Purged: 4.7 Gallons.
Water Volume Actually Purged: 5 Gallons.
Purge Method: Disp. Bailer & sub. pump
Physical Appearance/Comments: Black suspended solids

FIELD MEASUREMENTS

Time	Volume (gal)	pH	Conductivity (uS)	Temperature (°F)	Turbidity (FTU)
11:25	1.6	6.23	170	63	>1000
11:30	3.5	6.33	180	62	>1000
11:40	5.0	6.42	190	62	>1000
→ 11:50	8.0	6.32	190	62	120

Sampling and Analytical Methods: Disp. Bailer / TCL VOCs & Pest.
Laboratory Name and Location: STL-CT

WELL SAMPLING DATA FORM

Client: HarderProject No.: 525-01-07Location: HempsteadWell No.: MW-7Well Diameter: 2 inDate: 6/13/01Start Time: 12:10Weather: Overcast 75°FFinish Time: 12:45Sampled By: JSB/BLDepth to Bottom of Well: 38.65 Feet.Depth to Water: 29.74 Feet.Height of Water Column: 8.91 Feet.Water Volume in Casing: 1.4 Gallons.Water Volume to be Purged: 4.3 Gallons.Water Volume Actually Purged: 4.5 Gallons.Purge Method: Sub. pump

Physical Appearance/Comments: _____

FIELD MEASUREMENTS

Time	Volume (gal)	pH	Conductivity (uS)	Temperature (°F)	Turbidity (FTU)
12:15	1.5	6.00	120	64	253
12:25	3.0	5.86	120	60	174
12:35	4.5	5.91	120	60	174

Sampling and Analytical Methods: ~~Gravel~~ Disp. Bailer TCL VOCs & Pest.Laboratory Name and Location: STL-CT

WELL SAMPLING DATA FORM

Client: HarderProject No.: 525-01-07Location: # Gas Station (OK petro)Well No.: MW-9 Well Diameter: 2 in.Date: 6/13/01 Start Time: 12:55Weather: Sunny 80°F Finish Time: 13:45Sampled By: JSB/BCDepth to Bottom of Well: 39.00 Feet.Depth to Water: 28.08 Feet.Height of Water Column: 10.92 Feet.Water Volume in Casing: ~~17.5~~ 7.42 Gallons.Water Volume to be Purged: 22 ~~5.25~~ Gallons.Water Volume Actually Purged: 22 ~~5.25~~ Gallons.Purge Method: Disp. BailerPhysical Appearance/Comments: High Iron content

FIELD MEASUREMENTS

Time	Volume (gal)	pH	Conductivity (uS)	Temperature (°F)	Turbidity (FTU)
13:10	7.5 ~~1.75~~				
13:20	15 ~~3.00~~				
13:40	22 ~~5.25~~				

pH meter
malfunction
Turbidity
>1000.Sampling and Analytical Methods: Disp. Bailer TCL VOCs & Pest.Laboratory Name and Location: STL-CT

62 Federal - 44-100
Hempstead, NY
August 3, 2001

[illegible]

APPENDIX B

**CHEMICAL ANALYTICAL DATA
CHAINS OF CUSTODY**

SAMPLE SUMMARY DATA PACKAGE

Client:	FANNING, PHILLIPS & MOLNAR
Project ID:	HARDER TREE SERVICES
SDG #:	A0898A
STL ID:	7001-0898A

7001-0898A
FANNING, PHILLIPS & MOLNAR

**SEVERN
TRENT
SERVICES**

STL Connecticut

Case Narrative

Sample Receipt –The samples were received at 9°C. The client was notified, and the laboratory was instructed to proceed with the analyses.

Pesticides - Pesticide samples were extracted and analyzed by GC/ECD using guidance provided in Methods 3550B/8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples were extracted and concentrated without any apparent problems.

Surrogates were diluted out of samples SS-18 (3-4'), SS-9 (0-0.25'), SS-12 (0-0.25'), SS-11 (0-0.25'), SS-17 (3-4'), and SS-18 (0-0.25').

Spike percent recovery for Heptachlor was above QC limits in SS-20 (3-4')MSB. It was suspected to be high due to cross contamination.

Spike percent recovery for Endosulfan Sulfate was below QC limits in PBLK50QC1.

The spike percent recoveries and RPD's for gamma-BHC, Heptachlor, Dieldrin, and 4,4'-DDT were outside of QC limits in SS-20 (3-4')MS/MSD due to sample dilution and the presence of target compounds in the unspiked sample.

Results for Endosulfan I and alpha-Chlordane were reported from the DB-1701 column in PBLK50QC1, SS-20 (3-4'), SS-20 (3-4')MS, SS-20 (3-4')MSD, D-2A (9-10'), SS-24 (0-0.25'), and D-2B (14-15') due to coelution on the RTX-35 column.

Results for Endosulfan II and 4,4'-DDD were reported from the RTX-35 column in PBLK50QC1, SS-20 (3-4'), SS-20 (3-4')MS, SS-20 (3-4')MSD, SS-8 (0-0.25'), and SS-10 (0-0.25') due to coelution on the DB-1701 column.

Alpha-Chlordane was outside of retention time windows on the DB-1701 column in samples SS-8 (0-0.25') and SS-10 (0-0.25') due to coelution with sample matrix interference. In the analyst's opinion, this compound was present, and therefore reported. Results were reported from the RTX-35 column.

Manual integrations were performed if required, and any affected peaks were designated with an "MM" on the area report in the column titled "Code". Manual integrations were initialed by the analyst that performed the integration.

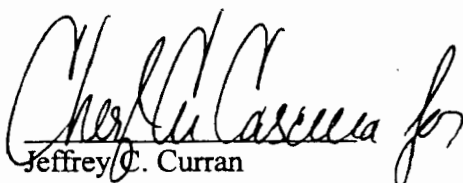
Sample Calculation:

Sample ID - SS-11 (0-0.25')

Compound - Heptachlor

$$\frac{(1388047 \text{ area})(10000 \text{ ul})(100000)}{(16016386 \text{ area/ng})(30.2 \text{ g})(0.87)(1 \text{ ul})} = 3300000 \text{ ug/Kg}$$

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Jeffrey C. Curran
Laboratory Manager

May 16, 2001
Date

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*Pest PCBs Method #	*Metals	*Other
SS-20 (3-4')	010898A-01				X		
SS-20 (3-4')	010898A-01MS				X		
SS-20 (3-4')	010898A-01MSB				X		
SS-20 (3-4')	010898A-01MSD				X		
SS-18 (0-0.25')	010898A-02				X		
SS-18 (3-4')	010898A-03				X		
D-2A (9-10')	010898A-04				X		
D-2A (14-15')	010898A-05				X		
D-2B (9-10')	010898A-06				X		
D-2B (14-15')	010898A-07				X		
SS-24 (0-0.25')	010898A-09				X		
SS-8 (0-0.25')	010898A-10				X		
SS-9 (0-0.25')	010898A-11				X		
SS-16 (0-0.25')	010898A-12				X		
SS-16 (3-4')	010898A-13				X		
SS-14 (0-0.25')	010898A-14				X		
SS-16C (3-4')	010898A-15				X		
SS-10 (0-0.25')	010898A-16				X		
SS-12 (0-0.25')	010898A-17				X		
SS-17 (0-0.25')	010898A-18				X		

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

12/91

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDES/PCB
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
010898A-01	SOIL	04/23/01	04/25/01	4/27/01	5/8/01
010898A-02	SOIL	04/23/01	04/25/01		5/12/01
010898A-03	SOIL	04/23/01	04/25/01		5/8/01
010898A-04	SOIL	04/23/01	04/25/01		5/8/01
010898A-05	SOIL	04/23/01	04/25/01		5/8/01
010898A-06	SOIL	04/23/01	04/25/01		5/30/01
010898A-07	SOIL	04/23/01	04/25/01		↓
010898A-09	SOIL	04/23/01	04/25/01		5/8/01
010898A-10	SOIL	04/23/01	04/25/01		↓
010898A-11	SOIL	04/23/01	04/25/01		↓
010898A-12	SOIL	04/23/01	04/25/01		↓
010898A-13	SOIL	04/23/01	04/25/01		↓
010898A-14	SOIL	04/23/01	04/25/01		5/12/01
010898A-15	SOIL	04/23/01	04/25/01		5/8/01
010898A-16	SOIL	04/23/01	04/25/01		↓
010898A-17	SOIL	04/23/01	04/25/01		↓
010898A-18	SOIL	04/23/01	04/25/01		5/9/01
010898A-19	SOIL	04/23/01	04/25/01		↓
010898A-20	SOIL	04/23/01	04/25/01		↓

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: STL-CT Contract: _____
 Lab Code: IEACT Case No.: 0898A SDG No.: A0898
 GC Column: DB-1701 ID: 0.53 (mm)

	SAMPLE NO.	TCX %REC #	DCB %REC #	OTHER %REC #	OTHER %REC #	TOT OUT
01	PBLK50	103	134			0
02	PBLK50QC1	102	130			0
03	SS-20 (3-4') MSB	105	123			0
04	D-2B (9-10')	109	134			0
05	D-2B (14-15')	116	129			0
06	PCBLK50	110	137			0
07	SS-20 (3-4')	139	120			0
08	SS-20 (3-4') MS	237D	131			0
09	SS-20 (3-4') MSD	164D	382D			0
10	SS-18 (3-4')	D	D			0
11	D-2A (9-10')	144	139			0
12	D-2A (14-15')	210D	172D			0
13	SS-24 (0-0.25')	148	437D			0
14	SS-8 (0-0.25')	133	120			0
15	SS-9 (0-0.25')	D	D			0
16	SS-16 (0-0.25')	245D	116			0
17	SS-16 (3-4')	166D	134			0
18	SS-16C (3-4')	165D	106			0
19	SS-10 (0-0.25')	D	D			0
20	SS-12 (0-0.25')	D	D			0
21	SS-17 (0-0.25')	294D	157			0
22	SS-11 (0-0.25')	D	D			0
23	SS-17 (3-4')	D	D			0
24	SS-18 (0-0.25')	D	D			0
25	SS-14 (0-0.25')	134	157			0
26						
27						
28						
29						
30						

ADVISORY
QC LIMITS
(41-150)
(56-159)

TCX = Tetrachloro-m-xylene
 DCB = Decachlorobiphenyl

Column to be used to flag recovery values
 * Values outside of QC limits
 D Surrogate diluted out

3F
SOIL PESTICIDE MATRIX SPIKE BLANK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix Spike - Sample No.: SS-20(3-4') Conc. Units : UG/KG

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC LIMITS RPD REC.
gamma-BHC (Lindane)	17	0.0	15.	88				50 45-124
Aldrin	17	0.0	18.	106				43 48-145
Heptachlor	17	0.0	27.	159*				31 21-152
Dieldrin	33	0.0	46.	139				38 49-155
Endrin	33	0.0	42.	127				45 42-191
4,4'-DDT	33	0.0	32.	97				50 14-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 1 out of 6 outside limits

COMMENTS: _____

3F
SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix Spike - Sample No.: SS-20(3-4') Conc. Units : UG/KG

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC RPD	LIMITS REC.
gamma-BHC (Lindane)	21	0.0	45.	214*	44.	220*	3	50	45-124
Aldrin	21	0.0	21.	94	22.	104	10	43	48-145
Heptachlor	21	110	150	190*	92.	-90*	560*	31	21-152
Dieldrin	41	440	440	0*	310	-317*	200*	38	49-155
Endrin	41	16.	59.	105	53.	102	3	45	42-191
4,4'-DDT	41	230	390	390*	290	171*	78*	50	14-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 3 out of 6 outside limits

Spike Recovery: 8 out of 12 outside limits

COMMENTS: _____

3H
SOIL PESTICIDE QC CHECK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Sample No.: PBLK50

COMPOUND	SPIKE ADDED (UG/KG)	SPIKE CONCENTRATION (UG/KG)	% REC #	QC. LIMITS REC.
alpha-BHC	6.7	4.5	67	46-133
beta-BHC	6.7	6.9	103	76-150
delta-BHC	6.7	2.2	33	12-132
gamma-BHC	6.7	4.8	72	64-119
Heptachlor	6.7	6.9	97	63-134
Aldrin	6.7	6.4	91	57-143
Heptachlor Epoxide	6.7	6.5	95	76-129
Endosulfan I	6.7	5.6	84	59-138
gamma-Chlordane	6.7	7.0	101	70-140
alpha-Chlordane	6.7	6.2	90	50-141
Dieldrin	6.7	7.5	109	68-136
4,4'-DDE	6.7	6.3	94	68-132
Endrin	6.7	6.2	92	72-140
Endosulfan II	6.7	6.7	100	69-152
4,4'-DDD	6.7	5.2	77	48-128
Endosulfan Sulfate	6.7	3.4	51	*60-132
4,4'-DDT	6.7	6.6	98	51-147
Methoxychlor	6.7	6.6	98	76-159
Endrin Aldehyde	6.7	6.6	98	23-158
Endrin Ketone	6.7	7.0	104	80-148

Column to be used to flag recovery values with an asterisk

COMMENTS: _____

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: STL-CT Contract: _____ Client Id: PBLK50

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Lab sample ID: 042701-B02 Lab File ID: C5092270

Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 04/27/01

Date Analyzed (1): 05/03/01 Date Analyzed (2): 05/08/01

Time Analyzed (1): 0012 Time Analyzed (2): 1951

Instrument ID (1): HP58905C Instrument ID (2): HP58901C

GC Column (1): DB-1701 ID: 0.53 (mm) GC Column (2): RTX-35 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PBLK50QC1	042701-B02QC1	05/03/01	05/08/01
02	SS-20(3-4')MSB	010898A-01MSB	05/03/01	05/08/01
03	D-2B(9-10')	010898A-06	05/03/01	05/09/01
04	D-2B(14-15')	010898A-07	05/03/01	05/15/01
05	SS-20(3-4')	010898A-01	05/08/01	05/09/01
06	SS-20(3-4')MS	010898A-01MS	05/08/01	05/09/01
07	SS-20(3-4')MSD	010898A-01MSD	05/08/01	05/09/01
08	SS-18(3-4')	010898A-03	05/08/01	05/10/01
09	D-2A(14-15')	010898A-05	05/08/01	05/10/01
10	SS-24(0-0.25')	010898A-09	05/08/01	05/10/01
11	SS-8(0-0.25')	010898A-10	05/08/01	05/15/01
12	SS-9(0-0.25')	010898A-11	05/08/01	05/15/01
13	SS-16(0-0.25')	010898A-12	05/08/01	05/15/01
14	SS-16(3-4')	010898A-13	05/08/01	05/15/01
15	SS-16C(3-4')	010898A-15	05/08/01	05/15/01
16	SS-10(0-0.25')	010898A-16	05/08/01	05/15/01
17	SS-12(0-0.25')	010898A-17	05/08/01	05/10/01
18	SS-17(0-0.25')	010898A-18	05/09/01	05/10/01
19	SS-11(0-0.25')	010898A-20	05/09/01	05/10/01
20	SS-17(3-4')	010898A-19	05/09/01	05/10/01
21	SS-18(0-0.25')	010898A-02	05/12/01	05/10/01
22	SS-14(0-0.25')	010898A-14	05/12/01	05/15/01
23				
24				
25				
26				

COMMENTS: _____

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: STL-CT Contract: _____ Client Id: PCBLK50
Lab Code: IEACT Case No.: 0898A SDG No.: A0898
Lab sample ID: 042701-S02 Lab File ID: C5093028
Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC
Sulfur Cleanup: (Y/N) Y Date Extracted: 04/27/01
Date Analyzed (1): 05/08/01 Date Analyzed (2): 05/10/01
Time Analyzed (1): 1011 Time Analyzed (2): 1441
Instrument ID (1): HP58905C Instrument ID (2): HP58901C
GC Column (1): DB-1701 ID: 0.53 (mm) GC Column (2): RTX-35 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	D-2A(9-10')	010898A-04	05/08/01	05/09/01
02				
03				
04				
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COMMENTS: _____

INSTRUMENT DETECTION LIMITS

Instrument : HP58905C

DB-1701 column

12/30/2000

	IDL	Quantitation
	ug/L	Limit ug/L
4,4'-DDD	0.0106	0.10
4,4'-DDE	0.0047	0.10
4,4'-DDT	0.0109	0.10
Aldrin	0.0020	0.05
alpha-BHC	0.0056	0.05
alpha-Chlordane	0.0030	0.05
beta-BHC	0.0233	0.05
Chlorobenzilate	0.1134	1.0
delta-BHC	0.0029	0.05
Dieldrin	0.0112	0.10
Endosulfan I	0.0071	0.05
Endosulfan II	0.1078	0.10
Endosulfan Sulfate	0.0066	0.10
Endrin	0.0090	0.10
Endrin Aldehyde	0.0136	0.10
Endrin Ketone	0.0091	0.10
gamma-BHC	0.0062	0.05
gamma-Chlordane	0.0029	0.05
Heptachlor	0.0052	0.05
Heptachlor Epoxide	0.0035	0.05
Isodrin	0.0034	0.05
Methoxychlor	0.0642	0.50
Toxaphene	0.16	2.5
Technical Chlordane	0.080	0.50
Aroclor-1221	0.051	2.0
Aroclor-1016	0.060	1.0
Aroclor-1232	0.050	1.0
Aroclor-1242	0.011	1.0
Aroclor-1248	0.004	1.0
Aroclor-1254	0.033	1.0
Aroclor-1260	0.056	1.0

Instrument detection limits are based on a 1000ml Initial Volume and 10ml Final Volume

INSTRUMENT DETECTION LIMITS

Instrument : HP58901C

RTX-35 column

02/16/2001

	IDL	Quantitation
	ug/L	Limit ug/L
4,4'-DDD	0.0083	0.10
4,4'-DDE	0.0050	0.10
4,4'-DDT	0.0115	0.10
Aldrin	0.0024	0.05
alpha-BHC	0.0029	0.05
alpha-Chlordane	0.0033	0.05
beta-BHC	0.0022	0.05
Chlorobenzilate	0.0669	1.0
delta-BHC	0.0037	0.05
Dieldrin	0.0045	0.10
Endosulfan I	0.0074	0.05
Endosulfan II	0.0223	0.10
Endosulfan Sulfate	0.0110	0.10
Endrin	0.0041	0.10
Endrin Aldehyde	0.0188	0.10
Endrin Ketone	0.0088	0.10
gamma-BHC	0.0019	0.05
gamma-Chlordane	0.0009	0.05
Heptachlor	0.0024	0.05
Heptachlor Epoxide	0.0034	0.05
Isodrin	0.0119	0.05
Methoxychlor	0.0437	0.50
Toxaphene	0.743	2.5
Technical Chlordane	0.065	0.50
Aroclor-1221	0.189	2.0
Arpclor-1016	0.151	1.0
Aroclor-1232	0.207	1.0
Aroclor-1242	0.214	1.0
Aroclor-1248	0.061	1.0
Aroclor-1254	0.137	1.0
Aroclor-1260	0.030	1.0

Instrument detection limits are based on a 1000ml Initial Volume and 10ml Final Volume

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-20(3-4')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-01

Sample wt/vol: 30.3 (g/ml) G Lab File ID: C5093029

% Moisture: 20 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	42.	U
319-85-7	beta-BHC	180	U
319-86-8	delta-BHC	42.	U
58-89-9	gamma-BHC (Lindane)	42.	U
76-44-8	Heptachlor	110	B
309-00-2	Aldrin	42.	U
1024-57-3	Heptachlor Epoxide	110	
959-98-8	Endosulfan I	71.	
60-57-1	Dieldrin	440	B
72-55-9	4,4'-DDE	36.	J
72-20-8	Endrin	16.	J
33213-65-9	Endosulfan II	80.	J
72-54-8	4,4'-DDD	49.	J
1031-07-8	Endosulfan Sulfate	34.	J
50-29-3	4,4'-DDT	230	
72-43-5	Methoxychlor	420	U
53494-70-5	Endrin ketone	8.2	J
7421-93-4	Endrin aldehyde	96.	U
5103-71-9	alpha-Chlordane	200	B
5103-74-2	gamma-Chlordane	170	B
8001-35-2	Toxaphene	2700	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-18(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-02

Sample wt/vol: 3.6 (g/ml) G Lab File ID: C5093150

% Moisture: 15 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 2000.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	33000	U
319-85-7	beta-BHC	150000	U
319-86-8	delta-BHC	33000	U
58-89-9	gamma-BHC (Lindane)	33000	U
76-44-8	Heptachlor	360000	B
309-00-2	Aldrin	33000	U
1024-57-3	Heptachlor Epoxide	38000	
959-98-8	Endosulfan I	33000	U
60-57-1	Dieldrin	65000	U
72-55-9	4,4'-DDE	4800	J
72-20-8	Endrin	65000	U
33213-65-9	Endosulfan II	65000	U
72-54-8	4,4'-DDD	59000	J
1031-07-8	Endosulfan Sulfate	65000	U
50-29-3	4,4'-DDT	64000	J
72-43-5	Methoxychlor	330000	U
53494-70-5	Endrin ketone	65000	U
7421-93-4	Endrin aldehyde	76000	U
5103-71-9	alpha-Chlordane	42000	B
5103-74-2	gamma-Chlordane	150000	B
8001-35-2	Toxaphene	2200000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-18(3-4')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-03

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5093033

% Moisture: 9 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 500.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	920	U
319-85-7	beta-BHC	4100	U
319-86-8	delta-BHC	920	U
58-89-9	gamma-BHC (Lindane)	920	U
76-44-8	Heptachlor	13000	B
309-00-2	Aldrin	920	U
1024-57-3	Heptachlor Epoxide	480	J
959-98-8	Endosulfan I	920	U
60-57-1	Dieldrin	120	JB
72-55-9	4,4'-DDE	190	J
72-20-8	Endrin	1800	U
33213-65-9	Endosulfan II	1800	U
72-54-8	4,4'-DDD	1700	J
1031-07-8	Endosulfan Sulfate	1800	U
50-29-3	4,4'-DDT	1800	
72-43-5	Methoxychlor	9200	U
53494-70-5	Endrin ketone	1800	U
7421-93-4	Endrin aldehyde	2100	U
5103-71-9	alpha-Chlordane	1400	B
5103-74-2	gamma-Chlordane	5100	B
8001-35-2	Toxaphene	60000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: D-2A(9-10')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-04

Sample wt/vol: 30.3 (g/ml) G Lab File ID: C5093034

% Moisture: 4 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	3.5	U
319-85-7	beta-BHC	15.	U
319-86-8	delta-BHC	3.5	U
58-89-9	gamma-BHC (Lindane)	3.5	U
76-44-8	Heptachlor	9.0	B
309-00-2	Aldrin	1.6	J
1024-57-3	Heptachlor Epoxide	1.9	J
959-98-8	Endosulfan I	2.8	J
60-57-1	Dieldrin	11.	B
72-55-9	4,4'-DDE	34.	
72-20-8	Endrin	6.8	U
33213-65-9	Endosulfan II	6.8	U
72-54-8	4,4'-DDD	38.	
1031-07-8	Endosulfan Sulfate	6.8	U
50-29-3	4,4'-DDT	22.	
72-43-5	Methoxychlor	35.	U
53494-70-5	Endrin ketone	6.8	U
7421-93-4	Endrin aldehyde	8.0	U
5103-71-9	alpha-Chlordane	33.	B
5103-74-2	gamma-Chlordane	35.	B
8001-35-2	Toxaphene	230	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: D-2A(14-15')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-05

Sample wt/vol: 30.6 (g/ml) G Lab File ID: C5093035

% Moisture: 5 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	88.	U
319-85-7	beta-BHC	390	U
319-86-8	delta-BHC	88.	U
58-89-9	gamma-BHC (Lindane)	88.	U
76-44-8	Heptachlor	11.	JB
309-00-2	Aldrin	88.	U
1024-57-3	Heptachlor Epoxide	88.	U
959-98-8	Endosulfan I	88.	U
60-57-1	Dieldrin	27.	JB
72-55-9	4,4'-DDE	170	U
72-20-8	Endrin	170	U
33213-65-9	Endosulfan II	170	U
72-54-8	4,4'-DDD	170	U
1031-07-8	Endosulfan Sulfate	18.	J
50-29-3	4,4'-DDT	250	
72-43-5	Methoxychlor	880	U
53494-70-5	Endrin ketone	170	U
7421-93-4	Endrin aldehyde	200	U
5103-71-9	alpha-Chlordane	790	B
5103-74-2	gamma-Chlordane	620	B
8001-35-2	Toxaphene	5700	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: D-2B(9-10')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-06

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5092280

% Moisture: 3 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/03/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	7.6	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	0.31	JB
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor Epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	0.80	JB
72-55-9	4,4'-DDE	3.4	U
72-20-8	Endrin	3.4	U
33213-65-9	Endosulfan II	3.4	U
72-54-8	4,4'-DDD	3.6	
1031-07-8	Endosulfan Sulfate	3.4	U
50-29-3	4,4'-DDT	3.4	
72-43-5	Methoxychlor	17.	U
53494-70-5	Endrin ketone	3.4	U
7421-93-4	Endrin aldehyde	4.0	U
5103-71-9	alpha-Chlordane	3.7	B
5103-74-2	gamma-Chlordane	2.8	B
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: D-2B(14-15')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-07

Sample wt/vol: 30.1 (g/ml) G Lab File ID: C5092281

% Moisture: 4 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/03/01

Injection Volume: 1.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	3.5	U
319-85-7	beta-BHC	16.	U
319-86-8	delta-BHC	3.5	U
58-89-9	gamma-BHC (Lindane)	3.5	U
76-44-8	Heptachlor	20.	B
309-00-2	Aldrin	1.6	J
1024-57-3	Heptachlor Epoxide	3.5	U
959-98-8	Endosulfan I	2.6	J
60-57-1	Dieldrin	6.0	JB
72-55-9	4,4'-DDE	14.	
72-20-8	Endrin	6.8	U
33213-65-9	Endosulfan II	6.8	U
72-54-8	4,4'-DDD	69.	
1031-07-8	Endosulfan Sulfate	6.8	U
50-29-3	4,4'-DDT	12.	
72-43-5	Methoxychlor	35.	U
53494-70-5	Endrin ketone	6.8	U
7421-93-4	Endrin aldehyde	8.1	U
5103-71-9	alpha-Chlordane	12.	B
5103-74-2	gamma-Chlordane	31.	B
8001-35-2	Toxaphene	230	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-24(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-09

Sample wt/vol: 30.5 (g/ml) G Lab File ID: C5093036

% Moisture: 56 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	190	U
319-85-7	beta-BHC	840	U
319-86-8	delta-BHC	190	U
58-89-9	gamma-BHC (Lindane)	190	U
76-44-8	Heptachlor	990	B
309-00-2	Aldrin	190	U
1024-57-3	Heptachlor Epoxide	130	J
959-98-8	Endosulfan I	63.	J
60-57-1	Dieldrin	930	B
72-55-9	4,4'-DDE	680	
72-20-8	Endrin	370	U
33213-65-9	Endosulfan II	370	U
72-54-8	4,4'-DDD	1400	
1031-07-8	Endosulfan Sulfate	100	J
50-29-3	4,4'-DDT	1300	
72-43-5	Methoxychlor	1900	U
53494-70-5	Endrin ketone	370	U
7421-93-4	Endrin aldehyde	440	U
5103-71-9	alpha-Chlordane	1400	B
5103-74-2	gamma-Chlordane	1300	B
8001-35-2	Toxaphene	12000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-8(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-10

Sample wt/vol: 30.3 (g/ml) G Lab File ID: C5093037

% Moisture: 21 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	43.	U
319-85-7	beta-BHC	190	U
319-86-8	delta-BHC	43.	U
58-89-9	gamma-BHC (Lindane)	43.	U
76-44-8	Heptachlor	12.	JB
309-00-2	Aldrin	43.	U
1024-57-3	Heptachlor Epoxide	99.	
959-98-8	Endosulfan I	43.	U
60-57-1	Dieldrin	120	B
72-55-9	4,4'-DDE	210	
72-20-8	Endrin	83.	U
33213-65-9	Endosulfan II	24.	J
72-54-8	4,4'-DDD	42.	J
1031-07-8	Endosulfan Sulfate	83.	U
50-29-3	4,4'-DDT	340	
72-43-5	Methoxychlor	430	U
53494-70-5	Endrin ketone	83.	U
7421-93-4	Endrin aldehyde	98.	U
5103-71-9	alpha-Chlordane	260	B
5103-74-2	gamma-Chlordane	240	B
8001-35-2	Toxaphene	2800	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-9(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-11

Sample wt/vol: 30.8 (g/ml) G Lab File ID: C5093038

% Moisture: 27 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	450	U
319-85-7	beta-BHC	2000	U
319-86-8	delta-BHC	450	U
58-89-9	gamma-BHC (Lindane)	450	U
76-44-8	Heptachlor	760	B
309-00-2	Aldrin	450	U
1024-57-3	Heptachlor Epoxide	3100	
959-98-8	Endosulfan I	450	U
60-57-1	Dieldrin	8600	B
72-55-9	4,4'-DDE	3300	
72-20-8	Endrin	880	U
33213-65-9	Endosulfan II	880	U
72-54-8	4,4'-DDD	2300	
1031-07-8	Endosulfan Sulfate	880	U
50-29-3	4,4'-DDT	7300	
72-43-5	Methoxychlor	4500	U
53494-70-5	Endrin ketone	880	U
7421-93-4	Endrin aldehyde	1000	U
5103-71-9	alpha-Chlordane	4800	B
5103-74-2	gamma-Chlordane	4700	B
8001-35-2	Toxaphene	29000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-16(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-12

Sample wt/vol: 30.28 (g/ml) G Lab File ID: C5093039

% Moisture: 26 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	500	U
319-86-8	delta-BHC	110	U
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	8.0	JB
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor Epoxide	110	U
959-98-8	Endosulfan I	110	U
60-57-1	Dieldrin	290	B
72-55-9	4,4'-DDE	260	
72-20-8	Endrin	220	U
33213-65-9	Endosulfan II	220	U
72-54-8	4,4'-DDD	1600	
1031-07-8	Endosulfan Sulfate	220	U
50-29-3	4,4'-DDT	1600	
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	220	U
7421-93-4	Endrin aldehyde	260	U
5103-71-9	alpha-Chlordane	340	B
5103-74-2	gamma-Chlordane	900	B
8001-35-2	Toxaphene	7400	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-16(3-4')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-13

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5093040

% Moisture: 6 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	36.	U
319-85-7	beta-BHC	160	U
319-86-8	delta-BHC	36.	U
58-89-9	gamma-BHC (Lindane)	36.	U
76-44-8	Heptachlor	40.	B
309-00-2	Aldrin	36.	U
1024-57-3	Heptachlor Epoxide	36.	U
959-98-8	Endosulfan I	36.	U
60-57-1	Dieldrin	99.	B
72-55-9	4,4'-DDE	110	
72-20-8	Endrin	69.	U
33213-65-9	Endosulfan II	69.	U
72-54-8	4,4'-DDD	600	
1031-07-8	Endosulfan Sulfate	69.	U
50-29-3	4,4'-DDT	750	
72-43-5	Methoxychlor	360	U
53494-70-5	Endrin ketone	69.	U
7421-93-4	Endrin aldehyde	82.	U
5103-71-9	alpha-Chlordane	130	B
5103-74-2	gamma-Chlordane	190	B
8001-35-2	Toxaphene	2300	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-14(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-14

Sample wt/vol: 30.2 (g/ml) G Lab File ID: C5093151

% Moisture: 16 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 100.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	200	U
319-85-7	beta-BHC	890	U
319-86-8	delta-BHC	200	U
58-89-9	gamma-BHC (Lindane)	200	U
76-44-8	Heptachlor	230	B
309-00-2	Aldrin	200	U
1024-57-3	Heptachlor Epoxide	370	
959-98-8	Endosulfan I	200	U
60-57-1	Dieldrin	640	B
72-55-9	4,4'-DDE	320	J
72-20-8	Endrin	390	U
33213-65-9	Endosulfan II	390	U
72-54-8	4,4'-DDD	1000	
1031-07-8	Endosulfan Sulfate	390	U
50-29-3	4,4'-DDT	3200	
72-43-5	Methoxychlor	53.	J
53494-70-5	Endrin ketone	390	U
7421-93-4	Endrin aldehyde	460	U
5103-71-9	alpha-Chlordane	1200	B
5103-74-2	gamma-Chlordane	1200	B
8001-35-2	Toxaphene	13000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-16C(3-4')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-15

Sample wt/vol: 30.1 (g/ml) G Lab File ID: C5093041

% Moisture: 5 decanted: (Y/N) ___ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: ___ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	36.	U
319-85-7	beta-BHC	160	U
319-86-8	delta-BHC	36.	U
58-89-9	gamma-BHC (Lindane)	36.	U
76-44-8	Heptachlor	4.5	JB
309-00-2	Aldrin	36.	U
1024-57-3	Heptachlor Epoxide	36.	U
959-98-8	Endosulfan I	36.	U
60-57-1	Dieldrin	50.	JB
72-55-9	4,4'-DDE	83.	
72-20-8	Endrin	69.	U
33213-65-9	Endosulfan II	69.	U
72-54-8	4,4'-DDD	510	
1031-07-8	Endosulfan Sulfate	69.	U
50-29-3	4,4'-DDT	620	
72-43-5	Methoxychlor	360	U
53494-70-5	Endrin ketone	69.	U
7421-93-4	Endrin aldehyde	82.	U
5103-71-9	alpha-Chlordane	130	B
5103-74-2	gamma-Chlordane	200	B
8001-35-2	Toxaphene	2300	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-10(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-16

Sample wt/vol: 30.6 (g/ml) G Lab File ID: C5093047

% Moisture: 41 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	560	U
319-85-7	beta-BHC	2500	U
319-86-8	delta-BHC	560	U
58-89-9	gamma-BHC (Lindane)	560	U
76-44-8	Heptachlor	560	U
309-00-2	Aldrin	560	U
1024-57-3	Heptachlor Epoxide	790	
959-98-8	Endosulfan I	560	U
60-57-1	Dieldrin	1700	B
72-55-9	4,4'-DDE	2700	
72-20-8	Endrin	1100	U
33213-65-9	Endosulfan II	470	J
72-54-8	4,4'-DDD	980	J
1031-07-8	Endosulfan Sulfate	290	J
50-29-3	4,4'-DDT	7700	
72-43-5	Methoxychlor	350	J
53494-70-5	Endrin ketone	1100	U
7421-93-4	Endrin aldehyde	1300	U
5103-71-9	alpha-Chlordane	3000	B
5103-74-2	gamma-Chlordane	3000	B
8001-35-2	Toxaphene	36000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-12(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-17

Sample wt/vol: 30.1 (g/ml) G Lab File ID: C5093048

% Moisture: 24 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	11000	U
319-85-7	beta-BHC	49000	U
319-86-8	delta-BHC	11000	U
58-89-9	gamma-BHC (Lindane)	11000	U
76-44-8	Heptachlor	10000	JB
309-00-2	Aldrin	11000	U
1024-57-3	Heptachlor Epoxide	2600	J
959-98-8	Endosulfan I	11000	U
60-57-1	Dieldrin	120000	B
72-55-9	4,4'-DDE	1400	J
72-20-8	Endrin	3500	J
33213-65-9	Endosulfan II	22000	U
72-54-8	4,4'-DDD	21000	J
1031-07-8	Endosulfan Sulfate	22000	U
50-29-3	4,4'-DDT	24000	
72-43-5	Methoxychlor	110000	U
53494-70-5	Endrin ketone	690	J
7421-93-4	Endrin aldehyde	26000	U
5103-71-9	alpha-Chlordane	11000	B
5103-74-2	gamma-Chlordane	17000	B
8001-35-2	Toxaphene	720000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-17(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-18

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5093049

% Moisture: 14 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/09/01

Injection Volume: 1.0 (uL) Dilution Factor: 100.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	200	U
319-85-7	beta-BHC	860	U
319-86-8	delta-BHC	200	U
58-89-9	gamma-BHC (Lindane)	200	U
76-44-8	Heptachlor	84.	JB
309-00-2	Aldrin	200	U
1024-57-3	Heptachlor Epoxide	200	U
959-98-8	Endosulfan I	200	U
60-57-1	Dieldrin	420	B
72-55-9	4,4'-DDE	3000	
72-20-8	Endrin	380	U
33213-65-9	Endosulfan II	380	U
72-54-8	4,4'-DDD	860	
1031-07-8	Endosulfan Sulfate	380	U
50-29-3	4,4'-DDT	1900	
72-43-5	Methoxychlor	2000	U
53494-70-5	Endrin ketone	380	U
7421-93-4	Endrin aldehyde	450	U
5103-71-9	alpha-Chlordane	550	B
5103-74-2	gamma-Chlordane	1200	B
8001-35-2	Toxaphene	13000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-17(3-4')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-19

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5093064

% Moisture: 20 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/09/01

Injection Volume: 1.0 (uL) Dilution Factor: 100000

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	210000	U
319-85-7	beta-BHC	920000	U
319-86-8	delta-BHC	210000	U
58-89-9	gamma-BHC (Lindane)	210000	U
76-44-8	Heptachlor	3100000	B
309-00-2	Aldrin	210000	U
1024-57-3	Heptachlor Epoxide	210000	U
959-98-8	Endosulfan I	210000	U
60-57-1	Dieldrin	2400000	B
72-55-9	4,4'-DDE	410000	U
72-20-8	Endrin	96000	J
33213-65-9	Endosulfan II	410000	U
72-54-8	4,4'-DDD	410000	U
1031-07-8	Endosulfan Sulfate	410000	U
50-29-3	4,4'-DDT	390000	J
72-43-5	Methoxychlor	2100000	U
53494-70-5	Endrin ketone	15000	J
7421-93-4	Endrin aldehyde	480000	U
5103-71-9	alpha-Chlordane	530000	B
5103-74-2	gamma-Chlordane	990000	B
8001-35-2	Toxaphene	14000000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-11(0-0.25')

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898A-20

Sample wt/vol: 30.2 (g/ml) G Lab File ID: C5093051

% Moisture: 13 decanted: (Y/N) __ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/09/01

Injection Volume: 1.0 (uL) Dilution Factor: 100000

GPC Cleanup: (Y/N) N pH: __ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	190000	U
319-85-7	beta-BHC	860000	U
319-86-8	delta-BHC	190000	U
58-89-9	gamma-BHC (Lindane)	190000	U
76-44-8	Heptachlor	3300000	B
309-00-2	Aldrin	190000	U
1024-57-3	Heptachlor Epoxide	190000	U
959-98-8	Endosulfan I	190000	U
60-57-1	Dieldrin	2700000	B
72-55-9	4,4'-DDE	380000	U
72-20-8	Endrin	87000	J
33213-65-9	Endosulfan II	380000	U
72-54-8	4,4'-DDD	410000	
1031-07-8	Endosulfan Sulfate	380000	U
50-29-3	4,4'-DDT	370000	J
72-43-5	Methoxychlor	1900000	U
53494-70-5	Endrin ketone	17000	J
7421-93-4	Endrin aldehyde	440000	U
5103-71-9	alpha-Chlordane	630000	B
5103-74-2	gamma-Chlordane	1100000	B
8001-35-2	Toxaphene	12000000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK50

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 042701-B02

Sample wt/vol: 30 (g/ml) G Lab File ID: C5092270

% Moisture: 0 decanted: (Y/N) Date Received : _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/03/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	7.5	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	0.46	J
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor Epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	0.26	J
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan Sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17.	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	0.17	J
5103-74-2	gamma-Chlordane	0.24	J
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK50QC1

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 042701-B02QC1

Sample wt/vol: 30 (g/ml) G Lab File ID: C5092271

% Moisture: 0 decanted: (Y/N) Date Received : _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/03/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	4.5	
319-85-7	beta-BHC	6.9	J
319-86-8	delta-BHC	2.2	
58-89-9	gamma-BHC (Lindane)	4.8	
76-44-8	Heptachlor	6.9	B
309-00-2	Aldrin	6.4	
1024-57-3	Heptachlor Epoxide	6.5	
959-98-8	Endosulfan I	5.6	
60-57-1	Dieldrin	7.5	B
72-55-9	4,4'-DDE	6.3	
72-20-8	Endrin	6.2	
33213-65-9	Endosulfan II	6.7	
72-54-8	4,4'-DDD	5.2	
1031-07-8	Endosulfan Sulfate	3.4	
50-29-3	4,4'-DDT	6.6	
72-43-5	Methoxychlor	6.6	J
53494-70-5	Endrin ketone	7.0	
7421-93-4	Endrin aldehyde	6.6	
5103-71-9	alpha-Chlordane	6.2	B
5103-74-2	gamma-Chlordane	7.0	B
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PCBLK50

Lab Code: IEACT Case No.: 0898A SDG No.: A0898

Matrix: (soil/water): SOIL Lab Sample ID: 042701-S02

Sample wt/vol: 30 (g/ml) G Lab File ID: C5093028

% Moisture: 0 decanted: (Y/N) Date Received : _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/08/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	7.5	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	0.41	J
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor Epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	0.28	J
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan Sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17.	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	0.18	J
5103-74-2	gamma-Chlordane	0.26	J
8001-35-2	Toxaphene	110	U

SAMPLE SUMMARY DATA PACKAGE

Client:	FANNING, PHILLIPS & MOLNAR
Project ID:	HARDER TREE SERVICES
SDG #:	B0898
STL ID:	7001-0898B

7001-0898B
FANNING, PHILLIPS & MOLNAR

Case Narrative

Sample Receipt –The samples were received at 9°C. The client was notified, and the laboratory was instructed to proceed with the analyses.

Pesticides - Pesticide samples were extracted and analyzed by GC/ECD using guidance provided in Methods 3550B/8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples were extracted and concentrated without any apparent problems.

The method blank, PBLK53, contained Heptachlor over the reporting limit. The client was notified. No action was taken.

Surrogates were diluted out of samples SS-20 (0-0.25'), SS-26 (0-0.25'), SS-21 (0-0.25'), SS-15 (0-0.25'), SS-22 (0-0.25'), SS-22 (3-4'), and SS-23 (0-0.25').

Spike percent recovery for Endosulfan Sulfate was below QC limits in PBLK53QC1.

The spike percent recoveries and RPD's for gamma-BHC, Heptachlor, Dieldrin, and 4,4'-DDT were outside of QC limits in SS-19 (0-0.25')MS/MSD due to sample dilution and the presence of target compounds in the unspiked sample.

Results for Endosulfan I and alpha-Chlordane were reported from the DB-1701 column in PBLK53QC1, SS-19 (0-0.25'), SS-19 (0-0.25')MS, SS-19 (0-0.25')MSD, and SS-20 (0-0.25') due to coelution on the RTX-35 column.

Results for Endosulfan II and 4,4'-DDD were reported from the RTX-35 column in PBLK53QC1, SS-19 (0-0.25'), SS-19 (0-0.25')MS, SS-19 (0-0.25')MSD, and SS-20 (0-0.25') due to coelution on the DB-1701 column.

Alpha-Chlordane was outside of retention time windows on the RTX-35 column in samples SS-23 (0-0.25'), SS-23 (3-4'), SS-23C (3-4'), and SS-11 (0-0.25'). In the analyst's opinion, this compound was present, and therefore reported.

Manual integrations were performed if required, and any affected peaks were designated with an "MM" on the area report in the column titled "Code". Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID - SS-20 (0-0.25')

Compound – gamma-Chlordane

$$\frac{(166959 \text{ area})(10000 \text{ ul})(2000)}{(14209670 \text{ area/ng})(30.2 \text{ g})(0.75)(1 \text{ ul})} = 10000 \text{ ug/Kg}$$

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE IDENTIFICATION AND
ANALYTICAL REQUIREMENT SUMMARY

Customer Sample Code	Laboratory Sample Code	Analytical Requirements					
		*VOA GC/MS Method #	*BNA GC/MS Method #	*VOA GC Method #	*Pest PCBs Method #	*Metals	*Other
SS-19(0-0.25')	010898B-01				X		
SS-19(0-0.25')	010898B-01MS				X		
SS-19(0-0.25')	010898B-01MSB				X		
SS-19(0-0.25')	010898B-01MSD				X		
SS-19(3-4')	010898B-02				X		
SS-20(0-0.25')	010898B-03				X		
SS-25(0-0.25')	010898B-04				X		
SS-26(0-0.25')	010898B-05				X		
SS-27(0-0.25')	010898B-06				X		
SS-6(3-4')	010898B-07				X		
SS-21(0-0.25')	010898B-08				X		
SS-21(3-4')	010898B-09				X		
SS-1(3-4')	010898B-10				X		
SS-15(0-0.25')	010898B-11				X		
SS-15(3-4')	010898B-12				X		
SS-22(0-0.25')	010898B-13				X		
SS-22(3-4')	010898B-14				X		
SS-23(0-0.25')	010898B-15				X		
SS-23(3-4')	010898B-16				X		
SS-23C(3-4')	010898B-17				X		

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-22(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-13

Sample wt/vol: 30.8 (g/ml) G Lab File ID: C5093172

% Moisture: 4 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 500.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	860	U
319-85-7	beta-BHC	3800	U
319-86-8	delta-BHC	860	U
58-89-9	gamma-BHC (Lindane)	860	U
76-44-8	Heptachlor	1800	B
309-00-2	Aldrin	88.	J
1024-57-3	Heptachlor Epoxide	450	J
959-98-8	Endosulfan I	860	U
60-57-1	Dieldrin	8000	B
72-55-9	4,4'-DDE	3000	
72-20-8	Endrin	1700	U
33213-65-9	Endosulfan II	1700	U
72-54-8	4,4'-DDD	3900	
1031-07-8	Endosulfan Sulfate	1700	U
50-29-3	4,4'-DDT	4100	B
72-43-5	Methoxychlor	8600	U
53494-70-5	Endrin ketone	1700	U
7421-93-4	Endrin aldehyde	2000	U
5103-71-9	alpha-Chlordane	1400	B
5103-74-2	gamma-Chlordane	3200	B
8001-35-2	Toxaphene	56000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-15(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-12

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5093171

% Moisture: 9 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	37.	U
319-85-7	beta-BHC	160	U
319-86-8	delta-BHC	37.	U
58-89-9	gamma-BHC (Lindane)	37.	U
76-44-8	Heptachlor	8.1	JB
309-00-2	Aldrin	37.	U
1024-57-3	Heptachlor Epoxide	37.	U
959-98-8	Endosulfan I	37.	U
60-57-1	Dieldrin	64.	JB
72-55-9	4,4'-DDE	51.	J
72-20-8	Endrin	72.	U
33213-65-9	Endosulfan II	72.	U
72-54-8	4,4'-DDD	130	
1031-07-8	Endosulfan Sulfate	72.	U
50-29-3	4,4'-DDT	210	B
72-43-5	Methoxychlor	370	U
53494-70-5	Endrin ketone	72.	U
7421-93-4	Endrin aldehyde	84.	U
5103-71-9	alpha-Chlordane	270	B
5103-74-2	gamma-Chlordane	210	B
8001-35-2	Toxaphene	2400	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-15(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-11

Sample wt/vol: 30.2 (g/ml) G Lab File ID: C5093170

% Moisture: 12 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 500.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	960	U
319-85-7	beta-BHC	4200	U
319-86-8	delta-BHC	960	U
58-89-9	gamma-BHC (Lindane)	960	U
76-44-8	Heptachlor	190	JB
309-00-2	Aldrin	960	U
1024-57-3	Heptachlor Epoxide	960	U
959-98-8	Endosulfan I	960	U
60-57-1	Dieldrin	1800	JB
72-55-9	4,4'-DDE	4500	
72-20-8	Endrin	1900	U
33213-65-9	Endosulfan II	1900	U
72-54-8	4,4'-DDD	5200	
1031-07-8	Endosulfan Sulfate	1900	U
50-29-3	4,4'-DDT	21000	B
72-43-5	Methoxychlor	9600	U
53494-70-5	Endrin ketone	1900	U
7421-93-4	Endrin aldehyde	2200	U
5103-71-9	alpha-Chlordane	5200	B
5103-74-2	gamma-Chlordane	4900	B
8001-35-2	Toxaphene	62000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-1(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-10

Sample wt/vol: 30.5 (g/ml) G Lab File ID: C5093169

% Moisture: 4 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	35.	U
319-85-7	beta-BHC	150	U
319-86-8	delta-BHC	35.	U
58-89-9	gamma-BHC (Lindane)	35.	U
76-44-8	Heptachlor	25.	JB
309-00-2	Aldrin	35.	U
1024-57-3	Heptachlor Epoxide	18.	J
959-98-8	Endosulfan I	35.	U
60-57-1	Dieldrin	150	B
72-55-9	4,4'-DDE	280	
72-20-8	Endrin	68.	U
33213-65-9	Endosulfan II	68.	U
72-54-8	4,4'-DDD	120	
1031-07-8	Endosulfan Sulfate	68.	U
50-29-3	4,4'-DDT	290	B
72-43-5	Methoxychlor	350	U
53494-70-5	Endrin ketone	68.	U
7421-93-4	Endrin aldehyde	80.	U
5103-71-9	alpha-Chlordane	66.	B
5103-74-2	gamma-Chlordane	100	B
8001-35-2	Toxaphene	2200	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-21(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-09

Sample wt/vol: 30.7 (g/ml) G Lab File ID: C5093168

% Moisture: 3 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	86.	U
319-85-7	beta-BHC	380	U
319-86-8	delta-BHC	86.	U
58-89-9	gamma-BHC (Lindane)	86.	U
76-44-8	Heptachlor	20.	JB
309-00-2	Aldrin	43.	J
1024-57-3	Heptachlor Epoxide	86.	U
959-98-8	Endosulfan I	86.	U
60-57-1	Dieldrin	31.	JB
72-55-9	4,4'-DDE	35.	J
72-20-8	Endrin	170	U
33213-65-9	Endosulfan II	170	U
72-54-8	4,4'-DDD	280	
1031-07-8	Endosulfan Sulfate	170	U
50-29-3	4,4'-DDT	170	U
72-43-5	Methoxychlor	860	U
53494-70-5	Endrin ketone	170	U
7421-93-4	Endrin aldehyde	200	U
5103-71-9	alpha-Chlordane	490	B
5103-74-2	gamma-Chlordane	410	B
8001-35-2	Toxaphene	5500	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-21(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-08

Sample wt/vol: 30.6 (g/ml) G Lab File ID: C5093161

% Moisture: 6 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 5000.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	8900	U
319-85-7	beta-BHC	39000	U
319-86-8	delta-BHC	8900	U
58-89-9	gamma-BHC (Lindane)	8900	U
76-44-8	Heptachlor	970	JB
309-00-2	Aldrin	5300	J
1024-57-3	Heptachlor Epoxide	8900	U
959-98-8	Endosulfan I	8900	U
60-57-1	Dieldrin	17000	U
72-55-9	4,4'-DDE	3700	J
72-20-8	Endrin	17000	U
33213-65-9	Endosulfan II	17000	U
72-54-8	4,4'-DDD	32000	
1031-07-8	Endosulfan Sulfate	17000	U
50-29-3	4,4'-DDT	17000	U
72-43-5	Methoxychlor	89000	U
53494-70-5	Endrin ketone	17000	U
7421-93-4	Endrin aldehyde	20000	U
5103-71-9	alpha-Chlordane	63000	B
5103-74-2	gamma-Chlordane	52000	B
8001-35-2	Toxaphene	570000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-6(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-07

Sample wt/vol: 30.6 (g/ml) G Lab File ID: C5093160

% Moisture: 12 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.9	U
319-85-7	beta-BHC	8.4	U
319-86-8	delta-BHC	2.6	
58-89-9	gamma-BHC (Lindane)	1.9	U
76-44-8	Heptachlor	1.2	JB
309-00-2	Aldrin	1.9	U
1024-57-3	Heptachlor Epoxide	3.5	
959-98-8	Endosulfan I	1.9	U
60-57-1	Dieldrin	3.6	JB
72-55-9	4,4'-DDE	4.7	
72-20-8	Endrin	3.7	U
33213-65-9	Endosulfan II	3.7	U
72-54-8	4,4'-DDD	4.8	
1031-07-8	Endosulfan Sulfate	3.7	U
50-29-3	4,4'-DDT	5.7	B
72-43-5	Methoxychlor	19.	U
53494-70-5	Endrin ketone	3.7	U
7421-93-4	Endrin aldehyde	4.3	U
5103-71-9	alpha-Chlordane	10.	B
5103-74-2	gamma-Chlordane	7.5	B
8001-35-2	Toxaphene	120	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-27(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-06

Sample wt/vol: 30.9 (g/ml) G Lab File ID: C5093159

% Moisture: 55 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 100.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	370	U
319-85-7	beta-BHC	1600	U
319-86-8	delta-BHC	370	U
58-89-9	gamma-BHC (Lindane)	370	U
76-44-8	Heptachlor	38.	JB
309-00-2	Aldrin	370	U
1024-57-3	Heptachlor Epoxide	350	J
959-98-8	Endosulfan I	370	U
60-57-1	Dieldrin	190	JB
72-55-9	4,4'-DDE	1300	
72-20-8	Endrin	710	U
33213-65-9	Endosulfan II	710	U
72-54-8	4,4'-DDD	2000	
1031-07-8	Endosulfan Sulfate	92.	J
50-29-3	4,4'-DDT	2400	B
72-43-5	Methoxychlor	3700	U
53494-70-5	Endrin ketone	710	U
7421-93-4	Endrin aldehyde	840	U
5103-71-9	alpha-Chlordane	2800	B
5103-74-2	gamma-Chlordane	1800	B
8001-35-2	Toxaphene	24000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-26(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-05

Sample wt/vol: 30.8 (g/ml) G Lab File ID: C5093158

% Moisture: 33 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	490	U
319-85-7	beta-BHC	2200	U
319-86-8	delta-BHC	740	
58-89-9	gamma-BHC (Lindane)	490	U
76-44-8	Heptachlor	60.	JB
309-00-2	Aldrin	490	U
1024-57-3	Heptachlor Epoxide	800	
959-98-8	Endosulfan I	490	U
60-57-1	Dieldrin	960	U
72-55-9	4,4'-DDE	1300	
72-20-8	Endrin	960	U
33213-65-9	Endosulfan II	960	U
72-54-8	4,4'-DDD	1600	
1031-07-8	Endosulfan Sulfate	960	U
50-29-3	4,4'-DDT	1600	B
72-43-5	Methoxychlor	4900	U
53494-70-5	Endrin ketone	960	U
7421-93-4	Endrin aldehyde	1100	U
5103-71-9	alpha-Chlordane	5400	B
5103-74-2	gamma-Chlordane	3200	B
8001-35-2	Toxaphene	32000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-25(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-04

Sample wt/vol: 30.8 (g/ml) G Lab File ID: C5093157

% Moisture: 28 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	110	U
319-85-7	beta-BHC	510	U
319-86-8	delta-BHC	210	
58-89-9	gamma-BHC (Lindane)	110	U
76-44-8	Heptachlor	110	U
309-00-2	Aldrin	110	U
1024-57-3	Heptachlor Epoxide	90.	J
959-98-8	Endosulfan I	110	U
60-57-1	Dieldrin	310	B
72-55-9	4,4'-DDE	980	
72-20-8	Endrin	220	U
33213-65-9	Endosulfan II	220	U
72-54-8	4,4'-DDD	360	
1031-07-8	Endosulfan Sulfate	47.	J
50-29-3	4,4'-DDT	1900	B
72-43-5	Methoxychlor	1100	U
53494-70-5	Endrin ketone	220	U
7421-93-4	Endrin aldehyde	260	U
5103-71-9	alpha-Chlordane	470	B
5103-74-2	gamma-Chlordane	110	B
8001-35-2	Toxaphene	7400	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-20(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-03

Sample wt/vol: 30.2 (g/ml) G Lab File ID: C5093156

% Moisture: 25 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 2000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	4500	U
319-85-7	beta-BHC	20000	U
319-86-8	delta-BHC	4500	U
58-89-9	gamma-BHC (Lindane)	4500	U
76-44-8	Heptachlor	7900	B
309-00-2	Aldrin	4500	U
1024-57-3	Heptachlor Epoxide	5200	
959-98-8	Endosulfan I	18000	
60-57-1	Dieldrin	38000	B
72-55-9	4,4'-DDE	4200	J
72-20-8	Endrin	3000	J
33213-65-9	Endosulfan II	14000	
72-54-8	4,4'-DDD	7600	J
1031-07-8	Endosulfan Sulfate	4400	J
50-29-3	4,4'-DDT	30000	B
72-43-5	Methoxychlor	45000	U
53494-70-5	Endrin ketone	580	J
7421-93-4	Endrin aldehyde	10000	U
5103-71-9	alpha-Chlordane	4500	B
5103-74-2	gamma-Chlordane	10000	B
8001-35-2	Toxaphene	290000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-19(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-02

Sample wt/vol: 30.3 (g/ml) G Lab File ID: C5093155

% Moisture: 3 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	35.	U
319-85-7	beta-BHC	150	U
319-86-8	delta-BHC	46.	
58-89-9	gamma-BHC (Lindane)	35.	U
76-44-8	Heptachlor	85.	B
309-00-2	Aldrin	35.	U
1024-57-3	Heptachlor Epoxide	35.	U
959-98-8	Endosulfan I	35.	U
60-57-1	Dieldrin	58.	JB
72-55-9	4,4'-DDE	19.	J
72-20-8	Endrin	67.	U
33213-65-9	Endosulfan II	67.	U
72-54-8	4,4'-DDD	190	
1031-07-8	Endosulfan Sulfate	67.	U
50-29-3	4,4'-DDT	630	B
72-43-5	Methoxychlor	350	U
53494-70-5	Endrin ketone	67.	U
7421-93-4	Endrin aldehyde	80.	U
5103-71-9	alpha-Chlordane	280	B
5103-74-2	gamma-Chlordane	230	B
8001-35-2	Toxaphene	2200	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-19(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-01

Sample wt/vol: 30.9 (g/ml) G Lab File ID: C5093154

% Moisture: 23 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	43.	U
319-85-7	beta-BHC	190	U
319-86-8	delta-BHC	43.	U
58-89-9	gamma-BHC (Lindane)	43.	U
76-44-8	Heptachlor	250	B
309-00-2	Aldrin	43.	U
1024-57-3	Heptachlor Epoxide	130	
959-98-8	Endosulfan I	210	
60-57-1	Dieldrin	730	B
72-55-9	4,4'-DDE	120	
72-20-8	Endrin	40.	J
33213-65-9	Endosulfan II	150	
72-54-8	4,4'-DDD	180	
1031-07-8	Endosulfan Sulfate	19.	J
50-29-3	4,4'-DDT	790	B
72-43-5	Methoxychlor	430	U
53494-70-5	Endrin ketone	7.4	J
7421-93-4	Endrin aldehyde	98.	U
5103-71-9	alpha-Chlordane	590	B
5103-74-2	gamma-Chlordane	570	B
8001-35-2	Toxaphene	2800	U

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: STL-CT Contract: _____ Client Id: PBLK53

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Lab sample ID: 042701-B08 Lab File ID: C5093152

Matrix: (soil/water) SOIL Extraction: (SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 04/27/01

Date Analyzed (1): 05/12/01 Date Analyzed (2): 05/12/01

Time Analyzed (1): 0200 Time Analyzed (2): 0613

Instrument ID (1): HP58905C Instrument ID (2): HP58901C

GC Column (1): DB-1701 ID: 0.53 (mm) GC Column (2): RTX-35 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PBLK53QC1	042701-B08QC1	05/12/01	05/12/01
02	SS-19(0-0.25')	010898B-01	05/12/01	05/05/01
03	SS-19(3-4')	010898B-02	05/12/01	05/05/01
04	SS-20(0-0.25')	010898B-03	05/12/01	05/05/01
05	SS-25(0-0.25')	010898B-04	05/12/01	05/05/01
06	SS-26(0-0.25')	010898B-05	05/12/01	05/08/01
07	SS-27(0-0.25')	010898B-06	05/12/01	05/08/01
08	SS-6(3-4')	010898B-07	05/12/01	05/05/01
09	SS-21(0-0.25')	010898B-08	05/12/01	05/05/01
10	SS-21(3-4')	010898B-09	05/12/01	05/05/01
11	SS-1(3-4')	010898B-10	05/12/01	05/05/01
12	SS-15(0-0.25')	010898B-11	05/12/01	05/08/01
13	SS-15(3-4')	010898B-12	05/12/01	05/05/01
14	SS-22(0-0.25')	010898B-13	05/12/01	05/05/01
15	SS-22(3-4')	010898B-14	05/12/01	05/08/01
16	SS-23(0-0.25')	010898B-15	05/12/01	05/09/01
17	SS-23(3-4')	010898B-16	05/12/01	05/05/01
18	SS-23C(3-4')	010898B-17	05/12/01	05/05/01
19	SS-7(3-4')	010898B-18	05/12/01	05/05/01
20	SS-11C(0-0.25')	010898B-19	05/12/01	05/05/01
21	SS-25C(0-0.25')	010898B-20	05/12/01	05/05/01
22	SS-19(0-0.25')MS	010898B-01MS	05/12/01	05/09/01
23	SS-19(0-0.25')MSD	010898B-01MSD	05/12/01	05/09/01
24	SS-19(0-0.25')MSB	010898B-01MSB	05/14/01	05/15/01
25				
26				

COMMENTS: _____

3H
SOIL PESTICIDE QC CHECK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Sample No.: PBLK53

COMPOUND	SPIKE ADDED (UG/KG)	SPIKE CONCENTRATION (UG/KG)	% REC #	QC. LIMITS REC.
alpha-BHC	6.7	4.6	69	46-133
beta-BHC	6.7	6.6	96	76-150
delta-BHC	6.7	2.0	30	12-132
gamma-BHC	6.7	4.8	72	64-119
Heptachlor	6.7	7.8	84	63-134
Aldrin	6.7	5.9	88	57-143
Heptachlor Epoxide	6.7	6.1	91	76-129
Endosulfan I	6.7	6.0	90	59-138
gamma-Chlordane	6.7	7.3	85	70-140
alpha-Chlordane	6.7	6.9	88	50-141
Dieldrin	6.7	7.6	69	68-136
4,4'-DDE	6.7	6.0	90	68-132
Endrin	6.7	6.0	90	72-140
Endosulfan II	6.7	6.0	90	69-152
4,4'-DDD	6.7	5.0	75	48-128
Endosulfan Sulfate	6.7	3.1	46	*60-132
4,4'-DDT	6.7	7.3	61	51-147
Methoxychlor	6.7	6.7	91	76-159
Endrin Aldehyde	6.7	5.6	84	23-158
Endrin Ketone	6.7	6.4	95	80-148

Column to be used to flag recovery values with an asterisk

COMMENTS: _____

3F
SOIL PESTICIDE MATRIX SPIKE BLANK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix Spike - Sample No.: SS-19(0-0.25') Conc. Units : UG/KG

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC RPD	LIMITS REC.
gamma-BHC (Lindane)	17	0.0	15.	88				50	45-124
Aldrin	17	0.0	17.	100				43	48-145
Heptachlor	17	0.0	18.	106				31	21-152
Dieldrin	33	0.0	36.	109				38	49-155
Endrin	33	0.0	40.	121				45	42-191
4,4'-DDT	33	0.0	30.	91				50	14-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 6 outside limits

COMMENTS: _____

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: STL-CT Contract: _____Lab Code: IEACT Case No.: 0898B SDG No.: B0898Matrix Spike - Sample No.: SS-19(0-0.25') Conc. Units : UG/KG

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC LIMITS RPD REC.
gamma-BHC (Lindane)	22	0.0	46.	209*	47.	224*	7	50 45-124
Aldrin	22	0.0	20.	91	22.	105	14	43 48-145
Heptachlor	22	250	230	0*	170	-381*	200*	31 21-152
Dieldrin	43	730	690	116	530	-465*	333*	38 49-155
Endrin	43	40.	62.	51	66.	60	16	45 42-191
4,4'-DDT	43	790	500	-674*	600	-442*	42	50 14-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 2 out of 6 outside limits
Spike Recovery: 7 out of 12 outside limitsCOMMENTS: _____

2F
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

GC Column: DB-1701 ID: 0.53 (mm)

	SAMPLE NO.	TCX %REC #	DCB %REC #	OTHER %REC #	OTHER %REC #	TOT OUT
01	PBLK53	102	112			0
02	PBLK53QC1	99	117			0
03	SS-19(0-0.25')	127	138			0
04	SS-19(3-4')	122	116			0
05	SS-20(0-0.25')	D	D			0
06	SS-25(0-0.25')	116	85			0
07	SS-26(0-0.25')	D	D			0
08	SS-27(0-0.25')	129	125			0
09	SS-6(3-4')	48	114			0
10	SS-21(0-0.25')	D	D			0
11	SS-21(3-4')	138	127			0
12	SS-1(3-4')	126	150			0
13	SS-15(0-0.25')	D	D			0
14	SS-15(3-4')	95	119			0
15	SS-22(0-0.25')	D	D			0
16	SS-22(3-4')	D	D			0
17	SS-23(0-0.25')	D	D			0
18	SS-23(3-4')	125	172D			0
19	SS-23C(3-4')	129	148			0
20	SS-7(3-4')	111	127			0
21	SS-11C(0-0.25')	102	116			0
22	SS-25C(0-0.25')	125	171D			0
23	SS-19(0-0.25')MS	106	139			0
24	SS-19(0-0.25')MSD	116	114			0
25	SS-19(0-0.25')MSB	101	121			0
26						
27						
28						
29						
30						

ADVISORY
QC LIMITS
(41-150)
(56-159)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDES/PCB
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
010898B-01	SOIL	04/23/01	04/25/01	4/27/01	5/12/01
010898B-02	SOIL	04/23/01	04/25/01		
010898B-03	SOIL	04/23/01	04/25/01		
010898B-04	SOIL	04/23/01	04/25/01		
010898B-05	SOIL	04/23/01	04/25/01		
010898B-06	SOIL	04/23/01	04/25/01		
010898B-07	SOIL	04/23/01	04/25/01		
010898B-08	SOIL	04/23/01	04/25/01		
010898B-09	SOIL	04/23/01	04/25/01		
010898B-10	SOIL	04/23/01	04/25/01		
010898B-11	SOIL	04/23/01	04/25/01		
010898B-12	SOIL	04/23/01	04/25/01		
010898B-13	SOIL	04/23/01	04/25/01		
010898B-14	SOIL	04/23/01	04/25/01		
010898B-15	SOIL	04/23/01	04/25/01		
010898B-16	SOIL	04/23/01	04/25/01		
010898B-17	SOIL	04/23/01	04/25/01		
010898B-18	SOIL	04/23/01	04/25/01		
010898B-19	SOIL	04/23/01	04/25/01		
010898B-20	SOIL	04/23/01	04/25/01		

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

12/91

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-22(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-14

Sample wt/vol: 30.7 (g/ml) G Lab File ID: C5093173

% Moisture: 6 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 10000.

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	18000	U
319-85-7	beta-BHC	78000	U
319-86-8	delta-BHC	18000	U
58-89-9	gamma-BHC (Lindane)	18000	U
76-44-8	Heptachlor	18000	U
309-00-2	Aldrin	18000	U
1024-57-3	Heptachlor Epoxide	18000	U
959-98-8	Endosulfan I	18000	U
60-57-1	Dieldrin	1800	JB
72-55-9	4,4'-DDE	2800	J
72-20-8	Endrin	34000	U
33213-65-9	Endosulfan II	34000	U
72-54-8	4,4'-DDD	61000	
1031-07-8	Endosulfan Sulfate	34000	U
50-29-3	4,4'-DDT	190000	B
72-43-5	Methoxychlor	180000	U
53494-70-5	Endrin ketone	34000	U
7421-93-4	Endrin aldehyde	40000	U
5103-71-9	alpha-Chlordane	18000	U
5103-74-2	gamma-Chlordane	18000	U
8001-35-2	Toxaphene	1100000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-23(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-15

Sample wt/vol: 30.5 (g/ml) G Lab File ID: C5093174

% Moisture: 13 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 200.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	380	U
319-85-7	beta-BHC	1700	U
319-86-8	delta-BHC	380	U
58-89-9	gamma-BHC (Lindane)	380	U
76-44-8	Heptachlor	47.	JB
309-00-2	Aldrin	380	U
1024-57-3	Heptachlor Epoxide	380	U
959-98-8	Endosulfan I	380	U
60-57-1	Dieldrin	970	B
72-55-9	4,4'-DDE	4600	
72-20-8	Endrin	750	U
33213-65-9	Endosulfan II	750	U
72-54-8	4,4'-DDD	3100	
1031-07-8	Endosulfan Sulfate	750	U
50-29-3	4,4'-DDT	2800	B
72-43-5	Methoxychlor	3800	U
53494-70-5	Endrin ketone	750	U
7421-93-4	Endrin aldehyde	880	U
5103-71-9	alpha-Chlordane	1500	B
5103-74-2	gamma-Chlordane	1400	B
8001-35-2	Toxaphene	25000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-23(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-16

Sample wt/vol: 30.6 (g/ml) G Lab File ID: C5093175

% Moisture: 9 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	37.	U
319-85-7	beta-BHC	160	U
319-86-8	delta-BHC	37.	U
58-89-9	gamma-BHC (Lindane)	37.	U
76-44-8	Heptachlor	5.8	JB
309-00-2	Aldrin	37.	U
1024-57-3	Heptachlor Epoxide	37.	U
959-98-8	Endosulfan I	37.	U
60-57-1	Dieldrin	110	B
72-55-9	4,4'-DDE	390	
72-20-8	Endrin	71.	U
33213-65-9	Endosulfan II	71.	U
72-54-8	4,4'-DDD	220	
1031-07-8	Endosulfan Sulfate	71.	U
50-29-3	4,4'-DDT	240	B
72-43-5	Methoxychlor	370	U
53494-70-5	Endrin ketone	71.	U
7421-93-4	Endrin aldehyde	84.	U
5103-71-9	alpha-Chlordane	120	B
5103-74-2	gamma-Chlordane	180	B
8001-35-2	Toxaphene	2400	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-23C(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-17

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5093176

% Moisture: 13 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	38.	U
319-85-7	beta-BHC	170	U
319-86-8	delta-BHC	38.	U
58-89-9	gamma-BHC (Lindane)	38.	U
76-44-8	Heptachlor	5.0	JB
309-00-2	Aldrin	38.	U
1024-57-3	Heptachlor Epoxide	38.	U
959-98-8	Endosulfan I	38.	U
60-57-1	Dieldrin	120	B
72-55-9	4,4'-DDE	360	
72-20-8	Endrin	75.	U
33213-65-9	Endosulfan II	75.	U
72-54-8	4,4'-DDD	190	
1031-07-8	Endosulfan Sulfate	75.	U
50-29-3	4,4'-DDT	200	B
72-43-5	Methoxychlor	380	U
53494-70-5	Endrin ketone	75.	U
7421-93-4	Endrin aldehyde	88.	U
5103-71-9	alpha-Chlordane	130	B
5103-74-2	gamma-Chlordane	170	B
8001-35-2	Toxaphene	2500	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-7(3-4')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-18

Sample wt/vol: 30.8 (g/ml) G Lab File ID: C5093177

% Moisture: 11 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	9.3	U
319-85-7	beta-BHC	41.	U
319-86-8	delta-BHC	9.3	U
58-89-9	gamma-BHC (Lindane)	9.3	U
76-44-8	Heptachlor	5.0	JB
309-00-2	Aldrin	9.3	U
1024-57-3	Heptachlor Epoxide	14.	
959-98-8	Endosulfan I	9.3	U
60-57-1	Dieldrin	12.	JB
72-55-9	4,4'-DDE	16.	J
72-20-8	Endrin	18.	U
33213-65-9	Endosulfan II	18.	U
72-54-8	4,4'-DDD	26.	
1031-07-8	Endosulfan Sulfate	18.	U
50-29-3	4,4'-DDT	33.	B
72-43-5	Methoxychlor	93.	U
53494-70-5	Endrin ketone	18.	U
7421-93-4	Endrin aldehyde	21.	U
5103-71-9	alpha-Chlordane	69.	B
5103-74-2	gamma-Chlordane	42.	B
8001-35-2	Toxaphene	600	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-11C(0-0.25')
 Lab Code: IEACT Case No.: 0898B SDG No.: B0898
 Matrix: (soil/water): SOIL Lab Sample ID: 010898B-19
 Sample wt/vol: 30.6 (g/ml) G Lab File ID: C5093178
 % Moisture: 4 decanted: (Y/N) _____ Date Received : 04/25/01
 Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01
 Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01
 Injection Volume: 1.0 (uL) Dilution Factor: 5.0
 GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
 (ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	8.7	U
319-85-7	beta-BHC	38.	U
319-86-8	delta-BHC	8.7	U
58-89-9	gamma-BHC (Lindane)	8.7	U
76-44-8	Heptachlor	2.2	JB
309-00-2	Aldrin	8.7	U
1024-57-3	Heptachlor Epoxide	8.7	U
959-98-8	Endosulfan I	8.7	U
60-57-1	Dieldrin	6.8	JB
72-55-9	4,4'-DDE	38.	
72-20-8	Endrin	17.	U
33213-65-9	Endosulfan II	17.	U
72-54-8	4,4'-DDD	16.	J
1031-07-8	Endosulfan Sulfate	17.	U
50-29-3	4,4'-DDT	20.	B
72-43-5	Methoxychlor	87.	U
53494-70-5	Endrin ketone	17.	U
7421-93-4	Endrin aldehyde	20.	U
5103-71-9	alpha-Chlordane	9.8	B
5103-74-2	gamma-Chlordane	9.4	B
8001-35-2	Toxaphene	560	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-25C(0-0.25')

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-20

Sample wt/vol: 30.7 (g/ml) G Lab File ID: C5093179

% Moisture: 29 decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 50.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	120	U
319-85-7	beta-BHC	520	U
319-86-8	delta-BHC	220	
58-89-9	gamma-BHC (Lindane)	120	U
76-44-8	Heptachlor	120	U
309-00-2	Aldrin	120	U
1024-57-3	Heptachlor Epoxide	100	J
959-98-8	Endosulfan I	120	U
60-57-1	Dieldrin	390	B
72-55-9	4,4'-DDE	1300	
72-20-8	Endrin	230	U
33213-65-9	Endosulfan II	230	U
72-54-8	4,4'-DDD	420	
1031-07-8	Endosulfan Sulfate	39.	J
50-29-3	4,4'-DDT	2100	B
72-43-5	Methoxychlor	1200	U
53494-70-5	Endrin ketone	230	U
7421-93-4	Endrin aldehyde	270	U
5103-71-9	alpha-Chlordane	590	B
5103-74-2	gamma-Chlordane	160	B
8001-35-2	Toxaphene	7600	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK53

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 042701-B08

Sample wt/vol: 30 (g/ml) G Lab File ID: C5093152

% Moisture: 0 decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	7.5	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	2.2	
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor Epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.1	J
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan Sulfate	3.3	U
50-29-3	4,4'-DDT	3.2	J
72-43-5	Methoxychlor	17.	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	1.0	J
5103-74-2	gamma-Chlordane	1.6	J
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-19(0-0.25')MS

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-01MS

Sample wt/vol: 30.2 (g/ml) G Lab File ID: C5093180

% Moisture: 23 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	44.	U
319-85-7	beta-BHC	190	U
319-86-8	delta-BHC	44.	U
58-89-9	gamma-BHC (Lindane)	46.	
76-44-8	Heptachlor	230	B
309-00-2	Aldrin	20.	J
1024-57-3	Heptachlor Epoxide	100	
959-98-8	Endosulfan I	70.	
60-57-1	Dieldrin	690	B
72-55-9	4,4'-DDE	72.	J
72-20-8	Endrin	62.	J
33213-65-9	Endosulfan II	88.	
72-54-8	4,4'-DDD	100	
1031-07-8	Endosulfan Sulfate	19.	J
50-29-3	4,4'-DDT	500	B
72-43-5	Methoxychlor	440	U
53494-70-5	Endrin ketone	12.	J
7421-93-4	Endrin aldehyde	100	U
5103-71-9	alpha-Chlordane	320	B
5103-74-2	gamma-Chlordane	400	B
8001-35-2	Toxaphene	2800	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-19(0-0.25')MSD

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-01MSD

Sample wt/vol: 30.4 (g/ml) G Lab File ID: C5093181

% Moisture: 23 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	44.	U
319-85-7	beta-BHC	190	U
319-86-8	delta-BHC	44.	U
58-89-9	gamma-BHC (Lindane)	47.	
76-44-8	Heptachlor	170	B
309-00-2	Aldrin	22.	J
1024-57-3	Heptachlor Epoxide	110	
959-98-8	Endosulfan I	140	
60-57-1	Dieldrin	530	B
72-55-9	4,4'-DDE	98.	
72-20-8	Endrin	66.	J
33213-65-9	Endosulfan II	120	
72-54-8	4,4'-DDD	130	
1031-07-8	Endosulfan Sulfate	13.	J
50-29-3	4,4'-DDT	600	B
72-43-5	Methoxychlor	440	U
53494-70-5	Endrin ketone	11.	J
7421-93-4	Endrin aldehyde	100	U
5103-71-9	alpha-Chlordane	420	B
5103-74-2	gamma-Chlordane	470	B
8001-35-2	Toxaphene	2800	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-19(0-0.25')MSB

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 010898B-01MSB

Sample wt/vol: 30 (g/ml) G Lab File ID: C5093203

% Moisture: 0 decanted: (Y/N) Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/14/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	7.5	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	15.	
76-44-8	Heptachlor	18.	B
309-00-2	Aldrin	17.	
1024-57-3	Heptachlor Epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	36.	B
72-55-9	4,4'-DDE	0.88	J
72-20-8	Endrin	40.	
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan Sulfate	3.3	U
50-29-3	4,4'-DDT	30.	B
72-43-5	Methoxychlor	17.	U
53494-70-5	Endrin ketone	0.34	J
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	0.42	JB
5103-74-2	gamma-Chlordane	0.69	JB
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK53QC1

Lab Code: IEACT Case No.: 0898B SDG No.: B0898

Matrix: (soil/water): SOIL Lab Sample ID: 042701-B08QC1

Sample wt/vol: 30 (g/ml) G Lab File ID: C5093153

% Moisture: 0 decanted: (Y/N) Date Received : _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/12/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	4.6	
319-85-7	beta-BHC	6.6	J
319-86-8	delta-BHC	2.0	
58-89-9	gamma-BHC (Lindane)	4.8	
76-44-8	Heptachlor	7.8	B
309-00-2	Aldrin	5.9	
1024-57-3	Heptachlor Epoxide	6.1	
959-98-8	Endosulfan I	6.0	
60-57-1	Dieldrin	7.6	B
72-55-9	4,4'-DDE	6.0	
72-20-8	Endrin	6.0	
33213-65-9	Endosulfan II	6.0	
72-54-8	4,4'-DDD	5.0	
1031-07-8	Endosulfan Sulfate	3.1	J
50-29-3	4,4'-DDT	7.3	B
72-43-5	Methoxychlor	6.7	J
53494-70-5	Endrin ketone	6.4	
7421-93-4	Endrin aldehyde	5.6	
5103-71-9	alpha-Chlordane	6.9	B
5103-74-2	gamma-Chlordane	7.3	B
8001-35-2	Toxaphene	110	U

SEVERN

TRENT

SERVICES

STL Connecticut

SAMPLE SUMMARY DATA PACKAGE

Client:	FANNING, PHILLIPS & MOLNAR
Project ID:	HARDER TREE SERVICES
SDG #:	A0898C
STL ID:	7001-0898C

7001-0898C
FANNING, PHILLIPS & MOLNAR

SEVERN
TRENT
SERVICES

Case Narrative

STL Connecticut

Sample Receipt –The samples were received at 9°C. The client was notified, and the laboratory was instructed to proceed with the analyses.

Pesticides - Pesticide samples were extracted and analyzed by GC/ECD using guidance provided in Methods 3510C/8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples were extracted, concentrated and analyzed without any apparent problems.

Results for Endosulfan II and 4,4'-DDD were reported from the RTX-35 column in samples PBLK52QC1 due to coelution on the DB-1701 column.

Results for Endosulfan I and alpha-Chlordane were reported from the DB-1701 column in samples PBLK52QC1 due to coelution on the RTX-35 column.

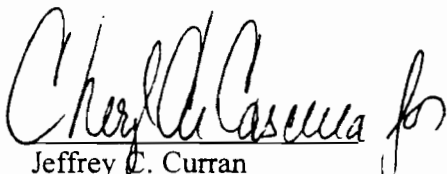
Manual integrations were performed if required, and any affected peaks were designated with an "MM" on the area report in the column titled "Code". Manual integrations were initialed by the analyst that performed the integration.

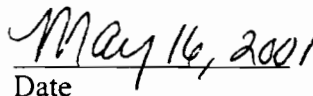
Sample Calculation:

Sample ID – SS-7F
Compound – Dieldrin

$$\frac{(18491 \text{ area})(10000 \text{ ul})}{(12504191 \text{ area/ng})(1000 \text{ ml})(1 \text{ ul})} = 0.015 \text{ ug/L}$$

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Jeffrey C. Curran
Laboratory Manager


Date

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

12/91

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDES/PCB
ANALYSES

[illegible]

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

GC Column: DB-1701 ID: 0.53 (mm)

	SAMPLE NO.	TCX %REC #	DCB %REC #	OTHER %REC #	OTHER %REC #	TOT OUT
01	PBLK52	94	122			0
02	PBLK52QC1	97	118			0
03	SS-7F	93	100			0
04						
05						
06						
07						
08						
09						
10						
11						
12						
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26						
27						
28						
29						
30						

ADVISORY
QC LIMITS
(45-129)
(28-139)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

3G
WATER PESTICIDE QC CHECK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

Sample No.: PBLK52

COMPOUND	SPIKE ADDED (UG/L)	SPIKE CONCENTRATION (UG/L)	% REC #	QC. LIMITS REC.
alpha-BHC	0.20	0.12	60	51-132
beta-BHC	0.20	0.20	100	59-165
delta-BHC	0.20	0.066	33	10-135
gamma-BHC	0.20	0.13	65	50-144
Heptachlor	0.20	0.16	80	43-144
Aldrin	0.20	0.16	80	45-145
Heptachlor Epoxide	0.20	0.18	90	57-153
Endosulfan I	0.20	0.16	80	46-140
gamma-Chlordane	0.20	0.19	95	60-140
alpha-Chlordane	0.20	0.17	85	60-140
Dieldrin	0.20	0.18	90	54-157
4,4'-DDE	0.20	0.17	85	50-150
Endrin	0.20	0.18	90	42-163
Endosulfan II	0.20	0.19	95	70-167
4,4'-DDD	0.20	0.14	70	38-135
Endosulfan Sulfate	0.20	0.095	48	47-153
4,4'-DDT	0.20	0.19	95	42-144
Methoxychlor	0.20	0.16	80	71-174
Endrin Aldehyde	0.20	0.18	90	73-155
Endrin Ketone	0.20	0.20	100	65-174

Column to be used to flag recovery values with an asterisk

COMMENTS: _____

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: STL-CT Contract: _____ Client Id: PBLK52
Lab Code: IEACT Case No.: 0898C SDG No.: C0898
Lab sample ID: 042701-B06 Lab File ID: C5092267
Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF
Sulfur Cleanup: (Y/N) N Date Extracted: 04/27/01
Date Analyzed (1): 05/02/01 Date Analyzed (2): 05/10/01
Time Analyzed (1): 2209 Time Analyzed (2): 1327
Instrument ID (1): HP58905C Instrument ID (2): HP58901C
GC Column (1): DB-1701 ID: 0.53 (mm) GC Column (2): RTX-35 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PBLK52QC1	042701-B06QC1	05/02/01	05/10/01
02	SS-7F	010898C-01	05/02/01	05/10/01
03				
04				
05				
06				
07				
08				
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20				
21				
22				
23				
24				
25				
26				

COMMENTS: _____

INSTRUMENT DETECTION LIMITS

Instrument : HP58901C

RTX-35 column

02/16/2001

	IDL	Quantitation
	ug/L	Limit ug/L
4,4'-DDD	0.0083	0.10
4,4'-DDE	0.0050	0.10
4,4'-DDT	0.0115	0.10
Aldrin	0.0024	0.05
alpha-BHC	0.0029	0.05
alpha-Chlordane	0.0033	0.05
beta-BHC	0.0022	0.05
Chlorobenzilate	0.0669	1.0
delta-BHC	0.0037	0.05
Dieldrin	0.0045	0.10
Endosulfan I	0.0074	0.05
Endosulfan II	0.0223	0.10
Endosulfan Sulfate	0.0110	0.10
Endrin	0.0041	0.10
Endrin Aldehyde	0.0188	0.10
Endrin Ketone	0.0088	0.10
gamma-BHC	0.0019	0.05
gamma-Chlordane	0.0009	0.05
Heptachlor	0.0024	0.05
Heptachlor Epoxide	0.0034	0.05
Isodrin	0.0119	0.05
Methoxychlor	0.0437	0.50
Toxaphene	0.743	2.5
Technical Chlordane	0.065	0.50
Aroclor-1221	0.189	2.0
Aroclor-1016	0.151	1.0
Aroclor-1232	0.207	1.0
Aroclor-1242	0.214	1.0
Aroclor-1248	0.061	1.0
Aroclor-1254	0.137	1.0
Aroclor-1260	0.030	1.0

Instrument detection limits are based on a 1000ml Initial Volume and 10ml Final Volume

INSTRUMENT DETECTION LIMITS

Instrument : HP58905C

DB-1701 column

12/30/2000

	IDL	Quantitation
	ug/L	Limit ug/L
4,4'-DDD	0.0106	0.10
4,4'-DDE	0.0047	0.10
4,4'-DDT	0.0109	0.10
Aldrin	0.0020	0.05
alpha-BHC	0.0056	0.05
alpha-Chlordane	0.0030	0.05
beta-BHC	0.0233	0.05
Chlorobenzilate	0.1134	1.0
delta-BHC	0.0029	0.05
Dieldrin	0.0112	0.10
Endosulfan I	0.0071	0.05
Endosulfan II	0.1078	0.10
Endosulfan Sulfate	0.0066	0.10
Endrin	0.0090	0.10
Endrin Aldehyde	0.0136	0.10
Endrin Ketone	0.0091	0.10
gamma-BHC	0.0062	0.05
gamma-Chlordane	0.0029	0.05
Heptachlor	0.0052	0.05
Heptachlor Epoxide	0.0035	0.05
Isodrin	0.0034	0.05
Methoxychlor	0.0642	0.50
Toxaphene	0.16	2.5
Technical Chlordane	0.080	0.50
Aroclor-1221	0.051	2.0
Aroclor-1016	0.060	1.0
Aroclor-1232	0.050	1.0
Aroclor-1242	0.011	1.0
Aroclor-1248	0.004	1.0
Aroclor-1254	0.033	1.0
Aroclor-1260	0.056	1.0

Instrument detection limits are based on a 1000ml Initial Volume and 10ml Final Volume

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-7F

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

Matrix: (soil/water): WATER Lab Sample ID: 010898C-01

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C5092269

% Moisture: _____ decanted: (Y/N) _____ Date Received : 04/25/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/02/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.015	J
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.038	J
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PIBLK

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

Matrix: (soil/water): _____ Lab Sample ID: PIBLK

Sample wt/vol: _____ (g/ml) _____ Lab File ID: C5092266

% Moisture: _____ decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: _____

Concentrated Extract Volume: _____ (uL) Date Analyzed : 05/02/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) _____ pH: _____ Sulfur Cleanup: (Y/N) _____

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PIBLK

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

Matrix: (soil/water): _____ Lab Sample ID: PIBLK

Sample wt/vol: _____ (g/ml) _____ Lab File ID: C5092285

% Moisture: _____ decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: _____

Concentrated Extract Volume: _____ (uL) Date Analyzed : 05/03/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) _____ pH: _____ Sulfur Cleanup: (Y/N) _____

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PIBLK

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

Matrix: (soil/water): _____ Lab Sample ID: PIBLK

Sample wt/vol: _____ (g/ml) _____ Lab File ID: C1117053

% Moisture: _____ decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: _____

Concentrated Extract Volume: _____ (uL) Date Analyzed : 05/10/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) _____ pH: _____ Sulfur Cleanup: (Y/N) _____

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PIBLK

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

Matrix: (soil/water): _____ Lab Sample ID: PIBLK

Sample wt/vol: _____ (g/ml) _____ Lab File ID: C1117075

% Moisture: _____ decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) _____ Date Extracted: _____

Concentrated Extract Volume: _____ (uL) Date Analyzed : 05/11/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) _____ pH: _____ Sulfur Cleanup: (Y/N) _____

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK52

Lab Code: IEACT Case No.: 0898C SDG No.: C0898

Matrix: (soil/water): WATER Lab Sample ID: 042701-B06

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C5092267

% Moisture: _____ decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 04/27/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 05/02/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.5	U

SAMPLE DATA SUMMARY PACKAGE

Client:	FANNING, PHILLIPS & MOLNAR
Project ID:	HARDER TREE SERVICES
SDG #:	A1501
STL ID:	7001-1501A

7001-1501A
FANNING, PHILLIPS & MOLNAR

Case Narrative

Sample Receipt – All samples were received in good condition and at proper temperature.

Volatile Organics – Volatile organics were determined by purge and trap GC/MS using guidance provided in Method 624. The instrumentation used was a Tekmar Model 2000/2016 Concentrator interfaced with a Hewlett-Packard Model 5970A GC/MS/DS.

The spike percent recoveries of chloroform, 2-butanone, bromoform, and 2-hexanone were outside the laboratory generated guidelines in sample MW-7 FMS.

All compounds in the independent source laboratory quality control samples (020ppb_QCS's) were within laboratory guidelines.

Sample Calculation:

Sample ID – MW-1
Compound – Tetrachloroethene

$$\frac{(238898)(150)}{(825365)(0.505)(5)} = 17 \text{ UG/L}$$

Pesticides Pesticide samples were extracted and analyzed by GC/ECD using guidance provided in Methods 3510C/3550B/8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

All samples were extracted and concentrated without any apparent problems.

Surrogates were diluted out of samples SS-13 0'-0.25, SS-13 0'-0.25MS, SS-13 0'-0.25MSD, and ~~MW~~^{SS}-13C.

The breakdown of 4,4'-DDT was over QC limits in the IBS analyzed on 7/7/01 at 18:46 on the DB-1701 column. This was the end standard for samples MW-9, MW-7C, and MW-1F.

The INDA3 analyzed on 7/7/01 at 09:53 had Endrin outside of the retention time window by .01 minutes. This was the beginning standard for MW-9, MW-7C, and MW-1F. This was the end bracketing standard for SS-13 0'-0.25'MSB, MW-7MSB, SS-13 0'-0.25'MS, SS-13 0'-0.25'MSD, MW-13C, MW-1, MW-5, MW-7, MW-7MS, MW-7MSD, , PBLK44, PBLK49, PBLK44QC1, and PBLK49QC1. This shift was taken into consideration when reviewing samples for target compounds.

The INDB3 analyzed on the DB-1701 column on 7/6/01 at 21:37 had the surrogate, Decachlorobiphenyl, outside of QC criteria. This was the beginning calibration check for PBLK49, PBLK49QC1, SS-13 0'-0.25'MSB, MW-7MSB, SS-13 0'-0.25', SS-13 0'-0.25'MSD, SS-13 0'-0.25'MS, SS-13C, PBLK44, PBLK44QC1, MW-1, MW-5, MW-7, MW-7MS, and MW-7MSD.

The spike compounds were diluted out of samples SS-13 0'-0.25'MS and SS-13 0'-0.25'MSD.

The recovery of the spike compound Dieldrin was over QC limits in SS-13 0'-0.25'MSB. This compound was within QC limits in the corresponding LCS, PBLK49QC1.

The spike compounds Endosulfan I and alpha Chlordane coelute on the RTX-35 column. For PBLK44 QC1 and PBLK49QC1 these compounds were reported from the DB-1701 column.

The spike compounds Endosulfan II and 4,4'-DDD coelute on the DB-1701 column. For PBLK44 QC1 and PBLK49QC1 these compounds were reported from the RTX-35 column.

The compound Heptachlor Epoxide was just outside of retention time windows on the RTX-35 column in samples MW-1, SS-13C, MW-7, MW-9, MW-7C, SS-13 0'-0.25'MS, SS-13 0'-0.25'MSD, MW-7MS, and MW-7MSD. In the analyst's opinion this compound is present and was reported.

Manual integrations were performed if required, and any affected peaks were designated with an "MM" on the area report in the column titled "Code". Manual integrations were initiated by the analyst that performed the integration.

Sample Calculation:

Sample ID -MW-1

Compound - alpha Chlordane

$$\frac{(1427279 \text{ area})(10000 \text{ ul})}{(25596672 \text{ area/ng})(1000 \text{ ml})(1 \text{ ul})} = .557 \text{ ug/L}$$

- The spike % recoveries and RPDs for heptachlor, dieldrin and 4,4'-DDT were outside the QC limits in SS-13 (0-0.25') msbmsd due to sample dilution and the presence of target compounds in the unspiked sample.

SAMPLE IDENTIFICATION AND ANALYTICAL REQUIREMENT SUMMARY

12/91

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

12/91

SAMPLE PREPARATION AND ANALYSIS SUMMARY
PESTICIDES/PCB
ANALYSES

12/91

2A
WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	VBLKKW	98	112	104		0
02	020PPB QCS	104	98	109		0
03	MW-1	100	101	96		0
04	MW-5	109	100	90		0
05	MW-7	108	106	87		0
06	MW-9	109	93	104		0
07	MW-7C	117	88	90		0
08	MW-1F	108	104	99		0
09	TB-1	117	107	107		0
10	VBLKKX	107	108	99		0
11	020PPB QCS	93	93	95		0
12	MW-7FMS	123*	102	95		1
13	MW-7FMSD	105	99	95		0
14						
15						
16						
17						
18						
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25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (TOL) = Toluene-d8 (80-120)
 SMC2 (BFB) = Bromofluorobenzene (81-114)
 SMC3 (DCE) = 1,2-Dichloroethane-d4 (75-123)

Column to be used to flag recovery values

* Values outside of contract required QC limits

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix Spike - EPA Sample No.: MW-7 _____

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	SPIKE CONCENTRATION (ug/L)	SPIKE % REC #	QC. LIMIT REC.
Chloromethane	20	0	27	135	0-273
Bromomethane	20	0	26	130	0-24
Vinyl Chloride	20	0	28	140	0-25
Chloroethane	20	0	31	155	14-230
Methylene Chloride	20	4.1	27	114	0-227
Acetone	20	16	8.4	0	20-35
Carbon Disulfide	20	0	27	135	12-14
Vinyl Acetate	20	0	7.4	37	0-128
1,1-Dichloroethene	20	0	25	125	0-23
1,1-Dichloroethane	20	0	28	140	59-15
trans-1,2-Dichloroethene	20	0	25	125	54-156
cis-1,2-Dichloroethene	20	0	26	130	54-156
Chloroform	20	0	30	150*	51-13
1,2-Dichloroethane	20	0	20	100	49-15
2-Butanone	20	0	8.8	44*	46-179
1,1,1-Trichloroethane	20	0	23	115	52-162
Carbon Tetrachloride	20	0	22	110	70-14
Bromodichloromethane	20	0	19	95	35-15
1,2-Dichloropropane	20	0	21	105	0-210
cis-1,3-Dichloropropene	20	0	16	80	0-227
Trichloroethene	20	0	21	105	71-15
Dibromochloromethane	20	0	13	65	53-14
1,1,2-Trichloroethane	20	0	12	60	52-150
Benzene	20	0	23	115	37-15
trans-1,3-Dichloropropene	20	0	14	70	17-18
Bromoform	20	0	8.9	44*	45-169
4-Methyl-2-Pentanone	20	0	9.6	48*	45-143
2-Hexanone	20	0	6.9	34*	52-16
Tetrachloroethene	20	0	21	105	64-14
Toluene	20	0	22	110	47-150

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

Spike Recovery: 4 out of 72 outside limits

MDS
7/05/01

COMMENTS: _____

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Contract: _____

Case No.: 1501A

SAS No. : _____

SDG No. : A1501

Matrix Spike - EPA Sample No.: MW-7

[illegible]

```
# Column to be used to flag recovery with an asterisk
```

* Values outside of QC limits.

Spike Recovery: 04 out of 72 outside limits

COMMENTS :

MDS
7/05/01

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix Spike - EPA Sample No.: MW-7

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Chloromethane	20	20	100	30		0-273
Bromomethane	20	19	95	31		0-24
Vinyl Chloride	20	21	105	28		0-25
Chloroethane	20	20	100	43		14-230
Methylene Chloride	20	23	94	19		0-221
Acetone	20	29	65	200		20-35
Carbon Disulfide	20	20	100	30		12-14
Vinyl Acetate	20	22	110	99		0-128
1,1-Dichloroethene	20	17	85	38		0-23
1,1-Dichloroethane	20	21	105	28		59-15
trans-1,2-Dichloroethene	20	18	90	32		54-15
cis-1,2-Dichloroethene	20	21	105	21		54-156
Chloroform	20	22	110	31		51-138
1,2-Dichloroethane	20	20	100	0		49-15
2-Butanone	20	33	165	120		46-179
1,1,1-Trichloroethane	20	21	105	9		52-162
Carbon Tetrachloride	20	21	105	5		70-14
Bromodichloromethane	20	21	105	10		35-15
1,2-Dichloropropane	20	23	115	9		0-210
cis-1,3-Dichloropropene	20	18	90	12		0-227
Trichloroethene	20	20	100	5		71-15
Dibromochloromethane	20	19	95	38		53-14
1,1,2-Trichloroethane	20	20	100	50		52-150
Benzene	20	22	110	4		37-151
trans-1,3-Dichloropropene	20	20	100	35		17-18
Bromoform	20	18	90	69		45-169
4-Methyl-2-Pentanone	20	24	120	86		45-143
2-Hexanone	20	26	130	120		52-16
Tetrachloroethene	20	18	90	15		64-14
Toluene	20	20	100	10		47-150

Column to be used to flag recovery with an asterisk

* Values outside of QC limits.

RPD: 0 out of 36 outside limits

Spike Recovery: 4 out of 72 outside limits

COMMENTS:

MDS
7/05/01

3-ASP
WATER VOLATILE SPIKE/SPIKE DUPLICATE RECOVERY SUMMARY

Contract: _____

Case No.: 1501A

SAS No. :

SDG No. : A1501

Matrix Spike - EPA Sample No.: MW-7

[illegible]

```
# Column to be used to flag recovery with an asterisk
```

* Values outside of QC limits.

RPD:0 out of 36 outside limits

Spike Recovery: 84 out of 72 outside limits

COMMENTS:

MDS
7/25/01

OCS Spike Summary

Spike: K5358.D

Compound	Spike Amount	Spike Result	Rec	Low	High
Chloromethane	20	14	70	0	273
Bromomethane	20	17	85	0	242
Vinyl Chloride	20	16	80	0	251
Chloroethane	20	20	100	14	230
Methylene Chloride	20	21	105	0	221
Acetone	20	32	160	20	359
Carbon Disulfide	20	18	90	12	146
Vinyl Acetate	20	10	50	0	128
1,1-Dichloroethene	20	19	95	0	234
1,1-Dichloroethane	20	20	100	59	155
trans-1,2-Dichloroethene	20	18	90	54	156
cis-1,2-Dichloroethene	20	15	75	54	156
Chloroform	20	22	110	51	138
1,2-Dichloroethane	20	22	110	49	155
2-Butanone	20	35	175	46	179
1,1,1-Trichloroethane	20	18	90	52	162
Carbon Tetrachloride	20	20	100	70	140
Bromodichloromethane	20	17	85	35	155
1,2-Dichloropropane	20	19	95	0	210
cis-1,3-Dichloropropene	20	16	80	0	227
Trichloroethene	20	17	85	71	157
Dibromochloromethane	20	18	90	53	149
1,1,2-Trichloroethane	20	19	95	52	150
Benzene	20	21	105	37	151
trans-1,3-Dichloropropene	20	19	95	17	183
Bromoform	20	18	90	45	169
4-Methyl-2-Pentanone	20	25	125	45	143
2-Hexanone	20	30	150	52	169
Tetrachloroethene	20	17	85	64	148
Toluene	20	19	95	47	150
1,1,2,2-Tetrachloroethane	20	22	110	46	157
Chlorobenzene	20	20	100	37	160
Ethylbenzene	20	18	90	37	162
Styrene	20	20	100	66	130
Xylene (total)mp	40	40	100	70	133
Xylene (total)o	20	20	100	74	138

OCS Spike Summary

Spike: K5390.D

Compound	Spike Amount	Spike Result	Rec	Low	High
Chloromethane	20	14	70	0	273
Bromomethane	20	21	105	0	242
Vinyl Chloride	20	16	80	0	251
Chloroethane	20	27	135	14	230
Methylene Chloride	20	23	115	0	221
Acetone	20	33	165	20	359
Carbon Disulfide	20	20	100	12	146
Vinyl Acetate	20	9.9	50	0	128
1,1-Dichloroethene	20	24	120	0	234
1,1-Dichloroethane	20	21	105	59	155
trans-1,2-Dichloroethene	20	20	100	54	156
cis-1,2-Dichloroethene	20	17	85	54	156
Chloroform	20	24	120	51	138
1,2-Dichloroethane	20	21	105	49	155
2-Butanone	20	24	120	46	179
1,1,1-Trichloroethane	20	23	115	52	162
Carbon Tetrachloride	20	24	120	70	140
Bromodichloromethane	20	20	100	35	155
1,2-Dichloropropane	20	22	110	0	210
cis-1,3-Dichloropropene	20	21	105	0	227
Trichloroethene	20	21	105	71	157
Dibromochloromethane	20	20	100	53	149
1,1,2-Trichloroethane	20	20	100	52	150
Benzene	20	23	115	37	151
trans-1,3-Dichloropropene	20	22	110	17	183
Bromoform	20	21	105	45	169
4-Methyl-2-Pentanone	20	20	100	45	143
2-Hexanone	20	21	105	52	169
Tetrachloroethene	20	20	100	64	148
Toluene	20	21	105	47	150
1,1,2,2-Tetrachloroethane	20	22	110	46	157
Chlorobenzene	20	21	105	37	160
Ethylbenzene	20	20	100	37	162
Styrene	20	21	105	66	130
Xylene (total)mp	40	42	105	70	133
Xylene (total)o	20	23	115	74	138

4A
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKKW

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Lab File ID: >K5357

Lab Sample ID: VBLKKW

Date Analyzed: 06/19/01

Time Analyzed: 1104

GC Column: 007-624 ID: 0.53 (mm)

Heated Purge: (Y/N) N

Instrument ID: HP5970K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	020PPB QCS	020PPB QCS	>K5358	1145
02	MW-1	011501A-03	>K5381	0054
03	MW-5	011501A-04	>K5382	0127
04	MW-7	011501A-05	>K5383	0159
05	MW-9	011501A-06	>K5384	0232
06	MW-7C	011501A-07	>K5385	0305
07	MW-1F	011501A-08	>K5386	0338
08	TB-1	011501A-09	>K5387	0411
09				
10				
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28				
29				
30				

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

VBLKKX

Lab Name: STL/CT Contract: _____
 Lab Code: IEACT Case No.: 1501A SAS No.: _____ SDG No.: A1501
 Lab File ID: >K5389 Lab Sample ID: VBLKKX
 Date Analyzed: 06/20/01 Time Analyzed: 0807
 GC Column: 007-624 ID: 0.53 (mm) Heated Purge: (Y/N) N
 Instrument ID: HP5970K

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	020PPB QCS	020PPB QCS	>K5390	0846
02	MW-7FMS	011501A-05FMS	>K5393	1025
03	MW-7FMSD	011501A-05FMSD	>K5394	1058
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
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19				
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24				
25				
26				
27				
28				
29				
30				

COMMENTS: _____

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____ SDG No.: A1501

Lab File ID: KB532

BFB Injection Date: 06/19/01

Instrument ID: HP5970K

BFB Injection Time: 0643

GC Column: 007-624 ID: 0.53

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15 - 40 percent of mass 95	22.3
75	30 - 60 percent of mass 95	51.7
95	Base peak, 100 percent relative abundance	100.0
96	5.0 - 9.0 percent of mass 95	8.6
173	Less than 2.9 percent of mass 174	0.0 (0.0) 1
174	50 - 120 percent of mass 95	73.8
175	5.0 - 9.0 percent of mass 174	4.4 (5.9) 1
176	95 - 101 percent of mass 174	71.9 (97.5) 1
177	5.0 - 9.0 percent of mass 176	4.8 (6.7) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020KT	VSTD020KT	>K5353	06/19/01	0808
02	VSTD010KU	VSTD010KU	>K5354	06/19/01	0849
03	VSTD100KV	VSTD100KV	>K5355	06/19/01	0922
04	VSTD020KW	VSTD020KW	>K5356	06/19/01	1017
05	VELKKW	VELKKW	>K5357	06/19/01	1104
06	020PPB QCS	020PPB QCS	>K5358	06/19/01	1145
07	MW-1	011501A-03	>K5381	06/20/01	0054
08	MW-5	011501A-04	>K5382	06/20/01	0127
09	MW-7	011501A-05	>K5383	06/20/01	0159
10	MW-9	011501A-06	>K5384	06/20/01	0232
11	MW-7C	011501A-07	>K5385	06/20/01	0305
12	MW-1F	011501A-08	>K5386	06/20/01	0338
13	TB-1	011501A-09	>K5387	06/20/01	0411
14					
15					
16					
17					
18					
19					
20					
21					
22					

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: STL/CT Contract: _____
 Lab Code: IEACT Case No.: 1501A SAS No.: _____ SDG No.: A1501
 Lab File ID: KB533 BFB Injection Date: 06/20/01
 Instrument ID: HP5970K BFB Injection Time: 0646
 GC Column: 007-624 ID: 0.53 Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15 - 40 percent of mass 95	21.1
75	30 - 60 percent of mass 95	56.6
95	Base peak, 100 percent relative abundance	100.0
96	5.0 - 9.0 percent of mass 95	6.7
173	Less than 2.9 percent of mass 174	0.0 (0.0) 1
174	50 - 120 percent of mass 95	60.1
175	5.0 - 9.0 percent of mass 174	3.3 (5.4) 1
176	95 - 101 percent of mass 174	58.5 (97.4) 1
177	5.0 - 9.0 percent of mass 176	3.3 (5.6) 2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD020KX	VSTD020KX	>K5388	06/20/01	0726
02	VBLKKX	VBLKKX	>K5389	06/20/01	0807
03	020PPB QCS	020PPB QCS	>K5390	06/20/01	0846
04	MW-7FMS	011501A-05FMS	>K5393	06/20/01	1025
05	MW-7FMSD	011501A-05FMSD	>K5394	06/20/01	1058
06					
07					
08					
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20					
21					
22					

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Lab File ID: (Standard): >K5356

Date Analyzed: 06/19/01

Instrument ID: HP5970K

Time Analyzed: 1017

	IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
12 HOUR STD	256756	11.68	1017495	13.74	926935	18.92
UPPER LIMIT	513512	12.18	2034990	14.24	1853870	19.42
LOWER LIMIT	128378	11.18	508748	13.24	463468	18.42
EPA SAMPLE NO.						
01 VBLKKW	397574	11.64	1541005	13.70	1351148	18.89
02 020PPB QCS	311572	11.59	1321923	13.65	1131072	18.86
03 MW-1	251203	11.84	980019	13.88	825365	19.04
04 MW-5	229235	11.87	858678	13.90	647064	19.07
05 MW-7	249417	11.89	837311	13.93	704245	19.07
06 MW-9	261189	11.92	957674	13.95	697403	19.09
07 MW-7C	205867	11.94	928472	13.97	730193	19.11
08 MW-1F	286063	11.96	1105350	13.98	849731	19.12
09 TB-1	233344	12.00	846632	14.00	630333	19.14
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

8A
VOLATILE INTERNAL STANDARD.AREA AND RT SUMMARY

Lab Name: STL/CT Contract: _____
 Lab Code: IEACT Case No.: 1501A SAS No.: _____ SDG No.: A1501
 Lab File ID: (Standard): >K5388 Date Analyzed: 06/20/01
 Instrument ID: HP5970K Time Analyzed: 0726

	IS1 (BCM) AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
12 HOUR STD	303456	11.91	1138260	13.93	955312	19.07
UPPER LIMIT	606912	12.41	2276520	14.43	1910624	19.57
LOWER LIMIT	151728	11.41	569130	13.43	477656	18.57
EPA SAMPLE NO.						
01 VBLKKX	410310	11.85	1568265	13.87	1102498	19.05
02 020PPB QCS	274096	11.80	1059541	13.86	932084	19.00
03 MW-7FMS	215448	11.66	1032944	13.70	810724	18.90
04 MW-7FMSD	322784	11.61	1172155	13.66	1025989	18.86
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (BCM) = Bromochloromethane
 IS2 (DFB) = 1,4-Difluorobenzene
 IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
 AREA LOWER LIMIT = - 50% of internal standard area
 RT UPPER LIMIT = +0.50 minutes of internal standard RT
 RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
 * Values outside of QC limits.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. MW-1

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water)WATER

Lab Sample ID: 011501A-03

Sample wt/vol: 5 (g/mL)ML

Lab File ID: >K5381

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____(uL)

Soil Aliquot Volume: _____(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

Q

74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	1.1	U
67-64-1	Acetone	2.7	U
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.17	
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-5

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water)WATER

Lab Sample ID: 011501A-04

Sample wt/vol: 5 (g/mL)ML

Lab File ID: >K5382

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

Q

74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	7.6	
67-64-1	Acetone	13	
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	2.8	
108-88-3	Toluene	4.4	
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. MW-7

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water)WATER

Lab Sample ID: 011501A-05

Sample wt/vol: 5 (g/mL)ML

Lab File ID: >K5383

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	4.1	
67-64-1	Acetone	16	
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.7	U
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-9

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water)WATER

Lab Sample ID: 011501A-06

Sample wt/vol: 5 (g/mL)ML

Lab File ID: >K5384

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____(uL)

Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

Q

CAS NO.	COMPOUND		
74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	3.5	
67-64-1	Acetone	8.2	
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.7	U
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. MW-7C

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water) WATER

Lab Sample ID: 011501A-07

Sample wt/vol: 5 (g/mL) ML

Lab File ID: >K5385

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.

COMPOUND

74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	3.6	
67-64-1	Acetone	2.7	U
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.7	U
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-1F

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water) WATER

Lab Sample ID: 011501A-08

Sample wt/vol: 5 (g/mL) ML

Lab File ID: >K5386

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND		
74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	3.9	
67-64-1	Acetone	28	
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.7	U
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. TB-1

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water)WATER

Lab Sample ID: 011501A-09

Sample wt/vol: 5 (g/mL)ML

Lab File ID: >K5387

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____(uL)

Soil Aliquot Volume: _____(uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

CAS NO.

COMPOUND

Q

74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	4.8	
67-64-1	Acetone	31	
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.7	U
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

VBLKKW

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water) WATER

Lab Sample ID: VBLKKW

Sample wt/vol: 5 (g/mL) ML

Lab File ID: >K5357

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 06/19/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	1.1	U
67-64-1	Acetone	2.7	U
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.7	U
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. VBLKKX

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water) WATER

Lab Sample ID: VBLKKX

Sample wt/vol: 5 (g/mL) ML

Lab File ID: >K5389

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND		
74-87-3	Chloromethane	.7	U
74-83-9	Bromomethane	.7	U
75-01-4	Vinyl Chloride	.2	U
75-00-3	Chloroethane	.4	U
75-09-2	Methylene Chloride	1.1	U
67-64-1	Acetone	2.7	U
75-15-0	Carbon Disulfide	.3	U
108-05-4	Vinyl Acetate	.8	U
75-35-4	1,1-Dichloroethene	.3	U
75-34-3	1,1-Dichloroethane	.6	U
156-59-2	cis-1,2-Dichloroethene	.4	U
156-60-5	trans-1,2-Dichloroethene	.2	U
67-66-3	Chloroform	.4	U
107-06-2	1,2-Dichloroethane	.3	U
78-93-3	2-Butanone	1.1	U
71-55-6	1,1,1-Trichloroethane	.4	U
56-23-5	Carbon Tetrachloride	.4	U
75-27-4	Bromodichloromethane	.4	U
78-87-5	1,2-Dichloropropane	.6	U
10061-01-5	cis-1,3-Dichloropropene	.4	U
79-01-6	Trichloroethene	.3	U
124-48-1	Dibromochloromethane	.5	U
79-00-5	1,1,2-Trichloroethane	.4	U
71-43-2	Benzene	.4	U
10061-02-6	trans-1,3-Dichloropropene	.4	U
75-25-2	Bromoform	.8	U
108-10-1	4-Methyl-2-Pentanone	1.1	U
591-78-6	2-Hexanone	1.3	U
127-18-4	Tetrachloroethene	.7	U
108-88-3	Toluene	.5	U
79-34-5	1,1,2,2-Tetrachloroethane	.7	U
108-90-7	Chlorobenzene	.4	U
100-41-4	Ethylbenzene	.4	U
100-42-5	Styrene	.5	U
1330-20-7	Xylene (total)	1.4	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

020PPB_QCS

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water) WATER

Lab Sample ID: 020PPB_QCS

Sample wt/vol: 5 (g/mL) ML

Lab File ID: >K5358

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 06/19/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

74-87-3	Chloromethane	14	
74-83-9	Bromomethane	17	
75-01-4	Vinyl Chloride	16	
75-00-3	Chloroethane	20	
75-09-2	Methylene Chloride	21	
67-64-1	Acetone	32	
75-15-0	Carbon Disulfide	18	
108-05-4	Vinyl Acetate	10	
75-35-4	1,1-Dichloroethene	19	
75-34-3	1,1-Dichloroethane	20	
156-59-2	cis-1,2-Dichloroethene	15	
156-60-5	trans-1,2-Dichloroethene	18	
67-66-3	Chloroform	22	
107-06-2	1,2-Dichloroethane	22	
78-93-3	2-Butanone	35	
71-55-6	1,1,1-Trichloroethane	18	
56-23-5	Carbon Tetrachloride	20	
75-27-4	Bromodichloromethane	17	
78-87-5	1,2-Dichloropropane	19	
10061-01-5	cis-1,3-Dichloropropene	16	
79-01-6	Trichloroethene	17	
124-48-1	Dibromochloromethane	18	
79-00-5	1,1,2-Trichloroethane	19	
71-43-2	Benzene	21	
10061-02-6	trans-1,3-Dichloropropene	19	
75-25-2	Bromoform	18	
108-10-1	4-Methyl-2-Pentanone	25	
591-78-6	2-Hexanone	30	
127-18-4	Tetrachloroethene	17	
108-88-3	Toluene	19	
79-34-5	1,1,2,2-Tetrachloroethane	22	
108-90-7	Chlorobenzene	20	
100-41-4	Ethylbenzene	18	
100-42-5	Styrene	20	
1330-20-7	Xylene (total)	60	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

020PPB_QCS

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water) WATER

Lab Sample ID: 020PPB_QCS

Sample wt/vol: 5 (g/mL) ML

Lab File ID: >K5390

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.

COMPOUND

74-87-3	Chloromethane	14	
74-83-9	Bromomethane	21	
75-01-4	Vinyl Chloride	16	
75-00-3	Chloroethane	27	
75-09-2	Methylene Chloride	23	
67-64-1	Acetone	33	
75-15-0	Carbon Disulfide	20	
108-05-4	Vinyl Acetate	9.9	
75-35-4	1,1-Dichloroethene	24	
75-34-3	1,1-Dichloroethane	21	
156-59-2	cis-1,2-Dichloroethene	17	
156-60-5	trans-1,2-Dichloroethene	20	
67-66-3	Chloroform	24	
107-06-2	1,2-Dichloroethane	21	
78-93-3	2-Butanone	24	
71-55-6	1,1,1-Trichloroethane	23	
56-23-5	Carbon Tetrachloride	24	
75-27-4	Bromodichloromethane	20	
78-87-5	1,2-Dichloropropane	22	
10061-01-5	cis-1,3-Dichloropropene	21	
79-01-6	Trichloroethene	21	
124-48-1	Dibromochloromethane	20	
79-00-5	1,1,2-Trichloroethane	20	
71-43-2	Benzene	23	
10061-02-6	trans-1,3-Dichloropropene	22	
75-25-2	Bromoform	21	
108-10-1	4-Methyl-2-Pentanone	20	
591-78-6	2-Hexanone	21	
127-18-4	Tetrachloroethene	20	
108-88-3	Toluene	21	
79-34-5	1,1,2,2-Tetrachloroethane	22	
108-90-7	Chlorobenzene	21	
100-41-4	Ethylbenzene	20	
100-42-5	Styrene	21	
1330-20-7	Xylene (total)	65	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MW-7FMS

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water)WATER

Lab Sample ID: 011501A-05FMS

Sample wt/vol: 5 (g/mL)ML

Lab File ID: >K5393

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____(uL)

Soil Aliquot Volume: _____(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

Q

74-87-3	Chloromethane	27	
74-83-9	Bromomethane	26	
75-01-4	Vinyl Chloride	28	
75-00-3	Chloroethane	31	
75-09-2	Methylene Chloride	27	
67-64-1	Acetone	8.4	
75-15-0	Carbon Disulfide	27	
108-05-4	Vinyl Acetate	7.4	
75-35-4	1,1-Dichloroethene	25	
75-34-3	1,1-Dichloroethane	28	
156-59-2	cis-1,2-Dichloroethene	26	
156-60-5	trans-1,2-Dichloroethene	25	
67-66-3	Chloroform	30	
107-06-2	1,2-Dichloroethane	20	
78-93-3	2-Butanone	8.8	
71-55-6	1,1,1-Trichloroethane	23	
56-23-5	Carbon Tetrachloride	22	
75-27-4	Bromodichloromethane	19	
78-87-5	1,2-Dichloropropane	21	
10061-01-5	cis-1,3-Dichloropropene	16	
79-01-6	Trichloroethene	21	
124-48-1	Dibromochloromethane	13	
79-00-5	1,1,2-Trichloroethane	12	
71-43-2	Benzene	23	
10061-02-6	trans-1,3-Dichloropropene	14	
75-25-2	Bromoform	8.9	
108-10-1	4-Methyl-2-Pentanone	9.6	
591-78-6	2-Hexanone	6.9	
127-18-4	Tetrachloroethene	21	
108-88-3	Toluene	22	
79-34-5	1,1,2,2-Tetrachloroethane	9.7	
108-90-7	Chlorobenzene	20	
100-41-4	Ethylbenzene	23	
100-42-5	Styrene	21	
1330-20-7	Xylene (total)	68	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE

MW-7FMSD

Lab Name: STL/CT

Contract: _____

Lab Code: IEACT

Case No.: 1501A

SAS No.: _____

SDG No.: A1501

Matrix: (soil/water)WATER

Lab Sample ID: 011501A-05F

Sample wt/vol: 5 (g/mL)ML

Lab File ID: >K5394

Level: (low/med) LOW

Date Received: 06/14/01

% Moisture: not dec. _____

Date Analyzed: 06/20/01

GC Column: 007-624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____(uL)

Soil Aliquot Volume: _____(uL)

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg)UG/L

Q

74-87-3	Chloromethane	20	
74-83-9	Bromomethane	19	
75-01-4	Vinyl Chloride	21	
75-00-3	Chloroethane	20	
75-09-2	Methylene Chloride	23	
67-64-1	Acetone	29	
75-15-0	Carbon Disulfide	20	
108-05-4	Vinyl Acetate	22	
75-35-4	1,1-Dichloroethene	17	
75-34-3	1,1-Dichloroethane	21	
156-59-2	cis-1,2-Dichloroethene	21	
156-60-5	trans-1,2-Dichloroethene	18	
67-66-3	Chloroform	22	
107-06-2	1,2-Dichloroethane	20	
78-93-3	2-Butanone	33	
71-55-6	1,1,1-Trichloroethane	21	
56-23-5	Carbon Tetrachloride	21	
75-27-4	Bromodichloromethane	21	
78-87-5	1,2-Dichloropropane	23	
10061-01-5	cis-1,3-Dichloropropene	18	
79-01-6	Trichloroethene	20	
124-48-1	Dibromochloromethane	19	
79-00-5	1,1,2-Trichloroethane	20	
71-43-2	Benzene	22	
10061-02-6	trans-1,3-Dichloropropene	20	
75-25-2	Bromoform	18	
108-10-1	4-Methyl-2-Pentanone	24	
591-78-6	2-Hexanone	26	
127-18-4	Tetrachloroethene	18	
108-88-3	Toluene	20	
79-34-5	1,1,2,2-Tetrachloroethane	23	
108-90-7	Chlorobenzene	18	
100-41-4	Ethylbenzene	21	
100-42-5	Styrene	20	
1330-20-7	Xylene (total)	59	

2F
SOIL PESTICIDE SURROGATE RECOVERY

ab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

C Column: RTX-35 ID: 0.53 (mm)

	SAMPLE NO.	TCX %REC #	DCB %REC #	OTHER %REC #	OTHER %REC #	TOT OUT
01	PBLK49	69	116			0
02	PBLK49QC1	92	116			0
03	SS-13 0'-0.25'MSB	88	116			0
04	SS-13 0'-0.25'	D	D			0
05	SS-13 0'-0.25'MS	D	D			0
06	SS-13 0'-0.25'MSD	D	D			0
07	SS-13C	D	D			0
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

ADVISORY
QC LIMITS
(41-150)
(56-159)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

2E
WATER PESTICIDE SURROGATE RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

GC Column: RTX-35 ID: 0.53 (mm)

	SAMPLE NO.	TCX %REC	#	DCB %REC	#	OTHER %REC	#	OTHER %REC	#	TOT OUT
01	PBLK44	106		118						0
02	PBLK44QC1	110		123						0
03	MW-7MSB	104		137						0
04	MW-1	78		91						0
05	MW-5	82		74						0
06	MW-7	97		53						0
07	MW-7MS	101		52						0
08	MW-7MSD	108		52						0
09	MW-7C	103		48						0
10	MW-1F	93		122						0
11	MW-9	137D		65						0
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										

ADVISORY
QC LIMITS
(45-129)
(28-139)

TCX = Tetrachloro-m-xylene
DCB = Decachlorobiphenyl

Column to be used to flag recovery values
* Values outside of QC limits
D Surrogate diluted out

3F
SOIL PESTICIDE MATRIX SPIKE BLANK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix Spike - Sample No.: SS-13 0'-0.25' Conc. Units : UG/KG

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC RPD	LIMITS REC.
gamma-BHC (Lindane)	17	0.0	14.	82				50	45-124
Aldrin	17	0.0	14.	82				43	48-145
Heptachlor	17	0.0	14.	82				31	21-152
Dieldrin	33	0.0	57.	173*				38	49-155
Endrin	33	0.0	38.	115				45	42-191
4,4'-DDT	33	0.0	33.	100				50	14-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 1 out of 6 outside limits

COMMENTS: _____

SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: STL-CT Contract: _____Lab Code: IEACT Case No.: 1501A SDG No.: A1501Matrix Spike - Sample No.: SS-13 0'-0.25' Conc. Units : UG/KG

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC LIMITS RPD REC.
gamma-BHC (Lindane)		0.0	D	D	D	D	D	50 45-124
Aldrin		0.0	D	D	D	D	D	43 48-145
Heptachlor	19	1400	1200	-1053*	1400	0*	200*	31 21-152
Dieldrin	38	5600	4600	-2632*	5200	-1053*	86*	38 49-155
Endrin		0.0	D	D	D	D	D	45 42-191
4,4'-DDT	38	17000	12000	-13158*	18000	5263*	467*	50 14-160

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 3 out of 6 outside limitsSpike Recovery: 6 out of 12 outside limits

COMMENTS: _____

3E
WATER PESTICIDE MATRIX SPIKE BLANK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix Spike - Sample No.: MW-7 Conc. Units : UG/L

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC LIMITS RPD REC.
gamma-BHC (Lindane)	0.50	0.0	0.51	102				15 41-129
Heptachlor	0.50	0.0	0.46	92				20 42-128
Aldrin	0.50	0.0	0.49	98				22 37-132
Dieldrin	1.0	0.0	1.1	110				18 46-144
Endrin	1.0	0.0	1.2	120				21 57-155
4,4'-DDT	1.0	0.0	1.0	100				27 34-129

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 0 outside limits

Spike Recovery: 0 out of 6 outside limits

COMMENTS: _____

WATER PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: STL-CT Contract: _____Lab Code: IEACT Case No.: 1501A SDG No.: A1501Matrix Spike - Sample No.: MW-7 Conc. Units : UG/L

	SPIKE ADDED	SAMPLE CONC	MS CONC	MS %REC #	MSD CONC	MSD %REC #	%RPD #	QC LIMITS RPD REC.
gamma-BHC (Lindane)	0.50	0.0	0.49	98	0.57	102	4	15 41-129
Heptachlor	0.50	0.011	0.43	85	0.51	90	6	20 42-128
Aldrin	0.50	0.0	0.41	81	0.48	84	4	22 37-132
Dieldrin	1.0	0.0	1.0	100	1.2	109	9	18 46-144
Endrin	1.0	0.0	1.2	120	1.2	109	10	21 57-155
4,4'-DDT	1.0	0.0	0.79	79	0.89	81	2	27 34-129

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 6 outside limitsSpike Recovery: 0 out of 12 outside limits

COMMENTS: _____

3H
SOIL PESTICIDE QC CHECK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Sample No.: PBLK49

COMPOUND	SPIKE ADDED (UG/KG)	SPIKE CONCENTRATION (UG/KG)	% REC #	QC. LIMITS REC.
alpha-BHC	6.7	5.7	85	46-133
beta-BHC	6.7	6.6	98	76-150
delta-BHC	6.7	5.0	75	12-132
gamma-BHC	6.7	5.8	86	64-119
Heptachlor	6.7	6.4	96	63-134
Aldrin	6.7	5.0	75	57-143
Heptachlor Epoxide	6.7	6.1	91	76-129
Endosulfan I	6.7	6.0	90	59-138
gamma-Chlordane	6.7	6.2	92	70-140
alpha-Chlordane	6.7	6.0	90	50-141
Dieldrin	6.7	6.6	98	68-136
4,4'-DDE	6.7	6.4	96	68-132
Endrin	6.7	8.2	120	72-140
Endosulfan II	6.7	6.8	101	69-152
4,4'-DDD	6.7	4.8	72	48-128
Endosulfan Sulfate	6.7	6.4	96	60-132
4,4'-DDT	6.7	6.9	103	51-147
Methoxychlor	6.7	7.4	110	76-159
Endrin Aldehyde	6.7	5.1	76	23-158
Endrin Ketone	6.7	6.7	100	80-148

Column to be used to flag recovery values with an asterisk

COMMENTS: _____

3G
WATER PESTICIDE QC CHECK RECOVERY

Lab Name: STL-CT Contract: _____

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Sample No.: PBLK44

COMPOUND	SPIKE ADDED (UG/L)	SPIKE CONCENTRATION (UG/L)	% REC #	QC. LIMITS REC.
alpha-BHC	0.20	0.17	85	51-132
beta-BHC	0.20	0.18	90	59-165
delta-BHC	0.20	0.15	75	10-135
gamma-BHC	0.20	0.18	90	50-144
Heptachlor	0.20	0.16	80	43-144
Aldrin	0.20	0.15	75	45-145
Heptachlor Epoxide	0.20	0.18	90	57-153
Endosulfan I	0.20	0.17	85	46-140
gamma-Chlordane	0.20	0.18	90	60-140
alpha-Chlordane	0.20	0.18	90	60-140
Dieldrin	0.20	0.22	110	54-157
4,4'-DDE	0.20	0.18	90	50-150
Endrin	0.20	0.20	100	42-163
Endosulfan II	0.20	0.20	100	70-167
4,4'-DDD	0.20	0.18	90	38-135
Endosulfan Sulfate	0.20	0.18	90	47-153
4,4'-DDT	0.20	0.18	90	42-144
Methoxychlor	0.20	0.21	105	71-174
Endrin Aldehyde	0.20	0.16	80	73-155
Endrin Ketone	0.20	0.19	95	65-174

Column to be used to flag recovery values with an asterisk

COMMENTS: _____

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: STL-CT Contract: _____ Client Id: PBLK49

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Lab sample ID: 061901-B06 Lab File ID: C1133047

Matrix:(soil/water) SOIL Extraction:(SepF/Cont/Sonc) SONC

Sulfur Cleanup: (Y/N) N Date Extracted: 06/19/01

Date Analyzed (1): 07/05/01 Date Analyzed (2): 07/06/01

Time Analyzed (1): 1516 Time Analyzed (2): 2259

Instrument ID (1): HP58901C Instrument ID (2): HP58905D

GC Column (1):RTX-35 ID:0.53(mm) GC Column (2):DB-1701 ID:0.53(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PBLK49QC1	061901-B06QC1	07/05/01	07/06/01
02	SS-13 0'-0.25'MSB	011501A-01MSB	07/05/01	07/07/01
03	SS-13 0'-0.25'	011501A-01	07/06/01	07/07/01
04	SS-13 0'-0.25'MS	011501A-01MS	07/06/01	07/07/01
05	SS-13 0'-0.25'MSD	011501A-01MSD	07/06/01	07/07/01
06	SS-13C	011501A-02	07/06/01	07/07/01
07				
08				
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COMMENTS: _____

4C
PESTICIDE METHOD BLANK SUMMARY

Lab Name: STL-CT Contract: _____ Client Id: PBLK44

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Lab sample ID: 061801-B02 Lab File ID: C1133049

Matrix: (soil/water) WATER Extraction: (SepF/Cont/Sonc) SEPF

Sulfur Cleanup: (Y/N) N Date Extracted: 06/18/01

Date Analyzed (1): 07/05/01 Date Analyzed (2): 07/07/01

Time Analyzed (1): 1630 Time Analyzed (2): 0426

Instrument ID (1): HP58901C Instrument ID (2): HP58905D

GC Column (1): RTX-35 ID: 0.53 (mm) GC Column (2): DB-1701 ID: 0.53 (mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
01	PBLK44QC1	061801-B02QC1	07/05/01	07/07/01
02	MW-7MSB	011501A-05MSB	07/05/01	07/07/01
03	MW-1	011501A-03	07/05/01	07/07/01
04	MW-5	011501A-04	07/05/01	07/07/01
05	MW-7	011501A-05	07/05/01	07/07/01
06	MW-7MS	011501A-05MS	07/05/01	07/07/01
07	MW-7MSD	011501A-05MSD	07/05/01	07/07/01
08	MW-7C	011501A-07	07/05/01	07/07/01
09	MW-1F	011501A-08	07/06/01	07/07/01
10	MW-9	011501A-06	07/06/01	07/07/01
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26				

COMMENTS: _____

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-13 0'-0.25'

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): SOIL Lab Sample ID: 011501A-01

Sample wt/vol: 30.3 (g/ml) G Lab File ID: C1133067

% Moisture: 14 decanted: (Y/N) Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/19/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/06/01

Injection Volume: 1.0 (uL) Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	2000	U
319-85-7	beta-BHC	8600	U
319-86-8	delta-BHC	2000	U
58-89-9	gamma-BHC (Lindane)	2000	U
76-44-8	Heptachlor	1400	J
309-00-2	Aldrin	2000	U
1024-57-3	Heptachlor Epoxide	2200	
959-98-8	Endosulfan I	2000	U
60-57-1	Dieldrin	5600	
72-55-9	4,4'-DDE	2000	J
72-20-8	Endrin	3800	U
33213-65-9	Endosulfan II	3800	U
72-54-8	4,4'-DDD	3800	U
1031-07-8	Endosulfan Sulfate	3800	U
50-29-3	4,4'-DDT	17000	
72-43-5	Methoxychlor	20000	U
53494-70-5	Endrin ketone	3800	U
7421-93-4	Endrin aldehyde	4500	U
5103-71-9	alpha-Chlordane	12000	
5103-74-2	gamma-Chlordane	11000	
8001-35-2	Toxaphene	130000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-13C

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): SOIL Lab Sample ID: 011501A-02

Sample wt/vol: 30.6 (g/ml) G Lab File ID: C1133070

% Moisture: 14 decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/19/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/06/01

Injection Volume: 1.0 (uL) Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1900	U
319-85-7	beta-BHC	8600	U
319-86-8	delta-BHC	1900	U
58-89-9	gamma-BHC (Lindane)	1900	U
76-44-8	Heptachlor	1400	J
309-00-2	Aldrin	1900	U
1024-57-3	Heptachlor Epoxide	2200	
959-98-8	Endosulfan I	1900	U
60-57-1	Dieldrin	5600	
72-55-9	4,4'-DDE	2000	J
72-20-8	Endrin	3800	U
33213-65-9	Endosulfan II	3800	U
72-54-8	4,4'-DDD	3800	U
1031-07-8	Endosulfan Sulfate	3800	U
50-29-3	4,4'-DDT	16000	
72-43-5	Methoxychlor	19000	U
53494-70-5	Endrin ketone	3800	U
7421-93-4	Endrin aldehyde	4400	U
5103-71-9	alpha-Chlordane	12000	
5103-74-2	gamma-Chlordane	11000	
8001-35-2	Toxaphene	120000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-1

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-03

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C1133055

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.022	J
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.023	J
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.56	
5103-74-2	gamma-Chlordane	0.66	
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-5

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-04

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C1133056

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.0028	J
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.10	
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.67	
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.021	J
50-29-3	4,4'-DDT	0.11	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.28	
5103-74-2	gamma-Chlordane	0.21	
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-7

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-05

Sample wt/vol: 950 (g/ml) ML Lab File ID: C1133057

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.053	U
319-85-7	beta-BHC	0.053	U
319-86-8	delta-BHC	0.053	U
58-89-9	gamma-BHC (Lindane)	0.053	U
76-44-8	Heptachlor	0.011	J
309-00-2	Aldrin	0.053	U
1024-57-3	Heptachlor Epoxide	0.036	J
959-98-8	Endosulfan I	0.053	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.53	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.10	
5103-74-2	gamma-Chlordane	0.061	
8001-35-2	Toxaphene	2.6	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-9

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-06

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C1133071

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/06/01

Injection Volume: 1.0 (uL) Dilution Factor: 20.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	1.0	U
319-85-7	beta-BHC	1.0	U
319-86-8	delta-BHC	1.0	U
58-89-9	gamma-BHC (Lindane)	1.0	U
76-44-8	Heptachlor	1.0	U
309-00-2	Aldrin	1.0	U
1024-57-3	Heptachlor Epoxide	2.1	
959-98-8	Endosulfan I	1.0	U
60-57-1	Dieldrin	5.7	
72-55-9	4,4'-DDE	2.0	U
72-20-8	Endrin	0.18	J
33213-65-9	Endosulfan II	2.0	U
72-54-8	4,4'-DDD	1.9	J
1031-07-8	Endosulfan Sulfate	0.77	J
50-29-3	4,4'-DDT	0.70	J
72-43-5	Methoxychlor	10.	U
53494-70-5	Endrin Ketone	0.085	J
7421-93-4	Endrin Aldehyde	2.0	U
5103-71-9	alpha-Chlordane	2.8	
5103-74-2	gamma-Chlordane	4.3	
8001-35-2	Toxaphene	50.	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-7C

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-07

Sample wt/vol: 940 (g/ml) ML Lab File ID: C1133061

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.053	U
319-85-7	beta-BHC	0.053	U
319-86-8	delta-BHC	0.053	U
58-89-9	gamma-BHC (Lindane)	0.053	U
76-44-8	Heptachlor	0.053	U
309-00-2	Aldrin	0.053	U
1024-57-3	Heptachlor Epoxide	0.047	J
959-98-8	Endosulfan I	0.053	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan Sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.53	U
53494-70-5	Endrin Ketone	0.11	U
7421-93-4	Endrin Aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.11	
5103-74-2	gamma-Chlordane	0.072	
8001-35-2	Toxaphene	2.6	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-1F

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-08

Sample wt/vol: 930 (g/ml) ML Lab File ID: C1133062

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/06/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.054	U
319-85-7	beta-BHC	0.054	U
319-86-8	delta-BHC	0.054	U
58-89-9	gamma-BHC (Lindane)	0.054	U
76-44-8	Heptachlor	0.054	U
309-00-2	Aldrin	0.054	U
1024-57-3	Heptachlor Epoxide	0.054	U
959-98-8	Endosulfan I	0.054	U
60-57-1	Dieldrin	0.11	U
72-55-9	4,4'-DDE	0.11	U
72-20-8	Endrin	0.11	U
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan Sulfate	0.11	U
50-29-3	4,4'-DDT	0.11	U
72-43-5	Methoxychlor	0.54	U
53494-70-5	Endrin Ketone	0.11	U
7421-93-4	Endrin Aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.054	U
5103-74-2	gamma-Chlordane	0.054	U
8001-35-2	Toxaphene	2.7	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK49

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): SOIL Lab Sample ID: 061901-B06

Sample wt/vol: 30 (g/ml) G Lab File ID: C1133047

% Moisture: 0 decanted: (Y/N) Date Received : _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/19/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	7.5	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	1.7	U
76-44-8	Heptachlor	1.7	U
309-00-2	Aldrin	1.7	U
1024-57-3	Heptachlor Epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	3.3	U
72-55-9	4,4'-DDE	3.3	U
72-20-8	Endrin	3.3	U
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan Sulfate	3.3	U
50-29-3	4,4'-DDT	3.3	U
72-43-5	Methoxychlor	17.	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	1.7	U
5103-74-2	gamma-Chlordane	1.7	U
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK49QC1

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): SOIL Lab Sample ID: 061901-B06QC1

Sample wt/vol: 30 (g/ml) G Lab File ID: C1133048

% Moisture: 0 decanted: (Y/N) Date Received : _____

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/19/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	5.7	
319-85-7	beta-BHC	6.6	J
319-86-8	delta-BHC	5.0	
58-89-9	gamma-BHC (Lindane)	5.8	
76-44-8	Heptachlor	6.4	
309-00-2	Aldrin	5.0	
1024-57-3	Heptachlor Epoxide	6.1	
959-98-8	Endosulfan I	6.0	
60-57-1	Dieldrin	6.6	
72-55-9	4,4'-DDE	6.4	
72-20-8	Endrin	8.2	
33213-65-9	Endosulfan II	6.8	
72-54-8	4,4'-DDD	4.8	
1031-07-8	Endosulfan Sulfate	6.4	
50-29-3	4,4'-DDT	6.9	
72-43-5	Methoxychlor	7.4	J
53494-70-5	Endrin ketone	6.7	
7421-93-4	Endrin aldehyde	5.1	
5103-71-9	alpha-Chlordane	6.0	
5103-74-2	gamma-Chlordane	6.2	
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK44

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 061801-B02

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C1133049

% Moisture: _____ decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.050	U
76-44-8	Heptachlor	0.050	U
309-00-2	Aldrin	0.050	U
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	0.10	U
72-55-9	4,4'-DDE	0.10	U
72-20-8	Endrin	0.10	U
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.10	U
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: PBLK44QC1

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 061801-B02QC1

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C1133050

% Moisture: _____ decanted: (Y/N) _____ Date Received : _____

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.17	
319-85-7	beta-BHC	0.18	
319-86-8	delta-BHC	0.15	
58-89-9	gamma-BHC (Lindane)	0.18	
76-44-8	Heptachlor	0.16	
309-00-2	Aldrin	0.15	
1024-57-3	Heptachlor Epoxide	0.18	
959-98-8	Endosulfan I	0.17	
60-57-1	Dieldrin	0.22	
72-55-9	4,4'-DDE	0.18	
72-20-8	Endrin	0.20	
33213-65-9	Endosulfan II	0.20	
72-54-8	4,4'-DDD	0.18	
1031-07-8	Endosulfan Sulfate	0.18	
50-29-3	4,4'-DDT	0.18	
72-43-5	Methoxychlor	0.21	J
53494-70-5	Endrin Ketone	0.19	
7421-93-4	Endrin Aldehyde	0.16	
5103-71-9	alpha-Chlordane	0.18	
5103-74-2	gamma-Chlordane	0.18	
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-13 0'-0.25'MSB

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): SOIL Lab Sample ID: 011501A-01MSB

Sample wt/vol: 30 (g/ml) G Lab File ID: C1133051

% Moisture: 0 decanted: (Y/N) Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/19/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1.7	U
319-85-7	beta-BHC	7.5	U
319-86-8	delta-BHC	1.7	U
58-89-9	gamma-BHC (Lindane)	14.	
76-44-8	Heptachlor	14.	
309-00-2	Aldrin	14.	
1024-57-3	Heptachlor Epoxide	1.7	U
959-98-8	Endosulfan I	1.7	U
60-57-1	Dieldrin	57.	
72-55-9	4,4'-DDE	1.8	J
72-20-8	Endrin	38.	
33213-65-9	Endosulfan II	3.3	U
72-54-8	4,4'-DDD	3.3	U
1031-07-8	Endosulfan Sulfate	3.3	U
50-29-3	4,4'-DDT	33.	
72-43-5	Methoxychlor	17.	U
53494-70-5	Endrin ketone	3.3	U
7421-93-4	Endrin aldehyde	3.9	U
5103-71-9	alpha-Chlordane	0.93	J
5103-74-2	gamma-Chlordane	0.77	J
8001-35-2	Toxaphene	110	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-7MSB

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-05MSB

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C1133052

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.51	
76-44-8	Heptachlor	0.46	
309-00-2	Aldrin	0.49	
1024-57-3	Heptachlor Epoxide	0.050	U
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	1.1	
72-55-9	4,4'-DDE	0.054	J
72-20-8	Endrin	1.2	
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	1.0	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.050	U
5103-74-2	gamma-Chlordane	0.050	U
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-13 0'-0.25'MS

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): SOIL Lab Sample ID: 011501A-01MS

Sample wt/vol: 30.6 (g/ml) G Lab File ID: C1133068

% Moisture: 14 decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/19/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/06/01

Injection Volume: 1.0 (uL) Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1900	U
319-85-7	beta-BHC	8600	U
319-86-8	delta-BHC	1900	U
58-89-9	gamma-BHC (Lindane)	1900	U
76-44-8	Heptachlor	1200	J
309-00-2	Aldrin	1900	U
1024-57-3	Heptachlor Epoxide	1800	J
959-98-8	Endosulfan I	1900	U
60-57-1	Dieldrin	4600	
72-55-9	4,4'-DDE	1700	J
72-20-8	Endrin	3800	U
33213-65-9	Endosulfan II	3800	U
72-54-8	4,4'-DDD	4100	
1031-07-8	Endosulfan Sulfate	3800	U
50-29-3	4,4'-DDT	12000	
72-43-5	Methoxychlor	19000	U
53494-70-5	Endrin ketone	3800	U
7421-93-4	Endrin aldehyde	4400	U
5103-71-9	alpha-Chlordane	9700	
5103-74-2	gamma-Chlordane	9100	
8001-35-2	Toxaphene	120000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: SS-13 0'-0.25'MSD

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): SOIL Lab Sample ID: 011501A-01MSD

Sample wt/vol: 30.52 (g/ml) G Lab File ID: C1133069

% Moisture: 14 decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SONC Date Extracted: 06/19/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/06/01

Injection Volume: 1.0 (uL) Dilution Factor: 1000.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/KG

319-84-6	alpha-BHC	1900	U
319-85-7	beta-BHC	8600	U
319-86-8	delta-BHC	1900	U
58-89-9	gamma-BHC (Lindane)	1900	U
76-44-8	Heptachlor	1400	J
309-00-2	Aldrin	1900	U
1024-57-3	Heptachlor Epoxide	2100	
959-98-8	Endosulfan I	1900	U
60-57-1	Dieldrin	5200	
72-55-9	4,4'-DDE	1900	J
72-20-8	Endrin	3800	U
33213-65-9	Endosulfan II	3800	U
72-54-8	4,4'-DDD	3800	U
1031-07-8	Endosulfan Sulfate	3800	U
50-29-3	4,4'-DDT	18000	
72-43-5	Methoxychlor	19000	U
53494-70-5	Endrin ketone	3800	U
7421-93-4	Endrin aldehyde	4400	U
5103-71-9	alpha-Chlordane	10000	
5103-74-2	gamma-Chlordane	9900	
8001-35-2	Toxaphene	120000	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-7MS

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-05MS

Sample wt/vol: 1000 (g/ml) ML Lab File ID: C1133058

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.050	U
319-85-7	beta-BHC	0.050	U
319-86-8	delta-BHC	0.050	U
58-89-9	gamma-BHC (Lindane)	0.49	
76-44-8	Heptachlor	0.43	
309-00-2	Aldrin	0.41	
1024-57-3	Heptachlor Epoxide	0.043	J
959-98-8	Endosulfan I	0.050	U
60-57-1	Dieldrin	1.0	
72-55-9	4,4'-DDE	0.038	J
72-20-8	Endrin	1.2	
33213-65-9	Endosulfan II	0.10	U
72-54-8	4,4'-DDD	0.10	U
1031-07-8	Endosulfan Sulfate	0.10	U
50-29-3	4,4'-DDT	0.79	
72-43-5	Methoxychlor	0.50	U
53494-70-5	Endrin Ketone	0.10	U
7421-93-4	Endrin Aldehyde	0.10	U
5103-71-9	alpha-Chlordane	0.12	
5103-74-2	gamma-Chlordane	0.075	
8001-35-2	Toxaphene	2.5	U

1D
PESTICIDE ORGANICS ANALYSIS DATA SHEET

Lab Name: STL-CT Contract: _____ Client ID: MW-7MSD

Lab Code: IEACT Case No.: 1501A SDG No.: A1501

Matrix: (soil/water): WATER Lab Sample ID: 011501A-05MSD

Sample wt/vol: 890 (g/ml) ML Lab File ID: C1133059

% Moisture: _____ decanted: (Y/N) _____ Date Received : 06/14/01

Extraction: (SepF/Cont/Sonc) SEPF Date Extracted: 06/18/01

Concentrated Extract Volume: 10000 (ul) Date Analyzed : 07/05/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____ Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS: Q
(ug/L or ug/Kg) UG/L

319-84-6	alpha-BHC	0.056	U
319-85-7	beta-BHC	0.056	U
319-86-8	delta-BHC	0.056	U
58-89-9	gamma-BHC (Lindane)	0.57	
76-44-8	Heptachlor	0.51	
309-00-2	Aldrin	0.48	
1024-57-3	Heptachlor Epoxide	0.051	J
959-98-8	Endosulfan I	0.056	U
60-57-1	Dieldrin	1.2	
72-55-9	4,4'-DDE	0.045	J
72-20-8	Endrin	1.2	
33213-65-9	Endosulfan II	0.11	U
72-54-8	4,4'-DDD	0.11	U
1031-07-8	Endosulfan Sulfate	0.11	U
50-29-3	4,4'-DDT	0.89	
72-43-5	Methoxychlor	0.56	U
53494-70-5	Endrin Ketone	0.11	U
7421-93-4	Endrin Aldehyde	0.11	U
5103-71-9	alpha-Chlordane	0.12	
5103-74-2	gamma-Chlordane	0.084	
8001-35-2	Toxaphene	2.8	U

STL JOB #:

CLIENT:

FANNING, PHILLIPS & MOLNAR

PROJECT ID:

F02570-HARDER

STI PROJECT MGR:

JOHANNA DUBAUSKAS

BISH

yes

2

DIE DATE

	Y	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
01 SS-20(3'-4')MS/MSD	S0	4/23/01	1405	N	•3					
02 SS-18 (0'-0.25')	S0		10:10	N	1					
03 SS-18 (3'-4')	S0		1013	N	1					
04 D-2A (9'-10')	S0		1025	N	1					
05 D-2A (14'-15')	S0		1030	N	1					
06 D-2B (9'-10')	S0		1035	N	1					
07 A-2B (14'-15')	S0		1040	N	1					
08 SS-8 (3'-4')	S0		~~1045~~	N	1					
09 SS-13 (0'-0.25')	S0		1320	N	1					
10 SS-24 (0'-0.25')	S0		1330	N	1					

1	-	AIR	S	-	SOIL
10	-	AQUEOUS	SL	-	SLUDGE
11	-	COMPLEX	W	-	WIPE
12	-	DRUM WASTE	O	-	OTHER
13	-	OIL	FB	-	FIELD BL
14	-		TB	-	TRIP BLA

BOTTLES PREPARED BY:

DATE / TIME

BOTTLES REC'D BY

DATE / TIME

REMARKS ON SAMPLE RECEIVED

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

STL JOB #:

CLIENT:

FANNING, PHILLIPS & MOLNAR

PROJECT ID:

F02570--HARDER

JOHANNA DUBAUSKAS

STL PROJECT MGR:

RUSH

4

ON

DUE DATE

[illegible]

BOTTLES PREPARED BY

DATE / TIME

BOTTLES REC'D BY

DATE / TIME

LETTERS AND ANSWERS

	AIR	SOIL
1	10	10
2	10	10
3	10	10
4	10	10
5	10	10
6	10	10
7	10	10
8	10	10
9	10	10
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89	10	10
90	10	10
91	10	10
92	10	10
93	10	10
94	10	10
95	10	10
96	10	10
97	10	10
98	10	10
99	10	10
100	10	10

SIGNATURE

RECEIVED IN LAB

DATE / TIME

☐ BOTTLES INTACT ☐ CUSTODY SEALS
☐ PRESERVED ☐ SEALS INTACT
☐ CHILLED ☐ SEE REMARKS

SIGNATURE *John S. Burkhardt*

STL JOB #:

CLIENT:

FANNING, PHILLIPS & MOLNAR

PROJECT ID:

F02570-HARDER

STL PROJECT MGR:

JOHANN DUBAUSKAS

RUST

YES

ON

DUE DATE

[illegible]

BOTTLES PREPARED BY:

DATE / TIME

BOTTLES REC'D BY

DATE / TIME

309

-	AIR	S	-	SOIL
Q	AQUEOUS	SL	-	SLUDGE
-	COMPLEX	W	-	WIPE
-	DUM WASTE	O	-	OTHER
I	OIL	FB	-	FIELD BL
		TB	-	TRIP BLA

SIGNATURE

SIGNATURE

SIGNATURE

[]

- COMPLEX

W - WIPE

CAMPBELL

CHAMBERS COLLECTED BY

RECEIVED IN

DATE / TIME

RESERVED

PRESERVED

100-1

ER - FIFTH BI

407

John S. Bukowski

[

STL JOB #:

CLIENT: Fem

PROJECT ID: **Warder**

STL PROJECT MGR: J. Hand

RUSH	☐	YES	☒	NO
DUE DATE				

[illegible]

BOTTLES PREPARED BY		DATE / TIME	BOTTLES REC'D BY	DATE / TIME	REMARKS ON SAMPLE RECEIPT
John Bukuski		6/13/61 0700			☐ BOTTLES INTACT ☐ CUSTODY SEALS ☐ PRESERVED ☐ SEALS INTACT ☐ CHILLED ☐ SEE REMARKS
SIGNATURE <i>John S. Bukoski</i>			SIGNATURE		
SAMPLES COLLECTED BY <i>John Bukoski</i>		DATE / TIME	RECEIVED IN LAB	DATE / TIME	
SIGNATURE			SIGNATURE		

ANALYTICAL REPORT

JOB NUMBER: 200947

Prepared For:

FANNING, PHILLIPS AND MOLNAR
909 Marconi Avenue
Ronkonkoma, NY 11779

Project: HARDER TREE SERVICES

Attention: John Bukoski

Date: 05/10/2002


Signature

Name: Johanna L. Dubauskas

Title: Project Manager

E-Mail: jdubauskas@stl-inc.com

5/10/02
Date

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (27) Pages

STL Report : 200947
FANNING, PHILLIPS AND MOLNAR

Case Narrative

Sample Receipt - All samples were received in good condition and at the proper temperature.

Organic Extraction - Samples were extracted according to method 3550B/3510C. No problems were encountered.

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogate recovery for Tetrachloro-m-xylene was above QC limits in GP-4 (18'-20').

Surrogates were diluted out of samples D-2 (3'-4'), D-2 (8'-10'), D-2 (14'-16'), SS-4 (3'-4'), SS-28 (0'-0.25'), SS-30 (0'-0.25'), SS-31 (0'-0.25'), SS-35 (0'-0.25'), SS-36 (0'-0.25'), and SS-33 (0'-0.25').

Spike recoveries in the SS-37 (0'-0.25') MS/MSD were diluted outside of the calibration range. However, the MSD and surrogate recoveries appeared to be much lower than the MS recoveries. It was suspected that a loss occurred during the extraction procedure.

Results for alpha-Chlordane and Endosulfan I were reported from the DB-1701 column in sample 4971-2LCS, 4947-2LCS, D-2 (8'-10'), D-2 (14'-16'), and D-2 (3'-4') due to coelution on the RTX-35 column.

Results for alpha-Chlordane were reported from the DB-1701 column in sample ss-8 (3'-4') due to sample matrix on the RTX-35 column.

The % difference for 4,4'-DDT was just above QC limits in INDA3 analyzed at 22:13 on 4/30/02 on the DB-1701 column. This was the end bracketing standard for samples 4947-1MB, 4947-2LCS, and 4947-20MSB.

The surrogate, Decachlorobiphenyl, was just outside of retention time windows in the INDB3, PIBLK, and INDA3 standards bracketing samples 4947-1MB, 4947-2LCS, and 4947-20MSB. This shift in retention time was taken into consideration when the data was reviewed for target compounds.

An instrument blank was not injected following samples SS-35 (0'-0.25'), SS-36 (0'-0.25'), SS-37 (0'-0.25'), SS-37 (0'-0.25') MS/MSD, and SS-8 (3'-4'). An instrument blank is run to ensure the instrument is free of contaminants prior to any samples. Samples were not analyzed following this bracket.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID - GP-4 (18'-20')
Compound - alpha-chlordane

$$\frac{(44864785 \text{ area/ng})(10000 \text{ ul})(20)}{(754872792 \text{ area/ng})(30.5 \text{ g})(1 \text{ ul})(0.972)} = 400 \text{ ug/Kg}$$

Pesticide TCLP - Pesticide TCLP samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Sample GP-4 (0'-2') was run at a 1:5 dilution due to high sample matrix. This sample could not be run lower without masking target compounds.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID - D-2 (0'-2')
Compound - Endrin

$$\frac{(11007408 \text{ area/ng})(10000 \text{ ul})}{(563296193 \text{ area/ng})(200 \text{ ml})(1 \text{ ul})} = 0.000977 \text{ mg/L}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

STL-Connecticut Certification Summary (as of February 2001)

Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste NELAC	40602
North Carolina	Division of Environmental Management	Wastewater	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Utah	Department of Health	RCRA	2032614458
Washington	Department of Ecology	Wastewater/Hazardous Waste	C231
Wisconsin	Department of Natural Resources	Wastewater	998355710

SAMPLE INFORMATION

Date: 05/10/2002

Job Number: 200947
Customer: FARMING, PHILLIPS AND MOLNAR
Attn: John Sukoski

Project Number: 20000431
Customer Project ID: HARDER TREE SERVICES
Project Description: Harder Tree Services

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
200947-1	SS-1 (0'-2')	Soil	04/23/2002	08:50	04/24/2002	10:05
200947-2	GP-4 (0'-2')	Soil	04/23/2002	10:05	04/24/2002	10:05
200947-3	GP-4 (18'-20')	Soil	04/23/2002	10:15	04/24/2002	10:05
200947-4	GP-4 (28'-30')	Soil	04/23/2002	10:30	04/24/2002	10:05
200947-5	D-2 (0'-2')	Soil	04/23/2002	11:10	04/24/2002	10:05
200947-6	D-2 (3'-4')	Soil	04/23/2002	11:35	04/24/2002	10:05
200947-7	D-2 (8'-10')	Soil	04/23/2002	11:55	04/24/2002	10:05
200947-8	D-2 (14'-16')	Soil	04/23/2002	12:00	04/24/2002	10:05
200947-9	SS-4 (3'-4')	Soil	04/23/2002	12:40	04/24/2002	10:05
200947-10	SS-28 (0'-0.25')	Soil	04/23/2002	13:30	04/24/2002	10:05
200947-11	SS-29 (0'-0.25')	Soil	04/23/2002	13:40	04/24/2002	10:05
200947-12	SS-30 (0'-0.25')	Soil	04/23/2002	14:10	04/24/2002	10:05
200947-13	SS-31 (0'-0.25')	Soil	04/23/2002	13:55	04/24/2002	10:05
200947-14	SS-35 (0'-0.25')	Soil	04/23/2002	14:30	04/24/2002	10:05
200947-15	SS-36 (0'-0.25')	Soil	04/23/2002	14:40	04/24/2002	10:05
200947-16	SS-37 (0'-0.25')	Soil	04/23/2002	14:50	04/24/2002	10:05
200947-17	SS-8 (3'-4')	Soil	04/23/2002	15:00	04/24/2002	10:05
200947-18	SS-11 (0'-0.25')	Soil	04/23/2002	15:20	04/24/2002	10:05
200947-19	SS-33 (0'-0.25')	Soil	04/23/2002	15:40	04/24/2002	10:05
200947-20	WB-1	Water	04/23/2002	16:45	04/24/2002	10:05

Job Number: 200947										Date: 05/10/2002													
LABORATORY TEST RESULTS																							
CUSTOMER: FARMING, PHILLIPS AND MOLAR										PROJECT: HARDER TREE SERVICES													
ANALYST: JOHN BUKOSKI																							
Customer Sample ID: SS-1 (0'-2')										Laboratory Sample ID: 200947-1													
Date Sampled: 04/23/2002										Date Received: 04/24/2002													
Time Sampled: 08:50										Time Received: 10:05													
Sample Matrix: Soil																							
TEST METHOD		PARAMETER/TEST DESCRIPTION				SAMPLE RESULT		QTY/ANAL		MDL		RL		DILUTION		UNITS		BATCH		DATE/TIME		TRCH	
1311		TCLP Extraction, Solid				Complete								1		Text		5134		04/29/02 0000		dwh	
8081A		TCLP Extraction, Solid				ND		U		0.000016		0.00025		1.00000		mg/L		5305		05/02/02 2141		dmm	
		Organochlorine Pesticide Analysis				ND		U		0.000027		0.00025		1.00000		mg/L		5305		05/02/02 2141		dmm	
		gamma-BHC (Lindane), TCLP				ND		U		0.000028		0.00025		1.00000		mg/L		5305		05/02/02 2141		dmm	
		Heptachlor, TCLP				ND		U		0.000042		0.00050		1.00000		mg/L		5305		05/02/02 2141		dmm	
		Heptachlor epoxide, TCLP				ND		U		0.00031		0.0025		1.00000		mg/L		5305		05/02/02 2141		dmm	
		Endrin, TCLP				ND		U		0.00057		0.012		1.00000		mg/L		5305		05/02/02 2141		dmm	
		Methoxychlor, TCLP				ND		U		0.0025		0.0025		1.00000		mg/L		5305		05/02/02 2141		dmm	
		Toxaphene, TCLP																					
		Chlordane, TCLP																					

* In Description = Dry Wgt.

LABORATORY TEST RESULTS											
Job Number: 200947						Date: 05/10/2002					
CUSTOMER: FAWING, PHILLIPS AND MOLAR						PROJECT: HARDER TREE SERVICES					
ATTN: John Bukoski											
Customer Sample ID: GP-4 (01-2')_						Laboratory Sample ID: 200947-2					
Date Sampled.....: 04/23/2002						Date Received.....: 04/24/2002					
Time Sampled.....: 10:05						Time Received.....: 10:05					
Sample Matrix.....: Soil											
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MO%	SL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TRCH
1311	TCLP Extraction TCLP Extraction, Solid	Complete				1	Text	5134		04/29/02 0000	chh
8081A	Organochlorine Pesticide Analysis gamma-BHC (Lindane), TCLP Heptachlor, TCLP Heptachlor epoxide, TCLP Endrin, TCLP Methoxychlor, TCLP Toxaphene, TCLP Chlordane, TCLP	ND ND ND ND ND ND ND	U U U U U U U	0.000082 0.00014 0.00014 0.00021 0.0016 0.0028 0.012	0.0012 0.0012 0.0012 0.0025 0.012 0.062 0.012	5.00000 5.00000 5.00000 5.00000 5.00000 5.00000 5.00000	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	5305 5305 5305 5305 5305 5305 5305		05/08/02 1824 05/08/02 1824 05/08/02 1824 05/08/02 1824 05/08/02 1824 05/08/02 1824 05/08/02 1824	chh chh chh chh chh chh chh

* In Description = Dry Wgt.

Job Number: 200947

LABORATORY TEST RESULTS

Date: 05/10/2002

CUSTOMER: FARMING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Butowski

Customer Sample ID: GP-4 (18'-20')

Date Sampled: 04/23/2002

Time Sampled: 10:15

Sample Matrix: Soil

Laboratory Sample ID: 200947-3

Date Received: 04/24/2002

Time Received: 10:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAG	MOI	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	97.2		0.10		1	%	4944		04/26/02 0000	KSW
	% Moisture, Solid	2.8		0.10		1	%	4944		04/26/02 0000	KSW
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	5.6	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	beta-BHC, Solid*	ND	U	5.4	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	delta-BHC, Solid*	ND	U	2.1	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	gamma-BHC (Lindane), Solid*	ND	U	3.1	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Heptachlor, Solid*	75	U	3.0	34	20.0000	ug/Kg	5289		05/01/02 1512	dm
	Aldrin, Solid*	ND	U	7.2	40	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Heptachlor epoxide, Solid*	ND	U	2.3	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Endosulfan I, Solid*	ND	U	3.0	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Dieldrin, Solid*	ND	U	6.5	67	20.0000	ug/Kg	5289		05/02/02 0717	dm
	4,4'-DDE, Solid*	ND	U	8.8	67	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Endrin, Solid*	ND	U	18	100	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Endosulfan II, Solid*	ND	U	3.4	67	20.0000	ug/Kg	5289		05/02/02 0717	dm
	4,4'-DDD, Solid*	ND	U	7.7	67	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Endosulfan sulfate, Solid*	83	U	3.5	67	20.0000	ug/Kg	5289		05/02/02 0717	dm
	4,4'-DDT, Solid*	ND	U	6.3	67	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Methoxychlor, Solid*	ND	U	43	340	20.0000	ug/Kg	5289		05/02/02 0717	dm
	alpha-Chlordane, Solid*	400	U	2.2	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	gamma-Chlordane, Solid*	320	U	1.8	34	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Toxaphene, Solid*	ND	U	98	1700	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Endrin aldehyde, Solid*	ND	U	6.3	67	20.0000	ug/Kg	5289		05/02/02 0717	dm
	Endrin ketone, Solid*	ND	U	2.9	67	20.0000	ug/Kg	5289		05/02/02 0717	dm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS									
Job Number: 200947									
Date: 05/10/2002									
CUSTOMER: FARMING, PHILLIPS AND MOLAR									
PROJECT: HARDER TREE SERVICES									
ANALYST: JOHN BAROSKI									
Customer Sample ID: GP-4 (281-30) Date Sampled: 04/23/2002 Time Sampled: 10:30 Sample Matrix: Soil									
Laboratory Sample ID: 200947-4 Date Received: 04/24/2002 Time Received: 10:05									
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	U/F	MDL	IS	DILUTION	UNIT	DATE	TIME
Solids	% Solids, Solid	97.6		0.10	0.10	1	%	04/26/02	0000
	% Moisture, Solid	2.4		0.10	0.10	1	%	04/26/02	0000
8087A	Organochlorine Pesticide Analysis								
	alpha-BHC, Solid*	ND		2.8	17	10.0000	ug/Kg	05/02/02	0753
	beta-BHC, Solid*	ND		2.7	17	10.0000	ug/Kg	05/02/02	0753
	delta-BHC, Solid*	ND		1.0	17	10.0000	ug/Kg	05/02/02	0753
	gamma-BHC (Lindane), Solid*	ND		1.5	17	10.0000	ug/Kg	05/02/02	0753
	Heptachlor, Solid*	36		1.5	17	10.0000	ug/Kg	05/01/02	1547
	Aldrin, Solid*	ND		3.6	20	10.0000	ug/Kg	05/02/02	0753
	Heptachlor epoxide, Solid*	ND		1.1	17	10.0000	ug/Kg	05/02/02	0753
	Endosulfan II, Solid*	ND		1.5	17	10.0000	ug/Kg	05/02/02	0753
	Dieldrin, Solid*	ND		3.2	33	10.0000	ug/Kg	05/02/02	0753
	4,4'-DDE, Solid*	ND		4.4	33	10.0000	ug/Kg	05/02/02	0753
	Endrin, Solid*	ND		8.9	50	10.0000	ug/Kg	05/02/02	0753
	Endosulfan II, Solid*	ND		1.7	33	10.0000	ug/Kg	05/02/02	0753
	4,4'-DDD, Solid*	30		3.8	33	10.0000	ug/Kg	05/02/02	0753
	Endosulfan sulfate, Solid*	ND		1.7	33	10.0000	ug/Kg	05/02/02	0753
	4,4'-DDT, Solid*	23		3.1	33	10.0000	ug/Kg	05/02/02	0753
	Methoxychlor, Solid*	180		21	170	10.0000	ug/Kg	05/02/02	0753
	alpha-Chlordane, Solid*	150		1.1	17	10.0000	ug/Kg	05/02/02	0753
	gamma-Chlordane, Solid*	ND		0.91	17	10.0000	ug/Kg	05/02/02	0753
	Toxaphene, Solid*	ND		49	230	10.0000	ug/Kg	05/02/02	0753
	Endrin aldehyde, Solid*	ND		3.2	33	10.0000	ug/Kg	05/02/02	0753
	Endrin ketone, Solid*	ND		1.4	33	10.0000	ug/Kg	05/02/02	0753

* In Description = Dry Wgt.

LABORATORY TEST RESULTS										
Job Number: 200947					Date: 05/10/2002					
CUSTOMER: FARRING, PHILLIPS AND MCMAN										
PROJECT: HARDER TREE SERVICES										
ANALYST: JOHN BUKOSKI										
Customer Sample ID: D-2 (01-21)										
Date Sampled: 04/23/2002										
Time Sampled: 11:10										
Sample Matrix: Soil										
Laboratory Sample ID: 200947-5										
Date Received: 04/24/2002										
Time Received: 10:05										
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FACTOR	MDL	RL	DILUTION	UNITS	LATCH	DATE/TIME	TECH
1311	TCLP Extraction	Complete				1	Text	5134	04/29/02 0000	djh
8081A	TCLP Extraction, Solid	ND	U	0.000016	0.00025	1.00000	mg/L	5305	05/02/02 2254	djm
	Organochlorine Pesticide Analysis	ND	U	0.000027	0.00025	1.00000	mg/L	5306	05/06/02 1557	djm
	gamma-BHC (Lindane), TCLP	ND	U	0.000028	0.00025	1.00000	mg/L	5305	05/02/02 2254	djm
	Heptachlor, TCLP	ND	U	0.000042	0.00050	1.00000	mg/L	5305	05/02/02 2254	djm
	Heptachlor epoxide, TCLP	ND	U	0.00031	0.0025	1.00000	mg/L	5305	05/02/02 2254	djm
	Endrin, TCLP	ND	U	0.00057	0.012	1.00000	mg/L	5305	05/02/02 2254	djm
	Methoxychlor, TCLP	ND	U	0.0025	0.0025	1.00000	mg/L	5305	05/02/02 2254	djm
Toxaphene, TCLP										
	Chlordane, TCLP									

LABORATORY TEST RESULTS

Job Number: 200947

Date: 05/10/2002

CUSTOMER: FARMING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: JOHN BUKOSKI

Customer Sample ID: D-2 (3'-4')
 Date Sampled: 04/23/2002
 Time Sampled: 11:35
 Sample Matrix: Soil

Laboratory Sample ID: 200947-6
 Date Received: 04/24/2002
 Time Received: 10:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q VALUE	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	89.3		0.10	0.10	1	%	4944		04/26/02 0000	ksw
	% Moisture, Solid	10.7		0.10	0.10	1	%	4944		04/26/02 0000	ksw
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	3100	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	beta-BHC, Solid*	ND	U	3000	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	delta-BHC, Solid*	ND	U	1100	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	gamma-BHC (lindane), Solid*	ND	U	1700	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Heptachlor, Solid*	ND	U	1700	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Aldrin, Solid*	11000	J	4000	22000	10000.0	ug/Kg	5292		05/08/02 1618	dmm
	Heptachlor epoxide, Solid*	ND	U	1300	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Endosulfan I, Solid*	50000	U	1600	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Dieldrin, Solid*	ND	U	3600	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	4,4'-DDE, Solid*	ND	U	4800	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Endrin, Solid*	ND	U	9900	56000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Endosulfan II, Solid*	ND	U	1900	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	4,4'-DDD, Solid*	570000	U	4200	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Endosulfan sulfate, Solid*	ND	U	1900	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	4,4'-DDT, Solid*	13000	J	3400	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Methoxychlor, Solid*	ND	U	24000	190000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	alpha-Chlordane, Solid*	120000		1200	19000	10000.0	ug/Kg	5292		05/08/02 1618	dmm
	gamma-Chlordane, Solid*	140000		1000	19000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Toxaphene, Solid*	ND	U	54000	920000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Endrin aldehyde, Solid*	ND	U	3600	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm
	Endrin ketone, Solid*	ND	U	1600	37000	10000.0	ug/Kg	5289		05/08/02 1637	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS									
Job Number: 200947					Data: 05/10/2002				
CUSTOMER: FARMING, PHILLIPS AND MOLMAR									
PROJECT: HARDER TREE SERVICES									
ANALYST: John Sedoski									
Customer Sample ID: D-2 (8'-10')									
Date Sampled: 04/23/2002									
Time Sampled: 11:55									
Sample Matrix: Soil									
Laboratory Sample ID: 200947-7									
Date Received: 04/24/2002									
Time Received: 10:05									
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	U	NOI	RL	DILUTION	UNITS	BATCH	DATE/TIME
Solids	% Solids, Solid	88.6		0.10	0.10	1	%	4944	04/26/02 0000
	% Moisture, Solid	11.4		0.10	0.10	1	%	4944	04/26/02 0000
8081A	Organochlorine Pesticide Analysis								
	alpha-BHC, Solid*	ND	U	150	940	500.000	ug/Kg	5289	05/02/02 0905
	beta-BHC, Solid*	ND	U	150	940	500.000	ug/Kg	5289	05/02/02 0905
	delta-BHC, Solid*	ND	U	57	940	500.000	ug/Kg	5289	05/02/02 0905
	gamma-BHC (Lindane), Solid*	ND	U	84	940	500.000	ug/Kg	5289	05/02/02 0905
	Heptachlor, Solid*	1300		83	940	500.000	ug/Kg	5292	05/01/02 1658
	Aldrin, Solid*	ND	U	200	1100	500.000	ug/Kg	5289	05/02/02 0905
	Heptachlor epoxide, Solid*	ND	U	63	940	500.000	ug/Kg	5289	05/02/02 0905
	Endosulfan I, Solid*	3600		82	940	500.000	ug/Kg	5289	05/02/02 0905
	Dieldrin, Solid*	4600		180	1800	500.000	ug/Kg	5292	05/01/02 1658
	4,4'-DDE, Solid*	2500		240	1800	500.000	ug/Kg	5289	05/02/02 0905
	Endrin, Solid*	ND	U	490	2800	500.000	ug/Kg	5289	05/02/02 0905
	Endosulfan II, Solid*	ND	U	94	1800	500.000	ug/Kg	5289	05/02/02 0905
	4,4'-DDD, Solid*	15000		210	1800	500.000	ug/Kg	5292	05/01/02 1658
	Endosulfan sulfate, Solid*	520		96	1800	500.000	ug/Kg	5292	05/01/02 1658
	4,4'-DDT, Solid*	17000	J	170	1800	500.000	ug/Kg	5289	05/02/02 0905
	Methoxychlor, Solid*	ND	U	1200	940	500.000	ug/Kg	5289	05/02/02 0905
	alpha-Chlordane, Solid*	3800		61	940	500.000	ug/Kg	5289	05/02/02 0905
	gamma-Chlordane, Solid*	5500		51	940	500.000	ug/Kg	5289	05/02/02 0905
	Toxaphene, Solid*	ND	U	2700	44000	500.000	ug/Kg	5289	05/02/02 0905
	Endrin aldehyde, Solid*	ND	U	180	1800	500.000	ug/Kg	5289	05/02/02 0905
	Endrin ketone, Solid*	ND	U	80	1800	500.000	ug/Kg	5289	05/02/02 0905

* In Description = Dry Wgt.

Job Number: 200947		LABORATORY TEST RESULTS										Date: 05/10/2002	
CUSTOMER: FARMING, PHILLIPS AND MELMAR		PROJECT: HARDER TREE SERVICES										ANALYST: JOHN BUKOSKI	
Customer Sample ID: D-2 (14"-16")		Laboratory Sample ID: 200947-8											
Date Sampled: 04/23/2002		Date Received: 04/24/2002											
Time Sampled: 12:00		Time Received: 10:05											
Sample Matrix: Soil													
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q P/BAS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TRCH		
Solids	% Solids, Solid	84.1		0.10	0.10	1	%	4944		04/26/02 0000	ksw		
	% Moisture, Solid	15.9		0.10	0.10	1	%	4944		04/26/02 0000	ksw		
8081A	Organochlorine Pesticide Analysis												
	alpha-BHC, Solid*	ND	U	64	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	beta-BHC, Solid*	ND	U	63	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	delta-BHC, Solid*	ND	U	24	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	gamma-BHC (Lindane), Solid*	ND	U	35	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	Heptachlor, Solid*	87	J	35	400	200.000	ug/Kg	5292		05/01/02 1733	dmm		
	Aldrin, Solid*	ND	U	83	470	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	Heptachlor epoxide, Solid*	ND	U	27	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	Endosulfan I, Solid*	870	J	34	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	Dieldrin, Solid*	240	U	75	770	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	4,4'-DDE, Solid*	ND	U	100	770	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	Endrin, Solid*	ND	U	210	1200	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	Endosulfan II, Solid*	ND	U	40	770	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	4,4'-DDD, Solid*	5400	U	89	770	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	Endosulfan sulfate, Solid*	94	J	40	770	200.000	ug/Kg	5292		05/01/02 1733	dmm		
	4,4'-DDT, Solid*	210	J	72	400	200.000	ug/Kg	5292		05/01/02 1733	dmm		
	Methoxychlor, Solid*	ND	U	490	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
	alpha-Chlordane, Solid*	1900		26	400	200.000	ug/Kg	5289		05/02/02 0941	dmm		
gamma-Chlordane, Solid*	1900		21	400	200.000	ug/Kg	5289		05/02/02 0941	dmm			
Toxaphene, Solid*	ND	U	1100	19000	200.000	ug/Kg	5289		05/02/02 0941	dmm			
Endrin aldehyde, Solid*	ND	U	75	770	200.000	ug/Kg	5289		05/02/02 0941	dmm			
Endrin ketone, Solid*	ND	U	34	770	200.000	ug/Kg	5289		05/02/02 0941	dmm			

* In Description = Dry Wgt.

LABORATORY TEST RESULTS										
Job Number: 200947					Date: 05/10/2002					
CUSTOMER: FARMING, PHILLIPS AND MOLMAR										
PROJECT: HARDER TREE SERVICES										
ATTN: JOHN BUKOSKI										
Customer Sample ID: SS-4 (31-41) Date Sampled: 04/23/2002 Time Sampled: 12:40 Sample Matrix: Soil										
Laboratory Sample ID: 200947-9 Date Received: 04/24/2002 Time Received: 10:05										
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAG	MOI	ML	DILUTION	UNIT	BATCH	DATE/TIME	TRAC
Solids	% Solids, Solid	95.4		0.10	0.10	1	%	4944	04/26/02 0000	ksv
	% Moisture, Solid	4.6		0.10	0.10	1	%	4944	04/26/02 0000	ksv
8081A	Organochlorine Pesticide Analysis									
	alpha-BHC, Solid*	ND	U	57	360	200.000	ug/kg	5289	05/02/02 1017	dmm
	beta-BHC, Solid*	ND	U	56	360	200.000	ug/kg	5289	05/02/02 1017	dmm
	delta-BHC, Solid*	ND	U	22	360	200.000	ug/kg	5289	05/02/02 1017	dmm
	gamma-BHC (Lindane), Solid*	ND	U	32	360	200.000	ug/kg	5289	05/02/02 1017	dmm
	Heptachlor, Solid*	830		31	360	200.000	ug/kg	5292	05/01/02 1808	dmm
	Aldrin, Solid*	ND	U	74	420	200.000	ug/kg	5289	05/02/02 1017	dmm
	Heptachlor epoxide, Solid*	ND	U	24	360	200.000	ug/kg	5289	05/02/02 1017	dmm
	Endosulfan I, Solid*	ND	U	31	360	200.000	ug/kg	5289	05/02/02 1017	dmm
	Dieldrin, Solid*	3300		67	690	200.000	ug/kg	5289	05/02/02 1017	dmm
	4,4'-DDE, Solid*	ND	U	91	690	200.000	ug/kg	5289	05/02/02 1017	dmm
	Endrin, Solid*	200	U	190	1000	200.000	ug/kg	5292	05/01/02 1808	dmm
	Endosulfan II, Solid*	ND	U	36	690	200.000	ug/kg	5289	05/02/02 1017	dmm
	4,4'-DDD, Solid*	ND	U	80	690	200.000	ug/kg	5289	05/02/02 1017	dmm
	Endosulfan sulfate, Solid*	ND	U	36	690	200.000	ug/kg	5289	05/02/02 1017	dmm
	4,4'-DDT, Solid*	ND	U	65	690	200.000	ug/kg	5292	05/01/02 1808	dmm
	Methoxychlor, Solid*	ND	U	440	3600	200.000	ug/kg	5289	05/02/02 1017	dmm
	alpha-Chlordane, Solid*	2100		23	360	200.000	ug/kg	5289	05/02/02 1017	dmm
	gamma-Chlordane, Solid*	2000		19	360	200.000	ug/kg	5292	05/01/02 1808	dmm
	Toxaphene, Solid*	ND	U	1000	17000	200.000	ug/kg	5289	05/02/02 1017	dmm
	Endrin aldehyde, Solid*	ND	U	68	690	200.000	ug/kg	5289	05/02/02 1017	dmm
	Endrin ketone, Solid*	110	U	30	690	200.000	ug/kg	5292	05/01/02 1808	dmm

LABORATORY TEST RESULTS												
Job Number: 200947					Date: 05/10/2002							
CUSTOMER: FARMING, PHILLIPS AND MOLNAR					PROJECT: HANDED TREE SERVICES							
ATTN: John Bukoski												
Customer Sample ID: SS-28 (01-0.25')												
Date Sampled: 04/23/2002												
Time Sampled: 13:30												
Sample Matrix: Soil												
Laboratory Sample ID: 200947-10												
Date Received: 04/26/2002												
Time Received: 10:05												
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	U	FLAG	ML	UL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TRCH
Solids	% Solids, Solid	70.0			0.10	0.10	1	%	4944		04/26/02 0000	ksw
	% Moisture, Solid	30.0			0.10	0.10	1	%	4944		04/26/02 0000	ksw
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		39	240	100.000	ug/Kg	5289		05/02/02 1053	dmm
	beta-BHC, Solid*	ND	U		38	240	100.000	ug/Kg	5289		05/02/02 1053	dmm
	delta-BHC, Solid*	ND	U		15	240	100.000	ug/Kg	5289		05/02/02 1053	dmm
	gamma-BHC (Lindane), Solid*	ND	U		22	240	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Heptachlor, Solid*	ND	U		21	240	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Aldrin, Solid*	ND	U		51	280	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Heptachlor epoxide, Solid*	230	J		16	240	100.000	ug/Kg	5292		05/01/02 1843	dmm
	Endosulfan I, Solid*	170	J		46	470	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Dieldrin, Solid*	ND	U		62	470	100.000	ug/Kg	5289		05/02/02 1053	dmm
	4,4'-DDE, Solid*	ND	U		130	710	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Endrin, Solid*	ND	U		24	470	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Endosulfan II, Solid*	ND	U		54	470	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Endosulfan sulfate, Solid*	670	U		25	470	100.000	ug/Kg	5289		05/02/02 1053	dmm
	4,4'-DDT, Solid*	670	U		44	470	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Methoxychlor, Solid*	ND	U		300	2400	100.000	ug/Kg	5289		05/02/02 1053	dmm
	alpha-Chlordane, Solid*	2000			16	240	100.000	ug/Kg	5289		05/02/02 1053	dmm
	gamma-Chlordane, Solid*	1100			13	240	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Toxaphene, Solid*	ND	U		690	12000	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Endrin aldehyde, Solid*	ND	U		46	470	100.000	ug/Kg	5289		05/02/02 1053	dmm
	Endrin ketone, Solid*	ND	U		21	470	100.000	ug/Kg	5289		05/02/02 1053	dmm

* In Description = Dry Wgt.

Job Number: 200947

Date: 05/10/2002

LABORATORY TEST RESULTS

CUSTOMER: PARKING, PHILLIPS AND MOLAR

PROJECT: PARKER TREE SERVICES

ANALYST: John Bukoski

Customer Sample ID: SS-29 (0'-0.25')

Date Sampled: 04/23/2002

Time Sampled: 13:40

Sample Matrix: Soil

Laboratory Sample ID: 200947-11

Date Received: 04/26/2002

Time Received: 10:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	S. FLAG	MOI	ML	DILUTION	UNITS	BATCH	DT	DATE/TIME	ATCH
Solids	% Solids, Solid	86.9		0.10	0.10	1	%	4944		04/26/02 0000	KSW
	% Moisture, Solid	13.1		0.10	0.10	1	%	4944		04/26/02 0000	KSW
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	6.2	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	beta-BHC, Solid*	ND	U	56.1	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	delta-BHC, Solid*	ND	U	2.3	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	gamma-BHC (Lindane), Solid*	ND	U	3.4	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Heptachlor, Solid*	ND	U	3.4	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Aldrin, Solid*	ND	U	8.0	45	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Heptachlor epoxide, Solid*	93	U	2.6	38	20.0000	ug/Kg	5292		05/01/02 1919	dm
	Endosulfan I, Solid*	ND	U	3.3	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Dieldrin, Solid*	140		7.2	74	20.0000	ug/Kg	5289		05/02/02 1129	dm
	4,4'-DDE, Solid*	510		9.8	74	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Endrin, Solid*	ND	U	20	110	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Endosulfan II, Solid*	ND	U	3.8	74	20.0000	ug/Kg	5289		05/02/02 1129	dm
	4,4'-DDD, Solid*	ND	U	8.6	74	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Endosulfan sulfate, Solid*	43	J	3.9	74	20.0000	ug/Kg	5292		05/01/02 1919	dm
	4,4'-DDT, Solid*	680	U	7.0	74	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Methoxychlor, Solid*	ND	U	43	380	20.0000	ug/Kg	5289		05/02/02 1129	dm
	alpha-Chlordane, Solid*	340		2.5	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	gamma-Chlordane, Solid*	270		2.1	38	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Toxaphene, Solid*	ND	U	10	1900	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Endrin aldehyde, Solid*	65	J	7.3	74	20.0000	ug/Kg	5289		05/02/02 1129	dm
	Endrin ketone, Solid*	ND	U	3.2	74	20.0000	ug/Kg	5289		05/02/02 1129	dm

* In Description = Dry Wgt.

Date: 05/10/2002

John Butowski

PROJECT: BUILD FREE CASES

Customer Sample ID: SS-30 (01-0-25)
Date Sampled: 04/23/2002
Time Sampled: 14:10
Sample Matrix: Soil

2009-12-12 09:25/2002

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	U	MTP	KL	DILUTION	WTS	BATCH	IDT	DATE/TIME	TWCH
Solids	% Solids, Solid	73.9		0.10	0.10	1	X	4944		04/26/02 0000	ksw
	% Moisture, Solid	26.1		0.10	0.10	1	X	4944		04/26/02 0000	ksw
B0081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	35	220	100,000	ug/Kg	5289		05/03/02 0042	dmm
	beta-BHC, Solid*	ND	U	35	220	100,000	ug/Kg	5289		05/03/02 0042	dmm
	delta-BHC, Solid*	ND	U	16	220	100,000	ug/Kg	5289		05/03/02 0042	dmm
	gamma-BHC (Lindane), Solid*	ND	U	20	220	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Heptachlor, Solid*	ND	U	20	220	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Aldrin, Solid*	ND	U	47	260	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Heptachlor epoxide, Solid*	580	U	15	220	100,000	ug/Kg	5292		05/08/02 1653	dmm
	Endosulfan I, Solid*	740	U	19	220	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Dieldrin, Solid*	3200		57	440	100,000	ug/Kg	5292		05/08/02 1653	dmm
	4,4'-DDE, Solid*			42	440	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Endrin, Solid*	ND	U	120	660	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Endosulfan II, Solid*	760	U	22	440	100,000	ug/Kg	5289		05/03/02 0042	dmm
	4,4'-DDD, Solid*			50	440	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Endosulfan sulfate, Solid*	3800	U	23	440	100,000	ug/Kg	5289		05/03/02 0042	dmm
	4,4'-DDT, Solid*	ND	U	41	440	100,000	ug/Kg	5289		05/03/02 0042	dmm
	Methoxychlor, Solid*	2200		280	2200	100,000	ug/Kg	5289		05/03/02 0042	dmm
	alpha-chlordane, Solid*	1100		15	220	100,000	ug/Kg	5289		05/03/02 0042	dmm
gamma-chlordane, Solid*			12	220	100,000	ug/Kg	5292		05/08/02 1653	dmm	
Toxaphene, Solid*	ND	U	640	11000	100,000	ug/Kg	5289		05/03/02 0042	dmm	
Endrin aldehyde, Solid*	ND	U	43	440	100,000	ug/Kg	5289		05/03/02 0042	dmm	
Endrin ketone, Solid*	ND	U	19	440	100,000	ug/Kg	5289		05/03/02 0042	dmm	

*** In description = Dry Wgt.

LABORATORY TEST RESULTS										
Job Number: 200947					Date: 05/10/2002					
CUSTOMER: FARMING, PHILLIPS AND MOLMAR										
PROJECT: HARDER TREE SERVICES										
ATTN: John Bukoski										
Customer sample ID: SS-31 (01-0.25*)										
Date Sampled: 04/23/2002										
Time Sampled: 13:55										
Sample Matrix: Soil										
Laboratory Sample ID: 200947-13										
Date Received: 04/24/2002										
Time Received: 10:05										
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAG	MDL	RL	DILUTION	UNITS	BATCH	DATE/TIME	TECH
Solids	% Solids, Solid	73.9		0.10	0.10	1	%	4944	04/26/02 0000	ksn
	% Moisture, Solid	26.1		0.10	0.10	1	%	4944	04/26/02 0000	ksn
8081A	Organochlorine Pesticide Analysis									
	alpha-BHC, Solid*	ND		37	230	100.000	ug/Kg	5289	05/02/02 1241	dmm
	beta-BHC, Solid*	ND		36	230	100.000	ug/Kg	5289	05/02/02 1241	dmm
	delta-BHC, Solid*	ND		14	230	100.000	ug/Kg	5289	05/02/02 1241	dmm
	gamma-BHC(Lindane), Solid*	ND		21	230	100.000	ug/Kg	5289	05/02/02 1241	dmm
	Heptachlor, Solid*	ND		20	230	100.000	ug/Kg	5289	05/02/02 1241	dmm
	Aldrin, Solid*	ND		48	270	100.000	ug/Kg	5289	05/02/02 1241	dmm
	Heptachlor epoxide, Solid*	440		15	230	100.000	ug/Kg	5292	05/01/02 2029	dmm
	Endosulfan I, Solid*	ND		20	230	100.000	ug/Kg	5292	05/02/02 1241	dmm
	Endosulfan II, Solid*	1200		43	450	100.000	ug/Kg	5289	05/01/02 2029	dmm
	4,4'-DDE, Solid*	4400		59	450	100.000	ug/Kg	5289	05/02/02 1241	dmm
	Endrin, Solid*	ND		120	670	100.000	ug/Kg	5289	05/02/02 1241	dmm
	Endosulfan II, Solid*	ND		23	450	100.000	ug/Kg	5289	05/02/02 1241	dmm
	4,4'-DDP, Solid*	ND		51	450	100.000	ug/Kg	5289	05/02/02 1241	dmm
	Endosulfan sulfate, Solid*	180		23	450	100.000	ug/Kg	5292	05/01/02 2029	dmm
	4,4'-DDT, Solid*	7000		42	450	100.000	ug/Kg	5289	05/02/02 1241	dmm
	Methoxychlor, Solid*	ND		290	2300	100.000	ug/Kg	5289	05/02/02 1241	dmm
	alpha-Chlordane, Solid*	2500		15	230	100.000	ug/Kg	5289	05/02/02 1241	dmm
gamma-Chlordane, Solid*	1000		12	230	100.000	ug/Kg	5289	05/02/02 1241	dmm	
Toxaphene, Solid*	ND		650	11000	100.000	ug/Kg	5289	05/02/02 1241	dmm	
Endrin aldehyde, Solid*	ND		44	450	100.000	ug/Kg	5289	05/02/02 1241	dmm	
Endrin ketone, Solid*	ND		19	450	100.000	ug/Kg	5289	05/02/02 1241	dmm	

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 200947

Date: 05/10/2002

CUSTOMER: FARMING, PHILLIPS AND MCLEAR

PROJECT: HARDER TREE SERVICES

ATTN: John Bukoski

Customer Sample ID: SS-35 (0'-0.25')

Date Sampled: 04/23/2002

Time Sampled: 14:30

Sample Matrix: Soil

Laboratory Sample ID: 200947-14

Date Received: 04/26/2002

Time Received: 10:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULTS	Q	PLAOS	ML	SL	DILUTION	UNITS	BATCH	DF	DATE/TIME	TEST
Solids	% Solids, Solid	77.7			0.10	0.10	1	%	4944		04/26/02 0000	ksw
	% Moisture, Solid	22.3			0.10	0.10	1	%	4944		04/26/02 0000	ksu
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND			71	440	200.000	ug/Kg	5289		05/02/02 1317	dmn
	beta-BHC, Solid*	ND			69	440	200.000	ug/Kg	5289		05/02/02 1317	dmn
	delta-BHC, Solid*	ND			26	440	200.000	ug/Kg	5289		05/02/02 1317	dmn
	gamma-BHC (Lindane), Solid*	ND			39	440	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Heptachlor, Solid*	360			38	440	200.000	ug/Kg	5292		05/01/02 2325	dmn
	Aldrin, Solid*	ND			91	510	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Heptachlor epoxide, Solid*	690			29	440	200.000	ug/Kg	5292		05/01/02 2325	dmn
	Endosulfan I, Solid*	ND			38	440	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Dieldrin, Solid*	610			82	850	200.000	ug/Kg	5292		05/01/02 2325	dmn
	4,4'-DDE, Solid*	540			110	850	200.000	ug/Kg	5292		05/01/02 2325	dmn
	Endrin, Solid*	ND			230	1300	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Endosulfan II, Solid*	ND			44	850	200.000	ug/Kg	5289		05/02/02 1317	dmn
	4,4'-DDD, Solid*	ND			98	850	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Endosulfan sulfate, Solid*	ND			44	850	200.000	ug/Kg	5289		05/02/02 1317	dmn
	4,4'-DDT, Solid*	3200			79	850	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Methoxychlor, Solid*	950			540	440	200.000	ug/Kg	5289		05/02/02 1317	dmn
	alpha-Chlordane, Solid*	1100			28	440	200.000	ug/Kg	5289		05/02/02 1317	dmn
	gamma-Chlordane, Solid*	ND			23	440	200.000	ug/Kg	5292		05/01/02 2325	dmn
	Toxaphene, Solid*	ND			1200	21000	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Endrin aldehyde, Solid*	ND			83	850	200.000	ug/Kg	5289		05/02/02 1317	dmn
	Endrin ketone, Solid*	ND			37	850	200.000	ug/Kg	5289		05/02/02 1317	dmn

* In Description = Dry Wgt.

LABORATORY TEST RESULTS										
Job Number: 200947					Date: 05/10/2002					
CUSTOMER: FARMING, PHILLIPS AND MOLNAR										
ATTN: John Butoski										
Customer Sample ID: SS-36 (01-0.25')										
Date Sampled: 04/23/2002										
Time Sampled: 14:40										
Sample Matrix: Soil										
Laboratory Sample ID: 200947-15										
Date Received: 04/24/2002										
Time Received: 10:05										
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAG	MDL	ML	DILUTION	UNIT	BATCH	DATE/TIME	TECH
Solids	% Solids, Solid	84.5		0.10	0.10	1	%	4944	04/26/02 0000	ksw
	% Moisture, Solid	15.5		0.10	0.10	1	%	4944	04/26/02 0000	ksw
8081A	Organochlorine Pesticide Analysis									
	alpha-BHC, Solid*	ND	U	32	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	beta-BHC, Solid*	ND	U	32	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	delta-BHC, Solid*	ND	U	12	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	gamma-BHC (Lindane), Solid*	ND	U	18	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Heptachlor, Solid*	290	U	18	200	100.000	ug/Kg	5292	05/02/02 0001	dmm
	Aldrin, Solid*	ND	U	42	230	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Heptachlor epoxide, Solid*	ND	U	13	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Endosulfan I, Solid*	ND	U	17	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Dieldrin, Solid*	620		38	390	100.000	ug/Kg	5289	05/02/02 1353	dmm
	4,4'-DDE, Solid*	690		51	390	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Endrin, Solid*	210		100	590	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Endosulfan II, Solid*	750	U	20	390	100.000	ug/Kg	5289	05/02/02 1353	dmm
	4,4'-DDD, Solid*	ND	U	45	390	100.000	ug/Kg	5292	05/02/02 0001	dmm
	Endosulfan sulfate, Solid*	4100	U	20	390	100.000	ug/Kg	5289	05/02/02 1353	dmm
	4,4'-DDT, Solid*	ND	U	36	2000	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Methoxychlor, Solid*	1100		250	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	alpha-Chlordane, Solid*	910		13	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	gamma-Chlordane, Solid*	ND	U	11	200	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Toxaphene, Solid*	ND	U	570	9700	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Endrin aldehyde, Solid*	ND	U	38	390	100.000	ug/Kg	5289	05/02/02 1353	dmm
	Endrin ketone, Solid*	ND	U	17	390	100.000	ug/Kg	5289	05/02/02 1353	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS											
Job Number: 200947				Date: 05/10/2002							
CUSTOMER: FARMING, PHILLIPS AND MCLAR											
PROJECT: HARDER TREE SERVICES											
ATTN: JOHN BUKOSKI											
Customer Sample ID: SS-37 (01-0.25')											
Laboratory Sample ID: 200947-16											
Data Sampled: 04/23/2002											
Data Received: 04/24/2002											
Time Sampled: 14:50											
Time Received: 10:05											
Sample Matrix: Soil											
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FACTOR	ENG	RU	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	77.0		0.10	0.10	1	%	4944		04/26/02 0000	ksw
	% Moisture, Solid	23.0		0.10	0.10	1	%	4944		04/26/02 0000	ksw
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	3.5	22	10.0000	ug/Kg	5289		05/02/02 1429	chm
	beta-BHC, Solid*	ND	U	3.5	22	10.0000	ug/Kg	5289		05/02/02 1429	chm
	delta-BHC, Solid*	ND	U	1.3	22	10.0000	ug/Kg	5289		05/02/02 1429	chm
	gamma-BHC (Lindane), Solid*	ND	U	2.0	22	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Heptachlor, Solid*	8.0	J	1.9	22	10.0000	ug/Kg	5292		05/02/02 0036	chm
	Aldrin, Solid*	ND	U	4.6	26	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Heptachlor epoxide, Solid*	38	U	1.5	22	10.0000	ug/Kg	5292		05/02/02 0036	chm
	Endosulfan I, Solid*	ND	U	1.9	22	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Dieldrin, Solid*	78		4.1	43	10.0000	ug/Kg	5289		05/02/02 1429	chm
	4,4'-DDE, Solid*	190		5.6	43	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Endrin, Solid*	ND	U	11	64	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Endosulfan II, Solid*	ND	U	2.2	43	10.0000	ug/Kg	5289		05/02/02 1429	chm
	4,4'-DDO, Solid*	ND	U	4.9	43	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Endosulfan sulfate, Solid*	ND	U	2.2	43	10.0000	ug/Kg	5289		05/02/02 1429	chm
	4,4'-DDT, Solid*	640		4.0	43	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Methoxychlor, Solid*	ND	U	27	220	10.0000	ug/Kg	5289		05/02/02 1429	chm
	alpha-Chlordane, Solid*	160		1.4	22	10.0000	ug/Kg	5289		05/02/02 1429	chm
	gamma-Chlordane, Solid*	89		1.2	22	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Toxaphene, Solid*	ND	U	62	1100	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Endrin aldehyde, Solid*	ND	U	4.2	43	10.0000	ug/Kg	5289		05/02/02 1429	chm
	Endrin ketone, Solid*	ND	U	1.9	43	10.0000	ug/Kg	5289		05/02/02 1429	chm

* In Description = Dry Wgt.

Job Number: 200947		LABORATORY TEST RESULTS		Date: 05/10/2002						
CUSTOMER: FARMING, PHILLIPS AND MOLNAR		PROJECT: HARDER TREE SERVICES		ATTN: John Bukoski						
Customer Sample ID: SS-8 (3'-4')		Laboratory Sample ID: 200947-17								
Date Sampled: 04/23/2002		Date Received: 04/24/2002								
Time Sampled: 15:00		Time Received: 10:05								
Sample Matrix: Soil										
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q PLANS	ML	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	83.8		0.10	1	%	4944		04/26/02 0000	KSW
	% Moisture, Solid	16.2		0.10	1	%	4944		04/26/02 0000	KSW
8081A	Organochlorine Pesticide Analysis									
	alpha-BHC, Solid*	ND		2.0	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	beta-BHC, Solid*	ND		2.0	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	delta-BHC, Solid*	ND		2.0	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	gamma-BHC (Lindane), Solid*	ND		2.0	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Heptachlor, Solid*	ND		2.4	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Aldrin, Solid*	0.57		2.0	1.00000	ug/Kg	5292		05/02/02 0111	dmm
	Heptachlor epoxide, Solid*			2.0	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Endosulfan I, Solid*	1.4		3.9	1.00000	ug/Kg	5292		05/02/02 0111	dmm
	Dieldrin, Solid*	11		3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	4,4'-DDE, Solid*			5.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Endrin, Solid*			3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Endosulfan II, Solid*			3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	4,4'-DDD, Solid*	5.7		3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Endosulfan sulfate, Solid*			3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	4,4'-DDT, Solid*	14		3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Methoxychlor, Solid*			20	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	alpha-Chlordane, Solid*	3.5		2.0	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	gamma-Chlordane, Solid*	2.3		2.0	1.00000	ug/Kg	5292		05/02/02 0111	dmm
	Toxaphene, Solid*			99	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Endrin aldehyde, Solid*			3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm
	Endrin ketone, Solid*			3.9	1.00000	ug/Kg	5289		05/02/02 1505	dmm

Job Number, 200947			LABORATORY TEST RESULTS			Date: 05/10/2002						
Customer: FANNING, PHILLIPS AND HOLMAR			PROJECT: HARDER TREE SERVICES			ANALYST: John Bukoski						
Customer Sample ID: SS-11 (01-0.25')			Laboratory Sample ID: 200947-18									
Date Sampled: 04/23/2002			Date Received: 04/24/2002									
Time Sampled: 15:20			Time Received: 10:05									
Sample Matrix: Soil												
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	U	PL	ML	DL	DURATION	UNITS	BATCH	DT	DATE/TIME	TRCH
1311	TCLP Extraction	Complete					1	Text	5134		04/29/02 0000	chk
8081A	TCLP Extraction, Solid											
	Organochlorine Pesticide Analysis											
	gamma-BHC (Lindane), TCLP	ND	U	B	0.000082	0.0012	5.00000	mg/L	5305		05/07/02 0053	dm
	Heptachlor, TCLP	0.011			0.00014	0.0012	5.00000	mg/L	5306		05/06/02 1632	dm
	Heptachlor epoxide, TCLP	ND	U		0.00014	0.0012	5.00000	mg/L	5305		05/07/02 0053	dm
	Endrin, TCLP	ND	U		0.00021	0.0025	5.00000	mg/L	5305		05/07/02 0053	dm
	Methoxychlor, TCLP	ND	U		0.0016	0.012	5.00000	mg/L	5305		05/07/02 0053	dm
	Toxaphene, TCLP	ND	U		0.0028	0.062	5.00000	mg/L	5305		05/07/02 0053	dm
	Chlordane, TCLP	0.17		B	0.012	0.012	5.00000	mg/L	5305		05/07/02 0053	dm

Job Number: 200947

Date: 05/10/2002

LABORATORY TEST RESULTS

CUSTOMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ANALYST: JOHN BUKOSKI

Customer Sample ID: SS-33 (0'-0.25')

Date Sampled: 04/23/2002

Time Sampled: 15:40

Sample Matrix: Soil

Laboratory Sample ID: 200947-19

Date Received: 06/26/2002

Time Received: 10:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q VALUE	MDL	ML	DILUTION	UNITS	ANALYST	DT	DATE/TIME	TRCH
Solids	% Solids, Solid	97.9		0.10	0.10	1	%	4944		04/26/02 0000	KSN
	% Moisture, Solid	2.1		0.10	0.10	1	%	4944		04/26/02 0000	KSN
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND		140	870	500,000	ug/kg	5289		05/08/02 1749	chm
	beta-BHC, Solid*	ND		140	870	500,000	ug/kg	5289		05/08/02 1749	chm
	delta-BHC, Solid*	ND		52	870	500,000	ug/kg	5289		05/08/02 1749	chm
	gamma-BHC (Lindane), Solid*	ND		77	870	500,000	ug/kg	5289		05/08/02 1749	chm
	Heptachlor, Solid*	360		76	870	500,000	ug/kg	5292		05/08/02 1728	chm
	Aldrin, Solid*	ND		180	1000	500,000	ug/kg	5289		05/08/02 1749	chm
	Heptachlor epoxide, Solid*	ND		58	870	500,000	ug/kg	5289		05/08/02 1749	chm
	Endosulfan I, Solid*	ND		75	870	500,000	ug/kg	5289		05/08/02 1749	chm
	Dieldrin, Solid*	1200		160	1700	500,000	ug/kg	5292		05/08/02 1728	chm
	4,4'-DDE, Solid*	ND		220	1700	500,000	ug/kg	5289		05/08/02 1749	chm
	Endrin, Solid*	ND		450	2500	500,000	ug/kg	5289		05/08/02 1749	chm
	Endosulfan II, Solid*	ND		87	1700	500,000	ug/kg	5289		05/08/02 1749	chm
	4,4'-DDT, Solid*	1500		190	1700	500,000	ug/kg	5289		05/08/02 1749	chm
	Endosulfan sulfate, Solid*	ND		88	1700	500,000	ug/kg	5289		05/08/02 1749	chm
	4,4'-DDT, Solid*	1800		160	1700	500,000	ug/kg	5289		05/08/02 1749	chm
	Methoxychlor, Solid*	6800		1100	8700	500,000	ug/kg	5289		05/08/02 1749	chm
	alpha-Chlordane, Solid*	4800		56	870	500,000	ug/kg	5289		05/08/02 1749	chm
	gamma-Chlordane, Solid*	ND		46	870	500,000	ug/kg	5292		05/08/02 1728	chm
	Toxaphene, Solid*	ND		2500	42000	500,000	ug/kg	5289		05/08/02 1749	chm
	Endrin aldehyde, Solid*	ND		160	1700	500,000	ug/kg	5289		05/08/02 1749	chm
	Endrin ketone, Solid*	ND		73	1700	500,000	ug/kg	5289		05/08/02 1749	chm

* In Description = Dry Wgt.

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LABORATORY TEST RESULTS									
Job Number: 200947					Date: 05/10/2002				
Customer: FARMING, PHILLIPS AND MCNAR									
Project: WATER TREAT SERVICES									
Address: JOHN BARON ST									
Customer Sample ID: FB-1									
Date Sampled: 04/23/2002									
Time Sampled: 16:45									
Sample Matrix: Water									
Laboratory Sample ID: 200947-20									
Date Received: 04/24/2002									
Time Received: 10:05									
TEST METHOD	PARAMETER/TEST DESCRIPTION	SCREENING RESULT	U	PPM	ML	DILUTION	UNITS	BATCH	DATE/TIME
3081A	Organochlorine Pesticide Analysis								
	alpha-BHC	ND	U	0.0073	0.054	1.00000	ug/L	5284	05/03/02 0005
	beta-BHC	ND	U	0.0077	0.054	1.00000	ug/L	5284	05/03/02 0005
	delta-BHC	ND	U	0.0049	0.054	1.00000	ug/L	5284	05/03/02 0005
	gamma-BHC (Lindane)	ND	U	0.0035	0.054	1.00000	ug/L	5284	05/03/02 0005
	Heptachlor	ND	U	0.0058	0.054	1.00000	ug/L	5284	05/03/02 0005
	Aldrin	ND	U	0.0044	0.054	1.00000	ug/L	5284	05/03/02 0005
	Heptachlor epoxide	ND	U	0.0060	0.054	1.00000	ug/L	5284	05/03/02 0005
	Endosulfan I	ND	U	0.0044	0.054	1.00000	ug/L	5284	05/03/02 0005
	Dieldrin	ND	U	0.0085	0.11	1.00000	ug/L	5284	05/03/02 0005
	4,4'-DDE	ND	U	0.013	0.11	1.00000	ug/L	5284	05/03/02 0005
	Endrin	ND	U	0.0091	0.11	1.00000	ug/L	5284	05/03/02 0005
	Endosulfan II	ND	U	0.012	0.11	1.00000	ug/L	5284	05/03/02 0005
	4,4'-DDT	ND	U	0.028	0.16	1.00000	ug/L	5284	05/03/02 0005
	Endosulfan sulfate	ND	U	0.013	0.11	1.00000	ug/L	5284	05/03/02 0005
	4,4'-DDT	ND	U	0.014	0.11	1.00000	ug/L	5284	05/03/02 0005
	Methoxychlor	ND	U	0.067	0.54	1.00000	ug/L	5284	05/03/02 0005
	alpha-Chlordane	0.043	J	0.0061	0.054	1.00000	ug/L	5284	05/03/02 0005
	gamma-Chlordane	0.025	J	0.0065	0.054	1.00000	ug/L	5284	05/03/02 0005
	Toxaphene		U	0.12	2.7	1.00000	ug/L	5284	05/03/02 0005
	Endrin aldehyde	ND	U	0.072	0.11	1.00000	ug/L	5284	05/03/02 0005
	Endrin ketone	ND	U	0.073	0.11	1.00000	ug/L	5284	05/03/02 0005

* In Description = Dry Wgt.

Job Number: 200947

LABORATORY CHRONICLE

Date: 05/10/2002

CUSTOMER: FARMING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Sukacki

Lab ID: 200947-1 Client ID: SS-1 (0'-2')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
3510C	Extraction Sep. Funnel (Chlor.Pest.)	1	4971			04/26/2002	0000
8081A	Organochlorine Pesticide Analysis	1	5305	4971		05/02/2002	2141 1.00000
8081A	Organochlorine Pesticide Confirmation	1	5306	4971		05/06/2002	1437 1.00000
1311	TCLP Extraction	1	5134			04/29/2002	0000
Lab ID: 200947-2 Client ID: GP-4 (0'-2')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
3510C	Extraction Sep. Funnel (Chlor.Pest.)	1	4971			04/26/2002	0000
8081A	Organochlorine Pesticide Analysis	1	5305	4971		05/08/2002	1824 5.00000
8081A	Organochlorine Pesticide Confirmation	1	5306	4971		05/07/2002	1039 5.00000
1311	TCLP Extraction	1	5134			04/29/2002	0000
Lab ID: 200947-3 Client ID: GP-4 (18'-20')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002	0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002	0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002	1512 20.0000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002	0717 20.0000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002	1512 20.0000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002	0717 20.0000
Lab ID: 200947-4 Client ID: GP-4 (28'-30')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002	0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002	0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002	1547 10.0000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002	0753 10.0000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002	1547 10.0000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002	0753 10.0000
Lab ID: 200947-5 Client ID: D-2 (0'-2')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
3510C	Extraction Sep. Funnel (Chlor.Pest.)	1	4971			04/26/2002	0000
8081A	Organochlorine Pesticide Analysis	1	5305	4971		05/02/2002	2254 1.00000
8081A	Organochlorine Pesticide Analysis	1	5306	4971		05/06/2002	1557 1.00000
8081A	Organochlorine Pesticide Confirmation	1	5305	4971		05/02/2002	2254 1.00000
8081A	Organochlorine Pesticide Confirmation	1	5306	4971		05/06/2002	1557 1.00000
1311	TCLP Extraction	1	5134			04/29/2002	0000
Lab ID: 200947-6 Client ID: D-2 (3'-4')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002	0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002	0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/08/2002	1618 10000.0
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/08/2002	1637 10000.0
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/08/2002	1618 10000.0
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/08/2002	1637 10000.0
Lab ID: 200947-7 Client ID: D-2 (8'-10')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002	0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002	0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002	1658 500.000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002	0905 500.000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002	1658 500.000

LABORATORY CHRONICLE

Job Number: 200947

Date: 05/10/2002

CUSTOMER: FANNING, PHILLIPS AND MORGAN

PROJECT: HARDER TREE SERVICES

ATTN: John Bukowski

Lab ID: 200947-7 Client ID: D-2 (8'-10')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002 0905	500.000
Lab ID: 200947-8 Client ID: D-2 (14'-16')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002 0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002 1733	200.000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002 0941	200.000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002 1733	200.000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002 0941	200.000
Lab ID: 200947-9 Client ID: SS-4 (3'-4')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002 0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002 1808	200.000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002 1017	200.000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002 1808	200.000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002 1017	200.000
Lab ID: 200947-10 Client ID: SS-28 (0'-0.25')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002 0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002 1843	100.000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002 1053	100.000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002 1843	100.000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002 1053	100.000
Lab ID: 200947-11 Client ID: SS-29 (0'-0.25')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002 0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002 1919	20.0000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002 1129	20.0000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002 1919	20.0000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002 1129	20.0000
Lab ID: 200947-12 Client ID: SS-30 (0'-0.25')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002 0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/03/2002 0042	100.000
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/08/2002 1653	100.000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/03/2002 0042	100.000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/08/2002 1653	100.000
Lab ID: 200947-13 Client ID: SS-31 (0'-0.25')		Date Recvd: 04/24/2002		Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
Solids		1	4944			04/26/2002 0000	
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947			04/25/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5292	4947		05/01/2002 2029	100.000
8081A	Organochlorine Pesticide Analysis	1	5289	4947		05/02/2002 1241	100.000
8081A	Organochlorine Pesticide Confirmation	1	5292	4947		05/01/2002 2029	100.000
8081A	Organochlorine Pesticide Confirmation	1	5289	4947		05/02/2002 1241	100.000

Job Number: 200947

LABORATORY CHRONICLE

Date: 05/10/2002

CUSTOMER: FARMING, TRILLIPS AND MOLNAR

PROJECT: HARDEN TREE SERVICES

ATTN: John Buzonki

Lab ID: 200947-14 Client ID: SS-35 (0'-0.25')		Date Recvd: 04/24/2002 Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT # (S)	DATE/TIME ANALYZED
Solids		1	4944		04/26/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947		04/25/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947	05/01/2002 2325
8081A	Organochlorine Pesticide Analysis	1	5289	4947	05/02/2002 1317
8081A	Organochlorine Pesticide Confirmation	1	5292	4947	05/01/2002 2325
8081A	Organochlorine Pesticide Confirmation	1	5289	4947	05/02/2002 1317
Lab ID: 200947-15 Client ID: SS-36 (0'-0.25')		Date Recvd: 04/24/2002 Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT # (S)	DATE/TIME ANALYZED
Solids		1	4944		04/26/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947		04/25/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947	05/02/2002 0001
8081A	Organochlorine Pesticide Analysis	1	5289	4947	05/02/2002 1353
8081A	Organochlorine Pesticide Confirmation	1	5292	4947	05/02/2002 0001
8081A	Organochlorine Pesticide Confirmation	1	5289	4947	05/02/2002 1353
Lab ID: 200947-16 Client ID: SS-37 (0'-0.25')		Date Recvd: 04/24/2002 Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT # (S)	DATE/TIME ANALYZED
Solids		1	4944		04/26/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947		04/25/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947	05/02/2002 0036
8081A	Organochlorine Pesticide Analysis	1	5289	4947	05/02/2002 1429
8081A	Organochlorine Pesticide Confirmation	1	5292	4947	05/02/2002 0036
8081A	Organochlorine Pesticide Confirmation	1	5289	4947	05/02/2002 1429
Lab ID: 200947-17 Client ID: SS-8 (3'-4')		Date Recvd: 04/24/2002 Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT # (S)	DATE/TIME ANALYZED
Solids		1	4944		04/26/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947		04/25/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947	05/02/2002 0111
8081A	Organochlorine Pesticide Analysis	1	5289	4947	05/02/2002 1505
8081A	Organochlorine Pesticide Confirmation	1	5292	4947	05/02/2002 0111
8081A	Organochlorine Pesticide Confirmation	1	5289	4947	05/02/2002 1505
Lab ID: 200947-18 Client ID: SS-31 (0'-0.25')		Date Recvd: 04/24/2002 Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT # (S)	DATE/TIME ANALYZED
3510C	Extraction Sep. Funnel (Chlor.Pest.)	1	4971		04/26/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5306	4971	05/06/2002 1632
8081A	Organochlorine Pesticide Analysis	1	5305	4971	05/07/2002 0053
8081A	Organochlorine Pesticide Confirmation	1	5306	4971	05/06/2002 1632
8081A	Organochlorine Pesticide Confirmation	1	5305	4971	05/07/2002 0053
1311	TCLP Extraction	1	5134		04/29/2002 0000
Lab ID: 200947-19 Client ID: SS-33 (0'-0.25')		Date Recvd: 04/24/2002 Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT # (S)	DATE/TIME ANALYZED
Solids		1	4944		04/26/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4947		04/25/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5292	4947	05/08/2002 1728
8081A	Organochlorine Pesticide Analysis	1	5289	4947	05/08/2002 1749
8081A	Organochlorine Pesticide Confirmation	1	5292	4947	05/08/2002 1728
8081A	Organochlorine Pesticide Confirmation	1	5289	4947	05/08/2002 1749
Lab ID: 200947-20 Client ID: FB-1		Date Recvd: 04/24/2002 Sample Date: 04/23/2002			
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT # (S)	DATE/TIME ANALYZED
3510C	Extraction Sep. Funnel (Chlor.Pest.)	1	4971		04/26/2002 0000

LABORATORY CHRONICLE

Job Number: 200947

Date: 05/10/2002

CLIENT: FARMING, PHILLIPS AND MOLMAN

PROJECT: HARDER TREE SERVICES

ATTN: John Sukoski

Lab ID: 200947-20 Client ID: FB-1

Date Recvd: 04/24/2002

Sample Date: 04/23/2002

METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
8081A	Organochlorine Pesticide Analysis	1	5284	4971		05/03/2002 0005	1.00000
8081A	Organochlorine Pesticide Confirmation	1	5286	4971		05/06/2002 1707	1.00000

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 05/10/2002

REPORT COMMENTS

- 1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
- 2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
- 3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
- 4) The test results for the noted analytical method(s) meet the requirements of NELAP Lab Cert. ID# 10604
- 5) According to 40CFR Part 136.3, pH, Chloride Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

- U Analyte was not detected at or above the reporting limit.
- < Not detected at or above the reporting limit.
- J Result is less than the RL, but greater than or equal to the method detection limit.
- B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
- S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

- ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, MRL: Instrument related QC exceed the upper or lower control limits.
- LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
- * MSA correlation coefficient is less than 0.995.
- 4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
- E SD: Serial dilution exceeds the control limits.
- H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
- N MS, MSD: Spike recovery exceeds the upper or lower control limits.
- W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q-Column)

- U Analyte was not detected at or above the reporting limit.
- ND Compound not detected.
- J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
- Q Result was qualitatively confirmed, but not quantified.
- C Pesticide identification was confirmed by GC/MS.
- Y The chromatographic response resembles a typical fuel pattern.
- Z The chromatographic response does not resemble a typical fuel pattern.
- E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flag Column)

- MB, EB, MLE: Batch QC is greater than reporting limit.
- * LCS, LCD, CCV, MS, MSD, Surrogate, RS: Batch QC exceeds the upper or lower control limits.
- A Concentration exceeds the instrument calibration range or below the reporting limit.
- B Compound was found in the blank and sample.
- D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
- H Alternate peak selection upon analytical review.
- I Indicates the presence of an interference, recovery is not calculated.
- M Manually integrated compound.
- P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 05/10/2002

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DL Fac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.



C. JB
w/encl.

ANALYTICAL REPORT

JOB NUMBER: 200955

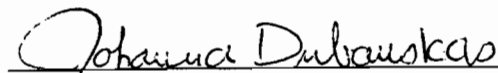
Prepared For:

FANNING, PHILLIPS AND MOLNAR
909 Marconi Avenue
Ronkonkoma, NY 11779

Project: HARDER TREE SERVICES

Attention: John Bukoski

Date: 05/14/2002


Signature

5.14.02
Date

Name: Johanna L. Dubauskas

Title: Project Manager

E-Mail: jdubauskas@stl-inc.com

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (8) Pages

STL Report : 200955
FANNING, PHILLIPS AND MOLNAR

Case Narrative

Sample Receipt – All samples were received in good condition and at the proper temperature.

Organic Extraction - Samples were extracted according to method 3550B. No problems were encountered.

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogates were diluted out of samples SS-33D, SS-32 (0'-0.25'), and SS-11 (3'-4').

Results for Endosulfan I and alpha-Chlordane were reported from the DB-1701 column in 4950-2LCS due to coelution on the RTX-35 column.

Results for Endosulfan Sulfate and Methoxychlor were reported from the RTX-35 column in 4950-2LCS due to coelution on the DB-1701 column.

Spike percent recovery for Methoxychlor was above QC limits in 4950-2LCS. This compound was not present in any of the client's samples.

Results for Endrin were reported from the DB-1701 column in 4950-2LCS. This compound was not present in any of the client's samples.

The % difference for 4,4'-DDT was just above QC criteria in the INDA3 standard analyzed at 02:22 on 5/2/2002 on the RTX-35 column. This was the end bracketing standard for sample SS-32 (0'-0.25'). This compound was reported from the DB-1701 column.

The % difference for Decachlorobiphenyl was below QC criteria in the INDA3 standard analyzed at 21:12 on 5/1/02 on the RTX-35 column. This was the end bracketing standard for samples 4950-1MB, 4950-2LCS and SS-32 (0'-0.25').

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – SS-33D

Compound – alpha-chlordane

$$\frac{(79745455 \text{ area})(10000 \text{ ul})(200)}{(1041076706 \text{ area/ng})(30.4 \text{ g})(1 \text{ ul})(0.975)} = 5200 \text{ ug/Kg}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

STL-Connecticut Certification Summary (as of February 2001)

Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste NELAC	10602
North Carolina	Division of Environmental Management	Wastewater	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Utah	Department of Health	RCRA	2032614458
Washington	Department of Ecology	Wastewater/Hazardous Waste	C231
Wisconsin	Department of Natural Resources	Wastewater	998355710

Date: 05/14/2002

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Project Number.....: 20000431
Customer Project ID....: HARDER TREE SERVICES
Project Description....: Harder Tree Services
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Page 1

LABORATORY TEST RESULTS

Job Number: 200955

Date: 05/14/2002

CUSTOMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Bukoski

Customer Sample ID: SS-33D
Date Sampled.....: 04/23/2002
Time Sampled.....: 15:45
Sample Matrix.....: Soil

Laboratory Sample ID: 200955-1
Date Received.....: 04/24/2002
Time Received.....: 10:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	97.5		0.10	0.10	1	%	5009		04/30/02 0000	ksw
	% Moisture, Solid	2.5		0.10	0.10	1	%	5009		04/30/02 0000	ksw
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	56	340	200.000	ug/Kg	5420		05/06/02 1928	dmm
	beta-BHC, Solid*	ND	U	54	340	200.000	ug/Kg	5420		05/06/02 1928	dmm
	delta-BHC, Solid*	ND	U	21	340	200.000	ug/Kg	5420		05/06/02 1928	dmm
	gamma-BHC (Lindane), Solid*	ND	U	31	340	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Heptachlor, Solid*	230	J	30	340	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Aldrin, Solid*	ND	U	72	400	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Heptachlor epoxide, Solid*	ND	U	23	340	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Endosulfan I, Solid*	ND	U	30	340	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Dieldrin, Solid*	1100	U	65	670	200.000	ug/Kg	5421		05/08/02 1546	dmm
	4,4'-DDE, Solid*	ND	U	88	670	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Endrin, Solid*	ND	U	180	1000	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Endosulfan II, Solid*	ND	U	34	670	200.000	ug/Kg	5420		05/06/02 1928	dmm
	4,4'-DDD, Solid*	ND	U	77	670	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Endosulfan sulfate, Solid*	ND	U	35	670	200.000	ug/Kg	5420		05/06/02 1928	dmm
	4,4'-DDT, Solid*	1200	U	63	670	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Methoxychlor, Solid*	ND	U	430	3400	200.000	ug/Kg	5420		05/06/02 1928	dmm
	alpha-Chlordane, Solid*	5200		22	340	200.000	ug/Kg	5421		05/08/02 1546	dmm
	gamma-Chlordane, Solid*	3900		18	340	200.000	ug/Kg	5421		05/08/02 1546	dmm
	Toxaphene, Solid*	ND	U	980	17000	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Endrin aldehyde, Solid*	ND	U	65	670	200.000	ug/Kg	5420		05/06/02 1928	dmm
	Endrin ketone, Solid*	ND	U	29	670	200.000	ug/Kg	5420		05/06/02 1928	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS												
Job Number: 200955						Date:05/14/2002						
CUSTOMER: FANNING, PHILLIPS AND MOLNAR						ATTN: John Bukoski						
PROJECT: HARDER TREE SERVICES												
Customer Sample ID: SS-32 (01-0.25')						Laboratory Sample ID: 200955-2						
Date Sampled.....: 04/23/2002						Date Received.....: 04/24/2002						
Time Sampled.....: 16:10						Time Received.....: 10:05						
Sample Matrix.....: Soil												
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	83.0			0.10	0.10	1	%	5009		04/30/02 0000	ksw
	% Moisture, Solid	17.0			0.10	0.10	1	%	5009		04/30/02 0000	ksw
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC, Solid*	ND	U		160	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	beta-BHC, Solid*	ND	U		160	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	delta-BHC, Solid*	ND	U		61	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	gamma-BHC (Lindane), Solid*	ND	U		90	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Heptachlor, Solid*	370	J		89	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Aldrin, Solid*	ND	U		210	1200	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Heptachlor epoxide, Solid*	ND	U		68	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Endosulfan I, Solid*	ND	U		87	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Dieldrin, Solid*	1300	J		190	2000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	4,4'-DDE, Solid*	ND	U		260	2000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Endrin, Solid*	ND	U		530	3000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Endosulfan II, Solid*	ND	U		100	2000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	4,4'-DDD, Solid*	ND	U		230	2000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Endosulfan sulfate, Solid*	ND	U		180	2000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	4,4'-DDT, Solid*	1400	J		1300	10000	500.000	ug/Kg	5421		05/01/02 1506	dmm
	Methoxychlor, Solid*	ND	U		65	1000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	alpha-Chlordane, Solid*	7000			54	1000	500.000	ug/Kg	5421		05/01/02 1506	dmm
	gamma-Chlordane, Solid*	5200			2900	49000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Toxaphene, Solid*	ND	U		190	2000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Endrin aldehyde, Solid*	ND	U		85	2000	500.000	ug/Kg	5420		05/01/02 2325	dmm
	Endrin ketone, Solid*	ND	U									05/01/02 2325

LABORATORY TEST RESULTS

Job Number: 200955

Date: 05/14/2002

CUSTOMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Bukoski

Customer Sample ID: SS-10 (3'-4')
Date Sampled.....: 04/23/2002
Time Sampled.....: 16:30
Sample Matrix.....: Soil

Laboratory Sample ID: 200955-3
Date Received.....: 04/24/2002
Time Received.....: 10:05

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	95.8		0.10	0.10	1	%	5009		04/30/02 0000	ksm
	% Moisture, Solid	4.2		0.10	0.10	1	%	5009		04/30/02 0000	ksm
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	0.57	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	beta-BHC, Solid*	ND	U	0.56	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	delta-BHC, Solid*	ND	U	0.21	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	gamma-BHC (Lindane), Solid*	ND	U	0.31	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Heptachlor, Solid*	ND	U	0.31	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Aldrin, Solid*	ND	U	0.74	4.1	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Heptachlor epoxide, Solid*	12		0.24	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Endosulfan I, Solid*	ND	U	0.30	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Dieldrin, Solid*	15		0.66	6.8	2.00000	ug/Kg	5421		05/08/02 1647	dmm
	4,4'-DDE, Solid*	47		0.90	6.8	2.00000	ug/Kg	5421		05/08/02 1647	dmm
	Endrin, Solid*	ND	U	1.8	10	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Endosulfan II, Solid*	ND	U	0.35	6.8	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	4,4'-DDD, Solid*	15		0.79	6.8	2.00000	ug/Kg	5421		05/08/02 1647	dmm
	Endosulfan sulfate, Solid*	ND	U	0.36	6.8	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	4,4'-DDT, Solid*	65		0.64	6.8	2.00000	ug/Kg	5421		05/08/02 1647	dmm
	Methoxychlor, Solid*	ND	U	4.4	35	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	alpha-Chlordane, Solid*	43		0.23	3.5	2.00000	ug/Kg	5421		05/08/02 1647	dmm
	gamma-Chlordane, Solid*	23		0.19	3.5	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Toxaphene, Solid*	ND	U	10	170	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Endrin aldehyde, Solid*	ND	U	0.67	6.8	2.00000	ug/Kg	5420		05/06/02 2003	dmm
	Endrin ketone, Solid*	ND	U	0.30	6.8	2.00000	ug/Kg	5420		05/06/02 2003	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS											
Job Number: 200955						Date: 05/14/2002					
CUSTOMER: FANNING, PHILLIPS AND MOLNAR						ATTN: John Bukoski					
PROJECT: HARDER TREE SERVICES											
Customer Sample ID: SS-11 (3'-4')						Laboratory Sample ID: 200955-4					
Date Sampled.....: 04/23/2002						Date Received.....: 04/24/2002					
Time Sampled.....: 17:00						Time Received.....: 10:05					
Sample Matrix.....: Soil											
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
Solids	% Solids, Solid	77.1		0.10	0.10	1	%	5009		04/30/02 0000	ksw
	% Moisture, Solid	22.9		0.10	0.10	1	%	5009		04/30/02 0000	ksw
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC, Solid*	ND	U	360	2200	1000.00	ug/Kg	5420		05/06/02 2038	chm
	beta-BHC, Solid*	ND	U	350	2200	1000.00	ug/Kg	5420		05/06/02 2038	chm
	delta-BHC, Solid*	ND	U	130	2200	1000.00	ug/Kg	5420		05/06/02 2038	chm
	gamma-BHC (Lindane), Solid*	ND	U	200	2200	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Heptachlor, Solid*	7600		190	2200	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Aldrin, Solid*	ND	U	460	2600	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Heptachlor epoxide, Solid*	ND	U	150	2200	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Endosulfan I, Solid*	ND	U	190	2200	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Dieldrin, Solid*	7600		420	4300	1000.00	ug/Kg	5421		05/08/02 1616	chm
	4,4'-DDE, Solid*	ND	U	560	4300	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Endrin, Solid*	ND	U	1200	6500	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Endosulfan II, Solid*	ND	U	220	4300	1000.00	ug/Kg	5420		05/06/02 2038	chm
	4,4'-DDD, Solid*	ND	U	490	4300	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Endosulfan sulfate, Solid*	ND	U	220	4300	1000.00	ug/Kg	5420		05/06/02 2038	chm
	4,4'-DDT, Solid*	1900	J	400	4300	1000.00	ug/Kg	5421		05/08/02 1616	chm
	Methoxychlor, Solid*	22000	U	2700	22000	1000.00	ug/Kg	5420		05/06/02 2038	chm
	alpha-Chlordane, Solid*	21000		140	2200	1000.00	ug/Kg	5421		05/08/02 1616	chm
	gamma-Chlordane, Solid*	ND	U	120	2200	1000.00	ug/Kg	5421		05/08/02 1616	chm
	Toxaphene, Solid*	ND	U	6200	110000	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Endrin aldehyde, Solid*	ND	U	420	4300	1000.00	ug/Kg	5420		05/06/02 2038	chm
	Endrin ketone, Solid*	ND	U	190	4300	1000.00	ug/Kg	5420		05/06/02 2038	chm

* In Description = Dry Wgt.

LABORATORY CHRONICLE

Job Number: 200955

Date: 05/14/2002

FORMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Bukoski

Lab ID: 200955-1	Client ID: SS-33D	Date Recvd: 04/24/2002	Sample Date: 04/23/2002
METHOD	DESCRIPTION	RUN#	BATCH# PREP BT #(S) DATE/TIME ANALYZED DILUTION
solids		1	5009 04/30/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4950 04/26/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5420 05/06/2002 1928 200.000
81A	Organochlorine Pesticide Analysis	1	5421 05/08/2002 1546 200.000
81A	Organochlorine Pesticide Confirmation	1	5420 05/06/2002 1928 200.000
8081A	Organochlorine Pesticide Confirmation	1	5421 05/08/2002 1546 200.000

Lab ID: 200955-2	Client ID: SS-32 (0'-0.25')	Date Recvd: 04/24/2002	Sample Date: 04/23/2002
METHOD	DESCRIPTION	RUN#	BATCH# PREP BT #(S) DATE/TIME ANALYZED DILUTION
solids		1	5009 04/30/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4950 04/26/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5421 05/01/2002 1506 500.000
81A	Organochlorine Pesticide Analysis	1	5420 05/01/2002 2325 500.000
81A	Organochlorine Pesticide Confirmation	1	5421 05/01/2002 1506 500.000
8081A	Organochlorine Pesticide Confirmation	1	5420 05/01/2002 2325 500.000

Lab ID: 200955-3	Client ID: SS-10 (3'-4')	Date Recvd: 04/24/2002	Sample Date: 04/23/2002
METHOD	DESCRIPTION	RUN#	BATCH# PREP BT #(S) DATE/TIME ANALYZED DILUTION
solids		1	5009 04/30/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4950 04/26/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5420 05/06/2002 2003 2.00000
81A	Organochlorine Pesticide Analysis	1	5421 05/08/2002 1647 2.00000
81A	Organochlorine Pesticide Confirmation	1	5420 05/06/2002 2003 2.00000
8081A	Organochlorine Pesticide Confirmation	1	5421 05/08/2002 1647 2.00000

Lab ID: 200955-4	Client ID: SS-11 (3'-4')	Date Recvd: 04/24/2002	Sample Date: 04/23/2002
METHOD	DESCRIPTION	RUN#	BATCH# PREP BT #(S) DATE/TIME ANALYZED DILUTION
solids		1	5009 04/30/2002 0000
3550B	Extraction Ultrasonic (Chlor.Pest.)	1	4950 04/26/2002 0000
8081A	Organochlorine Pesticide Analysis	1	5420 05/06/2002 2038 1000.00
81A	Organochlorine Pesticide Analysis	1	5421 05/08/2002 1616 1000.00
81A	Organochlorine Pesticide Confirmation	1	5420 05/06/2002 2038 1000.00
8081A	Organochlorine Pesticide Confirmation	1	5421 05/08/2002 1616 1000.00

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 05/14/2002

REPORT COMMENTS

- 1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
- 2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
- 3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
- 4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 10604
- 5) According to 40CFR Part 136.3, pH, Chloride Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

- U Analyte was not detected at or above the reporting limit.
- < Not detected at or above the reporting limit.
- J Result is less than the RL, but greater than or equal to the method detection limit.
- B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
- S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

- ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
- * LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
- + MSA correlation coefficient is less than 0.995.
- 4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
- E SD: Serial dilution exceeds the control limits.
- H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
- N MS, MSD: Spike recovery exceeds the upper or lower control limits.
- W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

- U Analyte was not detected at or above the reporting limit.
- ND Compound not detected.
- J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
- Q Result was qualitatively confirmed, but not quantified.
- C Pesticide identification was confirmed by GC/MS.
- Y The chromatographic response resembles a typical fuel pattern.
- Z The chromatographic response does not resemble a typical fuel pattern.
- E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flags Column)

- MB,EB, MLE: Batch QC is greater than reporting limit.
- * LCS, LCD, CCV, MS, MSD, Surrogate, RS:Batch QC exceeds the upper or lower control limits.
- A Concentration exceeds the instrument calibration range or below the reporting limit.
- B Compound was found in the blank and sample.
- D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
- H Alternate peak selection upon analytical review
- I Indicates the presence of an interference, recovery is not calculated.
- M Manually integrated compound.
- P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 05/14/2002

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.



ANALYTICAL REPORT

JOB NUMBER: 201010

Prepared For:

FANNING, PHILLIPS AND MOLNAR
909 Marconi Avenue
Ronkonkoma, NY 11779

Project: HARDER TREE SERVICES

Attention: John Bukoski

Date: 05/16/2002

Johanna Dubauskas
Signature

5.16.02
Date

Name: Johanna L. Dubauskas

Title: Project Manager

E-Mail: jdubauskas@stl-inc.com

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

This Report Contains (8) Pages

STL Report : 201010
FANNING, PHILLIPS AND MOLNAR

Case Narrative

Sample Receipt – All samples were received in good condition and at the proper temperature.

Organic Extraction - Samples were extracted according to method 3510C. No problems were encountered.

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogates were diluted out of samples MW-8A, MW-8AMS, and MW-8AMSD.

Results for Endosulfan I and alpha-Chlordane were reported from the DB-1701 column in 5255-2LCS due to coelution on the RTX-35 column.

Results for Endosulfan Sulfate and Methoxychlor were reported from the RTX-35 column in 5255-2LCS due to coelution on the DB-1701 column.

The % difference for Methoxychlor was below QC criteria in the beginning standard on the DB-1701 column. This compound was not present in any of the client's samples.

The spike compounds were diluted out in samples MW-8AMS/MSD.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Client ID: MW-10A
Compound: gamma-Chlordane

$$\frac{(2200288\text{area})(10000\text{ul})}{(1120025376\text{area/ng})(1000\text{ml})(\text{ul})} = 0.0196 \text{ ug/L}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

STATE CERTIFICATIONS

In some instances it may be necessary for environmental data to be reported to a regulatory authority with reference to a certified laboratory. For your convenience, the laboratory identification numbers for the STL-Connecticut laboratory are provided in the following table. Many states certify laboratories for specific parameters or tests within a category (i.e. method 325.2 for wastewater). The information in the following table indicates the lab is certified in a general category of testing such as drinking water or wastewater analysis. The laboratory should be contacted directly if parameter-specific certification information is required.

STL-Connecticut Certification Summary (as of February 2001)

Connecticut	Department of Health Services	Drinking Water, Wastewater	PH-0497
Maine	Department of Health and Environmental Services	Drinking Water, Wastewater/Solid, Hazardous Waste	CT023
Massachusetts	Department of Environmental Protection	Potable/Non-Potable Water	CT023
New Hampshire	Department of Environmental Services	Drinking Water, Wastewater	2528
New Jersey	Department of Environmental Protection	Drinking Water, Wastewater	46410
New York	Department of Health	CLP, Drinking Water, Wastewater, Solid/ Hazardous Waste NELAC	10602
North Carolina	Division of Environmental Management	Wastewater	388
Rhode Island	Department of Health	Chemistry...Non- Potable Water and Wastewater	A43
Utah	Department of Health	RCRA	2032614458
Washington	Department of Ecology	Wastewater/Hazardous Waste	C231
Wisconsin	Department of Natural Resources	Wastewater	998355710

Date: 05/16/2002

Project Number.....: 20000431
Customer Project ID....: HARDER TREE SERVICES
Project Description....: Harder Tree Services

Page 1

LABORATORY TEST RESULTS												
Job Number: 201010						Date:05/16/2002						
CUSTOMER: FANNING, PHILLIPS AND MOLMAR						PROJECT: HARDER TREE SERVICES						
ATTN: John Bukoski												
Customer Sample ID: MW-10A						Laboratory Sample ID: 201010-1						
Date Sampled.....: 05/02/2002						Date Received.....: 05/03/2002						
Time Sampled.....: 13:00						Time Received.....: 09:10						
Sample Matrix.....: Water												
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis	ND	U		0.0068	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	alpha-BHC	ND	U		0.0072	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	beta-BHC	ND	U		0.0046	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	delta-BHC	ND	U		0.0033	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	gamma-BHC (Lindane)	ND	U		0.0054	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	Heptachlor	ND	U		0.0041	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	Aldrin	ND	U		0.0056	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	Heptachlor epoxide	ND	U		0.0041	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	Endosulfan I	ND	U		0.0079	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	Dieldrin	ND	U		0.012	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	4,4'-DDE	ND	U		0.0085	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	Endrin	ND	U		0.011	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	Endosulfan II	ND	U		0.026	0.15	1.00000	ug/L	5524		05/13/02 2035	chm
	4,4'-DDD	ND	U		0.012	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	Endosulfan sulfate	ND	U		0.013	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	4,4'-DDT	ND	U		0.062	0.50	1.00000	ug/L	5524		05/13/02 2035	chm
	Methoxychlor	ND	U		0.0057	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	alpha-Chlordane	ND	U		0.0060	0.050	1.00000	ug/L	5524		05/13/02 2035	chm
	gamma-Chlordane	ND	U		0.11	2.5	1.00000	ug/L	5524		05/13/02 2035	chm
	Toxaphene	ND	U		0.011	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	Endrin aldehyde	ND	U		0.012	0.10	1.00000	ug/L	5524		05/13/02 2035	chm
	Endrin ketone	ND	U									05/13/02 2035

* In Description = Dry Wgt.

LABORATORY TEST RESULTS

Job Number: 201010

Date: 05/16/2002

CUSTOMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Bukoski

Customer Sample ID: MW-100
Date Sampled.....: 05/02/2002
Time Sampled.....: 13:15
Sample Matrix.....: Water

Laboratory Sample ID: 201010-2
Date Received.....: 05/03/2002
Time Received.....: 09:10

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis										
	alpha-BHC	ND	U	0.0068	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	beta-BHC	ND	U	0.0072	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	delta-BHC	ND	U	0.0046	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	gamma-BHC (Lindane)	ND	U	0.0033	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	Heptachlor	ND	U	0.0054	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	Aldrin	ND	U	0.0041	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	Heptachlor epoxide	ND	U	0.0056	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	Endosulfan I	ND	U	0.0041	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	Dieldrin	ND	U	0.0079	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm
	4,4'-DDE	ND	U	0.012	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm
	Endrin	ND	U	0.0085	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm
	Endosulfan II	ND	U	0.011	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm
	4,4'-DDD	ND	U	0.026	0.15	1.00000	ug/L	5524		05/13/02 2110	dmm
	Endosulfan sulfate	ND	U	0.012	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm
	4,4'-DDT	ND	U	0.013	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm
	Methoxychlor	ND	U	0.062	0.50	1.00000	ug/L	5524		05/13/02 2110	dmm
	alpha-Chlordane	ND	U	0.0057	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	gamma-Chlordane	ND	U	0.0060	0.050	1.00000	ug/L	5524		05/13/02 2110	dmm
	Toxaphene	ND	U	0.11	2.5	1.00000	ug/L	5524		05/13/02 2110	dmm
	Endrin aldehyde	ND	U	0.011	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm
	Endrin ketone	ND	U	0.012	0.10	1.00000	ug/L	5524		05/13/02 2110	dmm

* In Description = Dry Wgt.

LABORATORY TEST RESULTS											
Job Number: 201010						Date:05/16/2002					
CUSTOMER: FANNING, PHILLIPS AND MOLNAR						ATTN: John Bukoski					
PROJECT: HARDER TREE SERVICES											
Customer Sample ID: MW-8A Date Sampled.....: 05/02/2002 Time Sampled.....: 15:00 Sample Matrix.....: Water						Laboratory Sample ID: 201010-3 Date Received.....: 05/03/2002 Time Received.....: 09:10					
TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q FLAGS	MOL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis	ND	U	0.68	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	alpha-BHC	ND	U	0.72	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	beta-BHC	ND	U	0.46	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	delta-BHC	ND	U	0.33	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	gamma-BHC (Lindane)	ND	U	0.54	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	Heptachlor	ND	U	0.41	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	Aldrin	ND	U	0.56	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	Heptachlor epoxide	ND	U	0.41	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	Endosulfan I	ND	U	0.79	10	100.000	ug/L	5524		05/13/02 2146	dmm
	Dieldrin	ND	U	1.2	10	100.000	ug/L	5524		05/13/02 2146	dmm
	4,4'-DDE	ND	U	0.85	10	100.000	ug/L	5524		05/13/02 2146	dmm
	Endrin	ND	U	1.1	10	100.000	ug/L	5524		05/13/02 2146	dmm
	Endosulfan II	1.8	J	1.1	10	100.000	ug/L	5524		05/13/02 2146	dmm
	4,4'-DDD	ND	U	2.6	15	100.000	ug/L	5524		05/13/02 2146	dmm
	Endosulfan sulfate	ND	U	1.2	10	100.000	ug/L	5524		05/13/02 2146	dmm
	4,4'-DDT	ND	U	1.3	10	100.000	ug/L	5524		05/13/02 2146	dmm
	Methoxychlor	ND	U	6.2	50	100.000	ug/L	5524		05/13/02 2146	dmm
	alpha-Chlordane	30		0.57	5.0	100.000	ug/L	5525		05/13/02 1644	dmm
	gamma-Chlordane	28		0.60	5.0	100.000	ug/L	5524		05/13/02 2146	dmm
	Toxaphene	ND	U	11	250	100.000	ug/L	5524		05/13/02 2146	dmm
	Endrin aldehyde	ND	U	1.1	10	100.000	ug/L	5524		05/13/02 2146	dmm
	Endrin ketone	ND	U	1.2	10	100.000	ug/L	5524		05/13/02 2146	dmm

* In Description = Dry Wgt.

Job Number: 201010

Date: 05/16/2002

LABORATORY TEST RESULTS

CUSTOMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Bukoski

Customer Sample ID: MW-8F

Laboratory Sample ID: 201010-4

Date Sampled.....: 05/02/2002

Date Received.....: 05/03/2002

Time Sampled.....: 14:30

Time Received.....: 09:10

Sample Matrix.....: Water

TEST METHOD	PARAMETER/TEST DESCRIPTION	SAMPLE RESULT	Q	FLAGS	MDL	RL	DILUTION	UNITS	BATCH	DT	DATE/TIME	TECH
8081A	Organochlorine Pesticide Analysis											
	alpha-BHC	ND		U	0.0076	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	beta-BHC	ND		U	0.0081	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	delta-BHC	ND		U	0.0052	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	gamma-BHC (Lindane)	ND		U	0.0037	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	Heptachlor	ND		U	0.0061	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	Aldrin	ND		U	0.0046	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	Heptachlor epoxide	ND		U	0.0063	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	Endosulfan I	ND		U	0.0046	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	Dieldrin	ND		U	0.0089	0.11	1.00000	ug/L	5524		05/13/02 2221	chm
	4,4'-DDE	ND		U	0.014	0.11	1.00000	ug/L	5524		05/13/02 2221	chm
	Endrin	ND		U	0.0096	0.11	1.00000	ug/L	5524		05/13/02 2221	chm
	Endosulfan II	ND		U	0.012	0.11	1.00000	ug/L	5524		05/13/02 2221	chm
	4,4'-DDD	ND		U	0.030	0.17	1.00000	ug/L	5524		05/13/02 2221	chm
	Endosulfan sulfate	ND		U	0.013	0.11	1.00000	ug/L	5524		05/13/02 2221	chm
	4,4'-DDT	ND		U	0.014	0.11	1.00000	ug/L	5524		05/13/02 2221	chm
	Methoxychlor	ND		U	0.070	0.56	1.00000	ug/L	5524		05/13/02 2221	chm
	alpha-Chlordane	ND		U	0.0064	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	gamma-Chlordane	ND		U	0.0067	0.056	1.00000	ug/L	5524		05/13/02 2221	chm
	Toxaphene	ND		U	0.13	2.8	1.00000	ug/L	5524		05/13/02 2221	chm
	Endrin aldehyde	ND		U	0.013	0.11	1.00000	ug/L	5524		05/13/02 2221	chm
	Endrin ketone	ND		U	0.014	0.11	1.00000	ug/L	5524		05/13/02 2221	chm

* In Description = Dry Wgt.

LABORATORY CHRONICLE

Job Number: 201010

Date: 05/16/2002

CUSTOMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN: John Bukoski

Lab ID: 201010-1	Client ID: MW-10A	Date Recvd: 05/03/2002	Sample Date: 05/02/2002				
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	5255			05/07/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5524	5255		05/13/2002 2035	1.00000
8081A	Organochlorine Pesticide Confirmation	1	5525	5255		05/13/2002 1543	1.00000

Lab ID: 201010-2	Client ID: MW-10D	Date Recvd: 05/03/2002	Sample Date: 05/02/2002				
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	5255			05/07/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5524	5255		05/13/2002 2110	1.00000
8081A	Organochlorine Pesticide Confirmation	1	5525	5255		05/13/2002 1614	1.00000

Lab ID: 201010-3	Client ID: MW-8A	Date Recvd: 05/03/2002	Sample Date: 05/02/2002				
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	5255			05/07/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5525	5255		05/13/2002 1644	100.000
8081A	Organochlorine Pesticide Analysis	1	5524	5255		05/13/2002 2146	100.000
8081A	Organochlorine Pesticide Confirmation	1	5525	5255		05/13/2002 1644	100.000
8081A	Organochlorine Pesticide Confirmation	1	5524	5255		05/13/2002 2146	100.000

Lab ID: 201010-4	Client ID: MW-8F	Date Recvd: 05/03/2002	Sample Date: 05/02/2002				
METHOD	DESCRIPTION	RUN#	BATCH#	PREP BT	#(S)	DATE/TIME ANALYZED	DILUTION
3510C	Extraction Sep. Funnel (Chlor.Pest)	1	5255			05/07/2002 0000	
8081A	Organochlorine Pesticide Analysis	1	5524	5255		05/13/2002 2221	1.00000
8081A	Organochlorine Pesticide Confirmation	1	5525	5255		05/13/2002 1816	1.00000

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 05/16/2002

REPORT COMMENTS

- 1) All pages of this report are integral parts of the analytical data. Therefore, this report should be reproduced only in its entirety.
- 2) Soil, sediment and sludge sample results are reported on a "dry weight" basis except when analyzed for landfill disposal or incineration parameters. All other solid matrix samples are reported on an "as received" basis unless noted differently.
- 3) Reporting limits are adjusted for sample size used, dilutions and moisture content if applicable.
- 4) The test results for the noted analytical method(s) meet the requirements of NELAC. Lab Cert. ID# 10604
- 5) According to 40CFR Part 136.3, pH, Chloride Residual and Dissolved Oxygen analyses are to be performed immediately after aqueous sample collection. When these parameters are not indicated as field (e.g. pH Field) they were not analyzed immediately, but as soon as possible on laboratory receipt.

Glossary of flags, qualifiers and abbreviation

Inorganic Qualifiers (Q-Column)

- U Analyte was not detected at or above the reporting limit.
- < Not detected at or above the reporting limit.
- J Result is less than the RL, but greater than or equal to the method detection limit.
- B Result is less than the CRDL/RL, but greater than or equal to the IDL/MDL.
- S Result was determined by the Method of Standard Additions.

Inorganic Flags (Flag Column)

- ICV,CCV,ICB,CCB,ISA,ISB,CRI,CRA,MRL: Instrument related QC exceed the upper or lower control limits.
- * LCS, LCD, MD: Batch QC exceeds the upper or lower control limits.
- + MSA correlation coefficient is less than 0.995.
- 4 MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
- E SD: Serial dilution exceeds the control limits.
- H MB, EB: Batch QC is greater than reporting limit or had a negative instrument reading lower than the absolute value of the reporting limit.
- N MS, MSD: Spike recovery exceeds the upper or lower control limits.
- W PS: Post-digestion spike was outside 85-115% control limits.

Organic Qualifiers (Q - Column)

- U Analyte was not detected at or above the reporting limit.
- ND Compound not detected.
- J Result is an estimated value below the reporting limit or a tentatively identified compound (TIC).
- Q Result was qualitatively confirmed, but not quantified.
- C Pesticide identification was confirmed by GC/MS.
- Y The chromatographic response resembles a typical fuel pattern.
- Z The chromatographic response does not resemble a typical fuel pattern.
- E Result exceeded calibration range, secondary dilution required.

Organic Flags (Flags Column)

- MB,EB, MLE: Batch QC is greater than reporting limit.
- * LCS, LCD, CCV, MS, MSD, Surrogate, RS:Batch QC exceeds the upper or lower control limits.
- A Concentration exceeds the instrument calibration range or below the reporting limit.
- B Compound was found in the blank and sample.
- D Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
- H Alternate peak selection upon analytical review
- I Indicates the presence of an interference, recovery is not calculated.
- M Manually integrated compound.
- P The lower of the two values is reported when the % difference between the results of two GC columns is greater than 25%.

QUALITY ASSURANCE METHODS

REFERENCES AND NOTES

Report Date: 05/16/2002

Abbreviations

Batch	Designation given to identify a specific extraction, digestion, preparation set, or analysis set
CAP	Capillary Column
CCB	Continuing Calibration Blank
CCV	Continuing Calibration Verification
CF	Confirmation Analysis
CRA	Low Level Standard Check - GFAA; Mercury
CRI	Low Level Standard Check - ICP
Dil Fac	Dilution Factor
DL	Secondary dilution and analysis
DLFac	Detection Limit Factor
DSH	Distilled Standard - High Level
DSL	Distilled Standard - Low Level
DSM	Distilled Standard - Medium Level
EB	Extraction Blank
ICB	Initial Calibration Blank
ICV	Initial Calibration Verification
IDL	Instrument Detection Limit
ISA	Interference Check Sample A
ISB	Interference Check Sample B
Job No.	The first six digits of the sample ID which refers to a specific client, project and sample group
Lab ID	An 8 number unique laboratory identification
LCD	Laboratory Control Standard Duplicate
LCS	Laboratory Control Standard with reagent grade water or a matrix free from the analyte of interest
MB	Method Blank or (PB) Preparation Blank
MD	Method Duplicate
MDL	Method Detection Limit
MLE	Medium Level Extraction Blank
MRL	Method Reporting Limit Standard
MSA	Method of Standard Additions
MS	Matrix Spike
MSD	Matrix Spike Duplicate
ND	Not Detected
PACK	Packed Column
PREPF	Preparation factor used by the Laboratory's Information Management System (LIMS)
PS	Post Spike
PSD	Post Spike Duplicate
RA	Re-analysis
RE	Re-extraction and analysis
RL	Reporting Limit
RPD	Relative Percent Difference of duplicate (unrounded) analyses
RRF	Relative Response Factor
RS	Reference Standard
RT	Retention Time
RTW	Retention Time Window
SampleID	A 9 digit number unique for each sample, the first six digits are referred as the job number
SCB	Seeded Control Blank
SD	Serial Dilution
UCB	Unseeded Control Blank

One or a combination of these data qualifiers and abbreviations may appear in the analytical report.

APPENDIX C

RESUME OF QAO

STEPHANIE O. DAVIS, C.P.G., R.G., P.G.
Senior Hydrogeologist

Experience Summary

Ms. Davis has diversified experience in geology and hydrogeology. Her professional experience includes groundwater and soil investigations, design and management of soil remediation projects, design and installation of groundwater containment and remediation systems, groundwater flow modeling, aquifer testing and interpretation, evaluation of site compliance with environmental regulations, environmental permitting, and personnel training. Ms. Davis is a Registered Geologist in the States of California and Pennsylvania and is also registered as a Certified Professional Geologist (CPG).

Education

M.S.	Geology / University of Southern California	1984
B.S.	Geology / Bucknell University	1981

Associations/Certifications

OSHA 40-hour and Current 8-hour Health and Safety Training and Current Annual Physical
Certified Professional Geologist #9487, 1995
Pennsylvania Registered Geologist #PG-000529-G, 1994
California Registered Geologist #5192, 1991
Geological Society of America
National Ground Water Association
Long Island Geologists
American Institute of Professional Geologists

Employment History

1993-Present	Fanning, Phillips and Molnar
1992-1993	Chevron Research and Technology Co.
1990-1992	Chevron Manufacturing Co.
1984-1990	Chevron Exploration, Land and Production Company

Continuing Education

- * Dames & Moore Interpretation of Chemical Analytical Data
- * Treatment of Contaminated Soil and Rock
- * Groundwater Pollution and Hydrology
- * Environmental Law and Regulation
- * Remedial Engineering
- * Soil and Foundation Engineering

Key Projects

Chemical Analytical Data Evaluations - Performed numerous evaluations of soil, groundwater, and air chemical analytical data. Familiar with federal, state, and local regulatory standards and application to chemical analytical results.

Participated in week-long chemical analytical data interpretation class focused on interpretation of data, evaluation of laboratories, and review of QA/QC results.

Performed in-house data validation for investigation and remediation projects at an oil refinery.

Hydrogeologic Evaluations - Participated in a multi-day, multi-well aquifer pumping test for New York City Transit (NYCT) Lennox Avenue site. Responsible for operating and maintaining data logging equipment, coordinating manual water level measurements, and analyzing resulting drawdown data.

Evaluated subsurface geologic conditions for NYCT Avenue T site utilizing boring logs, topographic, and historic map data.

Supervised drilling, installation and development of groundwater extraction, injection, and monitoring wells at a USEPA

Superfund site in Deer Park, NY. Interpreted aquifer and well performance from development data and made recommendations for modification of drilling and development procedures.

Performed water level and water quality monitoring at an industrial site in Mattituck, NY. Constructed groundwater elevation contour maps and utilized chemical analytical data to predict contaminant plume migration.

Used the PC-based modeling program FLOW PATH to predict groundwater flow directions and evaluate extraction well locations and pumping rates for a groundwater containment and remediation system at a City of Richmond former municipal landfill.

Performed slug tests on monitoring wells at NYCT sites, and evaluated hydrologic properties using the HYDROLOGIC ISOAQX computer program.

Performed aquifer pumping and slug tests and evaluated hydrologic properties using the computer program AQTESOLV.

Site Investigations - Managed on-site and off-site soil and groundwater sampling program at a manufacturing facility in Bay Shore, New York. Compiled resulting data and prepared a comprehensive report of the investigation results for the Suffolk County Department of Health Services (SCDHS) and NYS Department of Environmental Conservation (NYSDEC). Proposed remediation technologies for on-site soil contamination and on-site and off-site groundwater contamination.

Managed and conducted a soil and groundwater sampling program using a Geoprobe sampler adjacent to the Newark Airport Runway 29 for the Federal Aviation Administration. Analyzed resulting chemical data and prepared a report.

Participated in soil and groundwater sampling using a Geoprobe sampler at a manufacturing facility in Suffolk County, New York. Compiled, reviewed, and presented the resulting chemical analytical data to the client.

Managed site investigation activities, including soil vapor sampling, soil sampling and analysis, groundwater sampling and analysis, and geotechnical evaluation for sites in Commack and Miller Place, NY. The resulting data were utilized by a major supermarket company in the negotiations for the purchase of the properties and in the property remediation prior to development.

Supervised drilling, installation, development, and sampling of monitoring wells at two commercial sites in Farmingdale, New York. Utilized resulting stratigraphic, hydrologic, and chemical analytical data to evaluate site conditions.

Supervised and conducted drilling, soil sampling, cone penetrometer testing, and well installation at Chevron Corp. refinery process water effluent treatment system and a City of Richmond former municipal landfill.

Remediation - Designed soil remediation plan and managed contractor support for a metal parts plating and manufacturing facility in Suffolk County, New York. Soil remediation was overseen and approved by the SCDHS.

Designed and performed indoor underground storage tank abandonment program, leaching pool remediation plan, and managed contractor support for a tape measure manufacturing facility in Suffolk County, New York. SCDHS provided oversight and approval.

Participated in the design process and coordinated technical aspects of a groundwater containment and remediation system for a City of Richmond former municipal landfill, including subsurface groundwater barrier walls and extraction wells.

APPENDIX D

DATA VALIDATION REPORT

Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, N. Y. 12853

Phone 518-251-4429

Facsimile 518-251-4428

July 30, 2002; Revised August 27, 2002

Kristy Salafrio
Fanning Phillips & Molnar
909 Marconi Ave.
Ronkonkoma, NY 11779

RE: Validation of Harder Tree Services site Data Packages
STL-CT SDG Nos. 200947, 200955, and 201010

Dear Ms. Salafrio:

Review has been completed for the data packages generated by Severn Trent Laboratories that pertain to samples collected 4/23/02 and 5/02/02 at the Harder Tree Services Site. Four aqueous samples and nineteen soil samples were analyzed for TCL pesticides by USEPA SW846 8081A. Four additional samples were analyzed for pesticides in the TCLP leachate. A field blank and sample matrix spikes were also processed. Methodologies utilized are those of the USEPA SW846.

Data validation was performed with guidance from the most current editions of the USEPA CLP National Functional Guidelines for Organic Data Review and the USEPA Region 2 SOPs HW-23 and HW-6. The following items were reviewed:

- * Data Completeness
- * Custody Documentation
- * Holding Times
- * Surrogate Standard Recoveries
- * Matrix Spike Recoveries/Duplicate Correlations
- * Preparation/Calibration Blanks
- * Control Spike/Laboratory Control Samples
- * Calibration Standards
- * Instrument IDLs
- * Method Compliance
- * Sample Result Verification

Those items showing deficiencies are discussed in the following sections of this report. All others were found to be acceptable as outlined in the above-mentioned validation procedures, and as applicable for the methodology. Unless noted specifically in the following text, reported results are substantiated by the raw data, and generated in compliance with protocol requirements.

In summary, sample processing was conducted with compliance to protocol requirements and with adherence to quality criteria. Due to interferences from the sample matrix, many of the reported detections are qualified as estimated in value, tentative in identification, or edited to nondetection. This issue is discussed in the following analytical section.

Copies of laboratory case narratives and resubmission communications are attached to this narrative, and should be reviewed in conjunction with this narrative. Also submitted are hardcopy client results tables with recommended qualifiers and edits applied in red ink.

Pesticide and TCLP Pesticide Analyses

Many of the sample detections showed large dual column quantitative differences (%D), indicating matrix interferences, and/or potential false positive identifications. Therefore, many of the detected results are qualified as estimated in value ("J"), and some are also qualified ("NJ") to indicate that the identification is tentative in nature, and the detection should be regarded with caution. In some instances, low level detections are edited to nondetection ("U"). The attached client results tables have been edited to reflect the appropriate qualifiers ("J" for 25%D to 70%D and "NJ" for >70%D), or edit to nondetection ("U").

Surrogate recoveries were acceptable where not diluted beyond detection (due to sample analyte concentrations), with the exception of elevated recoveries for samples showing no detection, or those elevated on only one column (i.e. reported results are unaffected).

Matrix spikes of MW-8A were diluted beyond evaluation due to sample constituency. Those for SS-37 (0-0.25) were also diluted, but showed reasonable recoveries at that dilution. No sample matrix spikes of the leachate matrix were reported. Spiked blanks of all matrices (LCSs) produced acceptable recoveries, with the exception of one elevated value not affecting reported results.

Field duplicates of soil sample SS-33/SS-33D and aqueous sample MW-10A/MW10-D showed acceptable correlations.

Due to presence in the associated soil field blank, the detection of g-chlordane in SS-8(3-4) is to be considered contamination, and results edited to nondetection ("U").

The aqueous field blank and method blank show no contamination.

The resubmission communications include clarification of reported detections of heptachlor epoxide and chlordane in the TCLP samples and method blank. A revised report form for the method blank has been submitted, eliminating the detection of chlordane. Reported detected results for chlordane in the TCLP leachates should not be flagged as "B" by the laboratory.

The sample result report forms include "RL" and "MDL" entries. The "RL" column results should be used for reliable sample reporting limits.

Instances of outlying CCV responses or retention times were verified as not affecting project sample reported results (i.e. not associated).

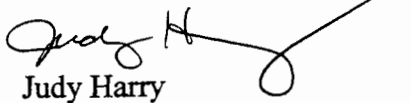
General

The custody associated with the soil samples is incomplete as regards release date and time.

Raw data preparation logs were requested and submitted.

Please do not hesitate to contact me if questions or comments arise during your review of this report.

Very truly yours,


Judy Harry

Att.

Validation Qualifier Definitions

DATA QUALIFIER DEFINITIONS

ORGANIC

The following definitions provide brief explanations of the national qualifiers assigned to results in the data review process. If the Regions choose to use additional qualifiers, a complete explanation of those qualifiers should accompany the data review.

- U** - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J** - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- N** - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."
- NJ** - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.
- UJ** - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R** - The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Laboratory Narratives

SAMPLE INFORMATION

Date: 03/10/2002

Job Number: 200947
 Customer: PARKING, PHILLIPS AND MOLNAR
 Attn: John Sukoshi

Project Number: 20000431
 Customer Project ID: HARDER TREE SERVICES
 Project Description: Harder Tree Services

Job Number Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
200947-1	SS-1 (0'-2')	Soil	04/23/2002	08:50	04/24/2002	10:05
200947-2	GP-6 (0'-2')	Soil	04/23/2002	10:05	04/24/2002	10:05
200947-3	GP-4 (18'-20')	Soil	04/23/2002	10:15	04/24/2002	10:05
200947-4	GP-4 (28'-30')	Soil	04/23/2002	10:30	04/24/2002	10:05
200947-5	D-2 (0'-2')	Soil	04/23/2002	11:10	04/24/2002	10:05
200947-6	D-2 (3'-4')	Soil	04/23/2002	11:35	04/24/2002	10:05
200947-7	D-2 (6'-10')	Soil	04/23/2002	11:55	04/24/2002	10:05
200947-8	D-2 (14'-16')	Soil	04/23/2002	12:00	04/24/2002	10:05
200947-9	SS-4 (3'-4')	Soil	04/23/2002	12:40	04/24/2002	10:05
200947-10	SS-28 (0'-0.25')	Soil	04/23/2002	13:30	04/24/2002	10:05
200947-11	SS-29 (0'-0.25')	Soil	04/23/2002	13:40	04/24/2002	10:05
200947-12	SS-30 (0'-0.25')	Soil	04/23/2002	14:10	04/24/2002	10:05
200947-13	SS-31 (0'-0.25')	Soil	04/23/2002	14:55	04/24/2002	10:05
200947-14	SS-32 (0'-0.25')	Soil	04/23/2002	14:30	04/24/2002	10:05
200947-15	SS-34 (0'-0.25')	Soil	04/23/2002	14:40	04/24/2002	10:05
200947-16	SS-37 (0'-0.25')	Soil	04/23/2002	14:50	04/24/2002	10:05
200947-17	SS-6 (3'-4')	Soil	04/23/2002	15:00	04/24/2002	10:05
200947-18	SS-11 (0'-0.25')	Soil	04/23/2002	15:20	04/24/2002	10:05
200947-19	SS-33 (0'-0.25')	Soil	04/23/2002	15:40	04/24/2002	10:05
200947-20	FW-1	Water	04/23/2002	16:45	04/24/2002	10:05

SAMPLE INFORMATION

Date: 05/14/2002

Job Number.: 200955

Customer.... FANNING, PHILLIPS AND MOLNAR

Attn..... John Bukoski

Project Number..... 20000431

Customer Project ID.... HARDER TREE SERVICES

Project Description.... Harder Tree Services

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
200955-1	SS-31D	Soil	04/23/2002	15:45	04/24/2002	10:05
200955-2	SS-32 (0'-0.25')	Soil	04/23/2002	16:10	04/24/2002	10:05
200955-3	SS-10 (3'-4')	Soil	04/23/2002	16:30	04/24/2002	10:05
200955-4	SS-11 (3'-4')	Soil	04/23/2002	17:00	04/24/2002	10:05

SAMPLE INFORMATION
Date: 05/16/2002

Job Number.: 201010

Customer...: FANNING, PHILLIPS AND MOLNAR

Attn.....: John Bukoski

Project Number.....: 20000431

Customer Project ID....: HARDER TREE SERVICES

Project Description....: Harder Tree Services

Laboratory Sample ID	Customer Sample ID	Sample Matrix	Date Sampled	Time Sampled	Date Received	Time Received
201010-1	MW-10A	Water	05/02/2002	13:00	05/03/2002	09:10
201010-2	MW-10D	Water	05/02/2002	13:15	05/03/2002	09:10
201010-3	MW-8A	Water	05/02/2002	15:00	05/03/2002	09:10
201010-4	MW-8F	Water	05/02/2002	14:30	05/03/2002	09:10

STL Report : 200947
FANNING, PHILLIPS AND MOLNAR

SEVERN
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SERVICES

Case Narrative

STL Connecticut

Sample Receipt – All samples were received in good condition and at the proper temperature.

Organic Extraction - Samples were extracted according to method 3550B/3510C. No problems were encountered.

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogate recovery for Tetrachloro-m-xylene was above QC limits in GP-4 (18'-20').

Surrogates were diluted out of samples D-2 (3'-4'), D-2 (8'-10'), D-2 (14'-16'), SS-4 (3'-4'), SS-28 (0'-0.25'), SS-30 (0'-0.25'), SS-31 (0'-0.25'), SS-35 (0'-0.25'), SS-36 (0'-0.25'), and SS-33 (0'-0.25'),

Spike recoveries in the SS-37 (0'-0.25')MS/MSD were diluted outside of the calibration range. However, the MSD and surrogate recoveries appeared to be much lower than the MS recoveries. It was suspected that a loss occurred during the extraction procedure.

Results for alpha-Chlordane and Endosulfan I were reported from the DB-1701 column in sample 4971-2LCS, 4947-2LCS, D-2 (8'-10'), D-2 (14'-16'), and D-2 (3'-4') due to coelution on the RTX-35 column.

Results for alpha-Chlordane were reported from the DB-1701 column in sample ss-8 (3'-4') due to sample matrix on the RTX-35 column.

The % difference for 4,4'-DDT was just above QC limits in INDA3 analyzed at 22:13 on 4/30/02 on the DB-1701 column. This was the end bracketing standard for samples 4947-1MB, 4947-2LCS, and 4947-20MSB.

The surrogate, Decachlorobiphenyl, was just outside of retention time windows in the INDB3, PIBLK, and INDA3 standards bracketing samples 4947-1MB, 4947-2LCS, and 4947-20MSB. This shift in retention time was taken into consideration when the data was reviewed for target compounds.

An instrument blank was not injected following samples SS-35 (0'-0.25'), SS-36 (0'-0.25'), SS-37 (0'-0.25'), SS-37 (0'-0.25')MS/MSD, and SS-8 (3'-4'). An instrument blank is run to ensure the instrument is free of contaminants prior to any samples. Samples were not analyzed following this bracket.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – GP-4 (18'-20')
Compound – alpha-chlordane

$$\frac{(44864785 \text{ area/ng})(10000 \text{ ul})(20)}{(754872792 \text{ area/ng})(30.5 \text{ g})(1 \text{ ul})(0.972)} = 400 \text{ ug/Kg}$$

Pesticide TCLP – Pesticide TCLP samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Sample GP-4 (0'-2') was run at a 1:5 dilution due to high sample matrix. This sample could not be run lower without masking target compounds.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Sample ID – D-2 (0'-2')
Compound – Endrin

$$\frac{(11007408 \text{ area/ng})(10000 \text{ ul})}{(563296193 \text{ area/ng})(200 \text{ ml})(1 \text{ ul})} = 0.000977 \text{ mg/L}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Jeffrey C. Curran
Laboratory Manager

May 10, 2002
Date

STL Report : 200955
FANNING, PHILLIPS AND MOLNAR



Case Narrative

STL Connecticut

Sample Receipt – All samples were received in good condition and at the proper temperature.

Organic Extraction - Samples were extracted according to method 3550B. No problems were encountered.

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogates were diluted out of samples SS-33D, SS-32 (0'-0.25'), and SS-11 (3'-4').

Results for Endosulfan I and alpha-Chlordane were reported from the DB-1701 column in 4950-2LCS due to coelution on the RTX-35 column.

Results for Endosulfan Sulfate and Methoxychlor were reported from the RTX-35 column in 4950-2LCS due to coelution on the DB-1701 column.

Spike percent recovery for Methoxychlor was above QC limits in 4950-2LCS. This compound was not present in any of the client's samples.

Results for Endrin were reported from the DB-1701 column in 4950-2LCS. This compound was not present in any of the client's samples.

The % difference for 4,4'-DDT was just above QC criteria in the INDA3 standard analyzed at 02:22 on 5/2/2002 on the RTX-35 column. This was the end bracketing standard for sample SS-32 (0'-0.25'). This compound was reported from the DB-1701 column.

The % difference for Decachlorobiphenyl was below QC criteria in the INDA3 standard analyzed at 21:12 on 5/1/02 on the RTX-35 column. This was the end bracketing standard for samples 4950-1MB, 4950-2LCS and SS-32 (0'-0.25').

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

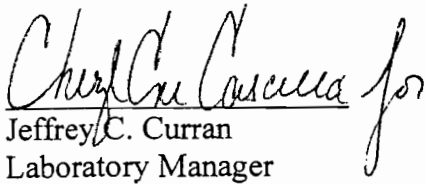
Sample ID – SS-33D

Compound – alpha-chlordane

$$\frac{(79745455 \text{ area})(10000 \text{ ul})(200)}{(1041076706 \text{ area/ng})(30.4 \text{ g})(1 \text{ ul})(0.975)} = 5200 \text{ ug/Kg}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.


Jeffrey C. Curran
Laboratory Manager

May 14, 2002
Date

STL Report : 201010
FANNING, PHILLIPS AND MOLNAR



STL Connecticut

Case Narrative

Sample Receipt – All samples were received in good condition and at the proper temperature.

Organic Extraction - Samples were extracted according to method 3510C. No problems were encountered.

Pesticides - Pesticide samples were analyzed by GC/ECD using guidance provided in Method 8081A. The instrumentation used was a Hewlett-Packard Gas Chromatograph equipped with an Electron Capture Detector (Ni63).

Surrogates were diluted out of samples MW-8A, MW-8AMS, and MW-8AMSD.

Results for Endosulfan I and alpha-Chlordane were reported from the DB-1701 column in 5255-2LCS due to coelution on the RTX-35 column.

Results for Endosulfan Sulfate and Methoxychlor were reported from the RTX-35 column in 5255-2LCS due to coelution on the DB-1701 column.

The % difference for Methoxychlor was below QC criteria in the beginning standard on the DB-1701 column. This compound was not present in any of the client's samples.

The spike compounds were diluted out in samples MW-8AMS/MSD.

Manual integrations were performed if required, and any affected peaks were designated with an "M" on the quantitation report. Manual integrations were initialed by the analyst that performed the integration.

Sample Calculation:

Client ID: MW-10A
Compound: gamma-Chlordane

$$\frac{(2200288\text{area})(10000\text{ul})}{(1120025376\text{area/ng})(1000\text{ml})(\text{ul})} = 0.0196 \text{ ug/L}$$

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative.

I certify that this data package is in compliance with the terms and conditions of this contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Marsha K. Cuhel for
Jeffrey C. Curran
Laboratory Manager

May 16, 2002
Date

Resubmission Communications

Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, N. Y. 12853

Phone 518-251-4429

Facsimile 518-251-4428

July 23, 2002

Johanna Dubauskas
Severn Trent Laboratories
128 Long Hill Cross Rd.
Shelton, CT 06484

RE: FPM Group Harder Tree Services site
STL-CT SDG Nos. 200947, 200955, and 201010

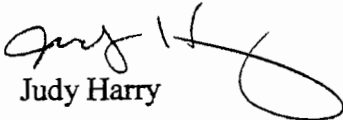
Dear Ms. Dubauskas:

Review of the data packages noted above, all of which pertain to pesticide analyses, is in progress. The following item is needed to complete the validation of the data:

Copies of the extraction logs for the samples (including that for the TCLP leaching) and the raw data for the solids determinations.

Please call me if you wish to discuss this request, and thank you. Please also send copies of all communications to Kristy at FPM Group.

Very truly yours,


Judy Harry

cc: Kristy Salafrio

Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, N. Y. 12853

Phone 518-251-4429

Facsimile 518-251-4428

July 24, 2002

Johanna Dubauskas
Severn Trent Laboratories
128 Long Hill Cross Rd.
Shelton, CT 06484

RE: FPM Group Harder Tree Services site
STL-CT SDG Nos. 200947

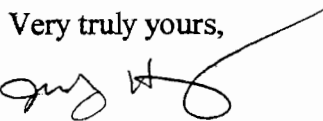
Dear Ms. Dubauskas:

One additional item needs clarification for this project. I apologize for not having included it in yesterday's request.

Please clarify the reported detections of heptachlor and chlordane in the TCLP leachate of sample 200947-18 (S-11 (0-0.25)). Review of the raw standard data indicates that the same response (retention time) was used to evaluate both analytes, and the same response was reported as both sample analyte results. Reporting from a- and g- isomers was not done in this case. There are inconsistencies in the results for that sample between the raw data, the Form 10, and the result form. The associated method blank also shows unreported detection for a- and g-chlordane (raw and Form 10).

Please call me if you wish to discuss this request, and thank you. Please also send copies of all communications to Kristy at FPM Group.

Very truly yours,



Judy Harry

cc: Kristy Salafrio

Fax Cover Sheet

**SEVERN
TRENT
SERVICES**

Date: 7-29-02

To: Judy Harry
Company: Data Validation Services
Fax: 518-251-4428STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484Tel 203 929 8140
Fax 203 929 8142
www.stl-inc.com

Pages (inc. cover sheet): 6

From: Johanna Dubauskas
Direct Tel: 203-944-1305

Re: FPM HarderTree Service

Message: Judy -

Here is the reply I received
from the lab for your 7-24 fax.

Confidentiality Notice: The information contained in the Facsimile message is privileged and confidential information intended only for the use of the addressee. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and please return the original message to us at the above address via the U.S. Postal Service.

Data Validation Services

120 Cobble Creek Road P. O. Box 208

North Creek, N. Y. 12853

Phone 518-251-4429

Facsimile 518-251-4428

July 24, 2002

Johanna Dubauskas
Severn Trent Laboratories
128 Long Hill Cross Rd.
Shelton, CT 06484

RE: FPM Group Harder Tree Services site
STL-CT SDG Nos. 200947

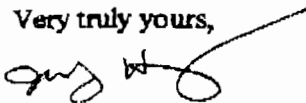
Dear Ms. Dubauskas:

One additional item needs clarification for this project. I apologize for not having included it in yesterday's request.

Please clarify the reported detections of heptachlor and chlordane in the TCLP leachate of sample 200947-18 (S-11 (0-0.25)). Review of the raw standard data indicates that the same response (retention time) was used to evaluate both analytes, and the same response was reported as both sample analyte results. Reporting from a- and g- isomers was not done in this case. There are inconsistencies in the results for that sample between the raw data, the Form 10, and the result form. The associated method blank also shows unreported detection for a- and g-chlordane (raw and Form 10).

Please call me if you wish to discuss this request, and thank you. Please also send copies of all communications to Kristy at FPM Group.

Very truly yours,


Judy Harry

cc: Kristy Salafrio

Chlordane

8.067

9.048

10.706

10.839

12.632

peaks used 4C

Same Rt used - Heptachlor single comp.

Chlordane - multi-comp. ~~see~~ Heptachlor
+ is part of TCR

need 10b for 18

MA - track a- + gamma/bk of TCR

07/24/02 WED 12:33 [TX/RX NO 6397]

On pages 659 and 664 for the quantitation reports for 200947-18, it appears as though Heptachlor and Chlordane use the same peak. However, because Chlordane is a multi-responding compound, 5 peaks were actually used in the calculation of the result. The quantitation report only shows the first peak used for Chlordane. This first peak happens to be Heptachlor (which is a component of Technical Chlordane). The form 10b shows all 5 peaks used for quantitation on both columns. The form 10b was mistakenly not included in the original package. A form 10b for this sample has been generated, page 711A.

The alpha and gamma-chlordane isomers were not reported for this sample because it is a TCLP. Only Technical chlordane is normally reported for TCLP samples.

The result for Technical Chlordane that appears on the quantitation report matches the result that appears on the Form 10B match. The raw data/area report shows all peaks found in the sample. This form can be used in conjunction with the form 10b to verify calculations. Although compound names appear on this report, only 1 compound name can be used per 1 unique retention time. Therefore, all peaks used for a multi-responding compound do not always appear because a single component compound may have been previously identified. Due to software limitations, one retention time can not show more than one compound.

The form 10a, page 708, given for the 4971-1MB was incorrect. Results were mistakenly reported for alpha-Chlordane and gamma-Chlordane. Page 708 has been corrected and resubmitted. Because this method blank was used for TCLP compounds, alpha-Chlordane and gamma-Chlordane should not have been reported. Although Technical Chlordane was present in the method blank, it was below the MDL and was therefore not reported. Page 841 has been corrected and resubmitted. The Technical Chlordane had been flagged with a "B" because of the positive hit for Technical Chlordane. However, this "B" should not have been on the report because the result for Technical Chlordane was below the MDL.

FORM 10
8081 IDENTIFICATION SUMMARY
FOR SINGLE COMPONENT ANALYTES

CLIENT SAMPLE NO.

4971-1MB

Lab Name: STL-CT

Contract:

Lab Code: STL-CT

Case No.: 200947 SAS No.:

SDG No.: 200947

Lab Sample ID: 4971-1MB

Date(s) Analyzed: 05/02/02 05/06/02

Instrument ID (1): HP5890-4C

Instrument ID (2): HP5890-1C

GC Column(1): DB-1701

ID: 0.53(mm)

GC Column(2): RTX-35

ID: 0.53(mm)

ANALYTE	COL	RT	RT WINDOW		CONCENTRATION	%D
			FROM	TO		
Heptachlor	1	8.06	8.01	8.11	0.00945	
	2	9.25	9.20	9.30	0.0134	41.8
~~gamma-Chlordane~~	1	~~10.70~~	~~10.65~~	~~10.75~~	~~0.0208~~	
	2	11.83	11.78	11.88	0.0245	17.8
alpha-Chlordane	1	10.84	10.78	10.88	0.0242	
	2	12.22	12.18	12.26	0.0195	24.1
	1					
	2					
	1					
	2					
	1					
	2					
	1					
	2					

page 1 of 1

8081

0000708

FORM 10
8081 IDENTIFICATION SUMMARY
FOR MULTICOMPONENT ANALYTES

CLIENT SAMPLE NO.

SS-11 (C
'-0.25')

Lab Name: STL-CT

Contract:

Lab Code: STL-CT

Case No.: 200947 SAS No.:

SDG No.: 200947

Lab Sample ID: 200947-18

Date(s) Analyzed: 05/06/02 05/07/02

Instrument ID (1): HP5890-1C

Instrument ID (2): HP5890-4C

GC Column(1): RTX-35

ID: 0.53(mm)

GC Column(2): DB-1701

ID: 0.53(mm)

ANALYTE	PEAK	RT	RT WINDOW		CONCENTRATION	MEAN CONCENTRATION	%D
			FROM	TO			
Chlordane	1	9.25	9.20	9.30	162		
	2	10.41	10.36	10.46	241		
	3	11.83	11.78	11.88	126		
	4	12.23	12.18	12.28	153		
	5	14.71	14.67	14.77	120	160	
COLUMN 1	1	8.07	8.01	8.11	150		
	2	9.05	8.99	9.09	245		
	3	10.71	10.64	10.74	170		
	4	10.84	10.78	10.88	154		
	5	12.63	12.57	12.67	130	170	6.2
COLUMN 2	1						
	2						
	3						
	4						
	5						
COLUMN 1	1						
	2						
	3						
	4						
	5						
COLUMN 2	1						
	2						
	3						
	4						
	5						

At least 3 peaks are required for identification of multicomponent analytes.

page 1 of 1

8081

711A

Job Number.: 200947

QUALITY CONTROL RESULTS

Report Date.: 05/09/2002

CUSTOMER: FANNING, PHILLIPS AND MOLNAR

PROJECT: HARDER TREE SERVICES

ATTN:

QC Type	Description	Reag. Code	Lab ID	Dilution Factor	Date	Time

Test Method.....: 8081A

Equipment Code....: GC10

Analyst....: dmm

Method Description.: Organochlorine Pesticide Confirmation

Batch.....: 5306

MB	Method Blank		4971 -001		05/06/2002	1303

Parameter/Test Description	Units	QC Result	QC Result	True Value	Orig. Value	QC Calc.	* Limits	F
gamma-BHC (Lindane)	ug/L	0.003	U					
Heptachlor	ug/L	0.014	J					B
Endrin	ug/L	0.008	U					
Methoxychlor	ug/L	0.062	U					
Toxaphene	ug/L	0.113	U					
Chlordane	ug/L	0.500	U					

0000841

Fax Cover Sheet

SEVERN

TRENT

SERVICES

Date: 7-26-02

To: Judy Harry

Company: Data Validation

Fax: 518-231-4428

STL Connecticut
128 Long Hill Cross Road
Shelton, CT 06484

Tel 203 929 8140
Fax 203 929 8142
www.stl-inc.com

Pages (inc. cover sheet): 1314

From: Johanna Dubauskas

Direct Tel: 203-944-1305

re: FPM

Message: Judy -

Here is the information you
requested in your 7-23rd fax

Confidentiality Notice: The information contained in the Facsimile message is privileged and confidential information intended only for the use of the addressee. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone and please return the original message to us at the above address via the U.S. Postal Service.

07/26/02

18:42

203 225 7638

STL CONNECTICUT

0002

Organic Sample Preparation Log

Preparer	Y081A	Est. Meth.	Seaf	Na2SO4 Lot #	X09583	Subtraction Date	05/07/02		
Conc. MEK/GB				Alumina Lot		Concentration Date	05/08/02		
Surrogate By	AME			Reagent H2O Lot	050602	Surrogate Code	E0258909		
Surrogate By	AME			H2SO4 Lot #		Surrogate Code	E0258909		
Surrogate By	AME			NaOH Lot #		Witness	E0258909		
Est. Conc. By	W06			Conc. EXT Start Date					
Final Conc. By	W06			Conc. EXT Stop Date					
Client	STL Sample #	Step Dist COC	Est. pH/CL	NaOH Volume (ml)	Surrogate Volume (ml)	CU	Final Volume (ml)	Soil pH	Comments
Blank	050702-02	NA	7.0	1000	NA	NA	10.0		0100-10A
FTM	261010-01	NA	7.0	1000	NA	NA	10.0		0100-10P
	02			1000	NA				0100-0A
	03			1000	NA				0100-0F
	04			1000	NA				0100-0A
	05			1000	NA				0100-0A
	06			1000	NA				0100-0A
	07			1000	NA				0100-0A
	08			1000	NA				0100-0A
	09			1000	NA				0100-0A
	10			1000	NA				0100-0A
	11			1000	NA				0100-0A
	12			1000	NA				0100-0A
	13			1000	NA				0100-0A
	14			1000	NA				0100-0A
	15			1000	NA				0100-0A
	16			1000	NA				0100-0A
	17			1000	NA				0100-0A
	18			1000	NA				0100-0A
	19			1000	NA				0100-0A
	20			1000	NA				0100-0A
	21			1000	NA				0100-0A
	22			1000	NA				0100-0A
	23			1000	NA				0100-0A
	24			1000	NA				0100-0A
	25			1000	NA				0100-0A
	26			1000	NA				0100-0A
	27			1000	NA				0100-0A
	28			1000	NA				0100-0A
	29			1000	NA				0100-0A
	30			1000	NA				0100-0A
	31			1000	NA				0100-0A
	32			1000	NA				0100-0A
	33			1000	NA				0100-0A
	34			1000	NA				0100-0A
	35			1000	NA				0100-0A
	36			1000	NA				0100-0A
	37			1000	NA				0100-0A
	38			1000	NA				0100-0A
	39			1000	NA				0100-0A
	40			1000	NA				0100-0A
	41			1000	NA				0100-0A
	42			1000	NA				0100-0A
	43			1000	NA				0100-0A
	44			1000	NA				0100-0A
	45			1000	NA				0100-0A
	46			1000	NA				0100-0A
	47			1000	NA				0100-0A
	48			1000	NA				0100-0A
	49			1000	NA				0100-0A
	50			1000	NA				0100-0A
	51			1000	NA				0100-0A
	52			1000	NA				0100-0A
	53			1000	NA				0100-0A
	54			1000	NA				0100-0A
	55			1000	NA				0100-0A
	56			1000	NA				0100-0A
	57			1000	NA				0100-0A
	58			1000	NA				0100-0A
	59			1000	NA				0100-0A
	60			1000	NA				0100-0A
	61			1000	NA				0100-0A
	62			1000	NA				0100-0A
	63			1000	NA				0100-0A
	64			1000	NA				0100-0A
	65			1000	NA				0100-0A
	66			1000	NA				0100-0A
	67			1000	NA				0100-0A
	68			1000	NA				0100-0A
	69			1000	NA				0100-0A
	70			1000	NA				0100-0A
	71			1000	NA				0100-0A
	72			1000	NA				0100-0A
	73			1000	NA				0100-0A
	74			1000	NA				0100-0A
	75			1000	NA				0100-0A
	76			1000	NA				0100-0A
	77			1000	NA				0100-0A
	78			1000	NA				0100-0A
	79			1000	NA				0100-0A
	80			1000	NA				0100-0A
	81			1000	NA				0100-0A
	82			1000	NA				0100-0A
	83			1000	NA				0100-0A
	84			1000	NA				0100-0A
	85			1000	NA				0100-0A
	86			1000	NA				0100-0A
	87			1000	NA				0100-0A
	88			1000	NA				0100-0A
	89			1000	NA				0100-0A
	90			1000	NA				0100-0A
	91			1000	NA				0100-0A
	92			1000	NA				0100-0A
	93			1000	NA				0100-0A
	94			1000	NA				0100-0A
	95			1000	NA				0100-0A
	96			1000	NA				0100-0A
	97			1000	NA				0100-0A
	98			1000	NA				0100-0A
	99			1000	NA				0100-0A
	100			1000	NA				0100-0A

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STL CT Logbook # SP12.49

Date: 5/10/02

Reviewed by: [Signature]

STL CT FERTIN SP00104.CT

0000215

11 5255

Organic Sample Preparation Log

Parameter	8081A1892 LLS	Est. Meth	Sanitation	NAISO Lot #	704595	Extraction Date	04/26/02	
Cont. Material						Characterization Date	04/26/02	
Sample By	WDB	Y. Haxel	EDZDLSV019	Aluminum Lot		Sampling Code	EDZDLSV004	
Spoke By	WDB	NAISO Lot #		Reagent H2O Lot		Spoke Code	PBB	
Extraction By	WDB	Estimate Lot #	EDZDLSV015	NAISO Lot #		Witness		
Int. Cont. By		Final Lot #		Cont. EXT Start Date				
Final Cont. By	WDB	Analysis Lot #		Cont. EXT Stop Date			PEST QC	
Blank	042602-802	N/A	30.0	1000	N/A	30.0	10.0	NA
FPM	PEST QC	30.0	1000	N/A	100	30.0	10.0	SS-330
	200955-01	30.1	1000	N/A	1000	30.1	10.0	SS-32(0.25)
	-02	30.1	1000	N/A	1000	30.1	10.0	SS-19 (5-1)
	-03	30.1	1000	N/A	1000	30.1	10.0	SS-11 (3-1)
	-04	30.1	1000	N/A	1000	30.1	10.0	SP-7
Roux	200923-01	30.5	1000	N/A	1000	30.5	10.0	

STL CT FORM SP00104.CT

Reviewed by

Date: 4/29/02

STL CT Logbook # SP12.49

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0000306

Organic Sample Preparation Log

Parameter	808A LIR	SEP	NASOL Lot #	X04595	04/26/02						
Cont. METHOD	E2		Alachlor Lot		04/26/02						
Suspension By	PZ		Bayer HIO Lot	RW 042502	E00CSUR0004						
Dilution By	E2	E00DSLVR001	HISOL Lot		E00DSPK016						
Extraction By		E00DSLVR001	MACH Lot								
Inn. Case By			Cont. EXT Serial Unit								
Final Case By	E2		Cent. EXT Bag Unit								
Client	STL Sample #	Sign Out Date CDC	Total p-PCB	WWWL Extracted Gm/PCB	Surr. Volume (ul)	Matrix Spike Volume (ml)	COD	Final Eluent Volume (ml)	Soil pH	Bottle Label	Comments
Blank	042602-B04	N/A	7/-	1000	1000	N/A	N/A	10ml		N/A	
↓	PEST QC	✓	7/-	1000		100					
Harder	200947-0A C2	✓	6/-	200		N/A					
↓	-02			300							
↓	-05			200							
↓	-18			200							
Blank	TCLPBKs 4/26	✓	7/-	200		N/A				N/A	
Harder	200947-20 C2	✓	7/-	930	1000	N/A	N/A				FB-I

TCLP Preparation Logbook

Page 1 of 2

Laboratory Sample ID	Blank	200947 -01	200947 -02	200947 -05	200947 -18	-
A. Sample Description Number of phases:						
1. Solid		✓	✓	✓	✓	
2. Liquid	✓					
a. Lighter than water						
b. Water	✓	✓	✓	✓	✓	
c. Heavier than water		✓	✓	✓	✓	
B. Percent solid Phase						
1. Weight of filter						
2. Weight of subsample						
3. Weight of filtrate						
4. Weight percent solids (wet)						
5. Weight percent solids (dry)						
6. Volume of initial aqueous filtrate						
7. Volume of initial organic filtrate						
C. Extraction Fluid Determination						
2. Sample weight ✓ if 5.0 ± 0.1 gms	N/A	✓	✓	✓	✓	
3. Volume of water ✓ if 96.5 ± 1.0 ml added		✓	✓	✓	✓	
4. Initial pH (after 5 minutes)		6.23	7.05	5.26	6.01	
5. If pH > 5.0, ✓ if 3.5 ml 1N HCL added		✓	✓	✓	✓	
6. ✓ if heated and held at 50C for 10 minutes						
7. Secondary pH (room temp.)	↓	1.84	1.77	1.91	1.80	
D. Selection of Extraction Fluid						
1. If pH from C.4 or C.7 is < 5.0 use extraction fluid No. 1	✓	✓	✓	✓	✓	
2. If pH from C.7 is > 5.0, use extraction fluid No. 2						

Fluid No. 1: 5.7 ml glacial acetic acid to 500 ml water, add 64.3 ml 1N NaOH, and dilute to 1L. 4.93 ± 0.05 Actual pH 4.90
 Fluid No. 2: 5.7 ml glacial acetic acid and dilute to 1L with water. 2.88 ± 0.05

Fluid No. 1 Reagent code: W02EJLN002 Fluid No. 2 Reagent code: _____

Prepared by: Ed Lenzini Date: 4/25/02

Checked by: [Signature] Date: 5/14/02

TCLP Preparation Logbook (cont) Page 2 of 2

Laboratory Sample ID	Blank	200947-01	200947-02	200947-05	200947-15

E. Determination of Sample Size (method requires 100 grams)

1. Particle size reduction? Y/N	N/A	N	N	N	N
2. Amount of dry solids (g)		100.5	100.2	100.2	101.4
3. Amount of multi-phase sample					
a. wt of material (g)					
b. Wt of filtrate (g)					
c. Wt of solid material (g)					

F. Determination of Amount of Extraction Fluid

1. For dry solids (20X sample Wt.)					
2. For multi-phasic samples					

G. Record of Leach procedure (18 hrs $\pm$ 2 hrs)

1. Extraction start time	2:45				
2. Extraction stop time	9:00				
3. Filtration completion time					
4. pH of filtrate					

04/25/02
04/26/02

H. Record of ZHE Extraction Test (18 hrs $\pm$ 2 hrs)

1. Amount of Extraction Fluid 1					
2. Sample mass (g)					
3. Extraction start time					
4. Starting pressure					
5. Extraction stop time					
6. Positive pressure?					

Extraction Fluid preparation:

Glacial	Acetic	Acid	1.0 N NaOH	Final	Extraction	Analyst's	Date
Vol. (mls)	Lot #		Vol. (mls)	Vol (mls)	Fluid #	Name	

Analyst: CVT Date: _____

Reviewed by: _____ Date: _____

STL Form# CVF03404.CT

22°C
30 RPM
Page 2 of 120
STL Logbook#CV34.18

TCLP Preparation Logbook

Page 1 of 2

Laboratory Sample ID	Blank	200485	20062			
A. Sample Description Number of phases:						
1. Solid		✓	✓			
2. Liquid	✓					
a. Lighter than water						
b. Water	✓	✓	✓			
c. Heavier than water		✓	✓			
B. Percent solid Phase						
1. Weight of filter						
2. Weight of subsample						
3. Weight of filtrate						
4. Weight percent solids (wet)						
5. Weight percent solids (dry)						
6. Volume of initial aqueous filtrate						
7. Volume of initial organic filtrate						
C. Extraction Fluid Determination						
2. Sample weight ✓ if 5.0 ± 0.1 gms	NA	✓	✓			
3. Volume of water ✓ if 96.5 ± 1.0 ml added		✓	✓			
4. Initial pH (after 5 minutes)		6.89	7.25			
5. If pH > 5.0, ✓ if 3.5 ml 1N HCL added		✓	✓			
6. ✓ if heated and held at 50C for 10 minutes						
7. Secondary pH (room temp.)	✓	1.70	1.63			
D. Selection of Extraction Fluid						
1. ✓ if pH from C.4 or C.7 is < 5.0 use extraction fluid No. 1	✓	✓	✓			
2. ✓ if pH from C.7 is > 5.0, use extraction fluid No.2						

Fluids Recipe:

No. 1:- 5.7 ml glacial acetic acid to 500 ml water, add 64.3 ml 1N NaOH, and dilute to 1L. 4.93 ± 0.05

No. 2:- 5.7 ml glacial acetic acid and dilute to 1L with water.

 2.88 ± 0.05

Actual pH

7.70

Fluid No.1 Reagent code: W02E1LN002 Fluid No.2 Reagent code: _____Analyst: Sharon TaylorDate: 04/29/02Reviewed by: [Signature]Date: 5/14/02

STL Form# CVF03404.CT

Page 1 of 120
STL Logbook#CV34.18Room
21°C Temp
30 RPM

TCLP Preparation Logbook (cont) Page 2 of 2

Laboratory Sample ID	Blank	200955	200961		
		-01	-01		

E. Determination of Sample Size (method requires 100 grams)

1. Particle size reduction? Y/N	N/A	N	N		
2. Amount of dry solids (g)		100.1	102.7		
3. Amount of multi-phase sample					
a. wt of material (g)					
b. Wt of filtrate (g)					
c. Wt of solid material (g)					

F. Determination of Amount of Extraction Fluid

1. For dry solids (20X sample Wt.)					
2. For multi-phasic samples					

G. Record of Leach procedure (18 hrs $\pm$ 2 hrs)

1. Extraction start time	11:45				
2. Extraction stop time	9:30				
3. Filtration completion time					
4. pH of filtrate					

04/29/02
04/30/02

H. Record of ZHE Extraction Test (18 hrs $\pm$ 2 hrs)

1. Amount of Extraction Fluid 1					
2. Sample mass (g)					
3. Extraction start time					
4. Starting pressure					
5. Extraction stop time					
6. Positive pressure?					

Extraction Fluid preparation:

Glacial	Acetic	Acid	1.0 N NaOH		Final	Extraction	Analyst's	Date
Vol. (mls)	Lot #		Vol. (mls)	Lot #	Vol (mls)	Fluid #	Name	

Analyst: Cant Date: _____Reviewed by: _____ Date: _____
STL Form# CVF03404.CTPage 9 of 120
STL Logbook#CV34.18

BATCH TEST RESULTS

BATCH NUMBER: 4944

Date: 07/26/2002

Method Code.: SOLIDS

Method Desc.:

Batch Status: RWD

Analyst.: ksw

ID	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flags	QC	QCX	Lg-Unt	St-DL	Log-DL	R
200898-2.5	% Solids	81.2	81.2	0.1	81	0					%		0.1	0
	Initial Weight	6.0500												
	Final Weight	4.9100												
	TARE Weight g	1.28												
	Wet Weight g	7.33												
	Dry Weight g	6.19												
	% Moisture	18.8	18.8	0.1	19	0					%		0.1	0
200898-3.5	% Solids	80.0	80.0	0.1	80	0					%		0.1	0
	Initial Weight	7.1600												
	Final Weight	5.7300												
	TARE Weight g	1.27												
	Wet Weight g	8.43												
	Dry Weight g	7.00												
	% Moisture	20.0	20.0	0.1	20	0					%		0.1	0
200898-4.5	% Solids	97.4	97.4	0.1	97	0					%		0.1	0
	Initial Weight	6.2800												
	Final Weight	6.0400												
	TARE Weight g	1.27												
	Wet Weight g	7.47												
	Dry Weight g	7.31												
	% Moisture	2.6	2.6	0.1	3	0					%		0.1	0
200898-2.5	% Solids	99.3	99.3	0.1	99	0					%		0.1	0
	Initial Weight	5.9600												
	Final Weight	5.9200												
	TARE Weight g	1.25												
	Wet Weight g	7.21												
	Dry Weight g	7.17												
	% Moisture	0.7	0.7	0.1	0.7	0					%		0.1	0
200898-3.5	% Solids	99.3	99.3	0.1	99	0					%		0.1	0
	Initial Weight	7.0800												
	Final Weight	7.0300												
	TARE Weight g	1.27												
	Wet Weight g	8.35												
	Dry Weight g	8.30												
	% Moisture	0.7	0.7	0.1	0.7	0					%		0.1	0
200898-4.5	% Solids	99.4	99.4	0.1	99	0					%		0.1	0
	Initial Weight	8.0300												
	Final Weight	7.9800												
	TARE Weight g	1.27												
	Wet Weight g	9.30												
	Dry Weight g	9.25												
	% Moisture	0.6	0.6	0.1	0.6	0					%		0.1	0
200898-3.5	% Solids	97.2	97.2	0.1	97	0					%		0.1	0
	Initial Weight	7.0600												
	Final Weight	6.8600												
	TARE Weight g	1.26												
	Wet Weight g	8.32												

BATCH TEST RESULTS

BATCH NUMBER: 4944

Date: 07/26/2002

Method Code.: SOLIDS

Method Desc.:

Batch Status: RVWD

Analyst.: ksw

7 ID: 200947-3 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
DRYWT	Dry Weight g	8.12												+
XMOIST	% Moisture	2.8	2.8	0.1	3	0					%		0.1	0
8 ID: 200947-4 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
XSOLID	% Solids	97.6	97.6	0.1	98	0					%		0.1	0
IWGT	Initial Weight	7.4400												+
FWGT	Final Weight	7.2600												+
TARE	TARE Weight g	1.25												+
WETWT	Wet Weight g	8.69												+
DRYWT	Dry Weight g	8.51												+
XMOIST	% Moisture	2.4	2.4	0.1	2	0					%		0.1	0
9 ID: 200947-5 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
XSOLID	% Solids	89.3	89.3	0.1	89	0					%		0.1	0
IWGT	Initial Weight	6.7600												+
FWGT	Final Weight	6.0400												+
TARE	TARE Weight g	1.26												+
WETWT	Wet Weight g	8.02												+
DRYWT	Dry Weight g	7.50												+
XMOIST	% Moisture	10.7	10.7	0.1	11	0					%		0.1	0
10 ID: 200947-7 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
XSOLID	% Solids	88.6	88.6	0.1	89	0					%		0.1	0
IWGT	Initial Weight	7.0800												+
FWGT	Final Weight	6.2700												+
TARE	TARE Weight g	1.26												+
WETWT	Wet Weight g	8.34												+
DRYWT	Dry Weight g	7.53												+
XMOIST	% Moisture	11.4	11.4	0.1	11	0					%		0.1	0
11 ID: 200947-8 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
XSOLID	% Solids	84.1	84.1	0.1	84	0					%		0.1	0
IWGT	Initial Weight	7.0900												+
FWGT	Final Weight	5.9400												+
TARE	TARE Weight g	1.27												+
WETWT	Wet Weight g	8.36												+
DRYWT	Dry Weight g	7.23												+
XMOIST	% Moisture	15.9	15.9	0.1	16	0					%		0.1	0
12 ID: 200947-9 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
XSOLID	% Solids	95.4	95.4	0.1	95	0					%		0.1	0
IWGT	Initial Weight	6.7000												+
FWGT	Final Weight	6.3900												+
TARE	TARE Weight g	1.26												+
WETWT	Wet Weight g	7.96												+
DRYWT	Dry Weight g	7.65												+
XMOIST	% Moisture	4.6	4.6	0.1	5	0					%		0.1	0
13 ID: 200947-10 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
XSOLID	% Solids	70.0	70.0	0.1	70	0					%		0.1	0
IWGT	Initial Weight	6.5400												+
FWGT	Final Weight	4.5800												+
TARE	TARE Weight g	1.26												+
WETWT	Wet Weight g	7.80												+
DRYWT	Dry Weight g	5.84												+
XMOIST	% Moisture	30.0	30.0	0.1	30	0					%		0.1	0
14 ID: 200947-11 S		DL	Prep	Dry	Reag	DL	Units							
Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
XSOLID	% Solids	86.9	86.9	0.1	87	0					%		0.1	0

BATCH TEST RESULTS

BATCH NUMBER: 4944
Method Code.: SOLIDS
Batch Status: RVMD

Method Desc.:
Analyst.: ksw

Date: 07/26/2002

Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
15	200507-11 S														
WGT	Initial Weight	4.0900													
FWGT	Final Weight	5.2900													
TARE	TARE Weight g	1.25													
WETWT	Wet Weight g	7.34													
DRYWT	Dry Weight g	6.54													
XMOIST	% Moisture	13.1	13.1	0.1	13	0								0.1	0

Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
15	200507-12 S														
XSOLID	% Solids	73.9	73.9	0.1	74	0								0.1	0
WGT	Initial Weight	5.9500													
FWGT	Final Weight	4.3800													
TARE	TARE Weight g	1.26													
WETWT	Wet Weight g	7.19													
DRYWT	Dry Weight g	5.64													
XMOIST	% Moisture	26.1	26.1	0.1	26	0								0.1	0

Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
16	200507-13 S														
XSOLID	% Solids	73.9	73.9	0.1	74	0								0.1	0
WGT	Initial Weight	5.9500													
FWGT	Final Weight	4.4000													
TARE	TARE Weight g	1.25													
WETWT	Wet Weight g	7.21													
DRYWT	Dry Weight g	5.66													
XMOIST	% Moisture	26.1	26.1	0.1	26	0								0.1	0

Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
17	200507-14 S														
XSOLID	% Solids	77.7	77.7	0.1	78	0								0.1	0
WGT	Initial Weight	6.4000													
FWGT	Final Weight	4.9700													
TARE	TARE Weight g	1.26													
WETWT	Wet Weight g	7.66													
DRYWT	Dry Weight g	6.23													
XMOIST	% Moisture	22.3	22.3	0.1	22	0								0.1	0

Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
18	200507-15 S														
XSOLID	% Solids	84.5	84.5	0.1	84	0								0.1	0
WGT	Initial Weight	7.1400													
FWGT	Final Weight	6.0300													
TARE	TARE Weight g	1.29													
WETWT	Wet Weight g	8.43													
DRYWT	Dry Weight g	7.32													
XMOIST	% Moisture	15.5	15.5	0.1	16	0								0.1	0

Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
19	200507-16 S														
XSOLID	% Solids	77.0	77.0	0.1	77	0								0.1	0
WGT	Initial Weight	6.6900													
FWGT	Final Weight	5.1500													
TARE	TARE Weight g	1.26													
WETWT	Wet Weight g	7.95													
DRYWT	Dry Weight g	6.41													
XMOIST	% Moisture	23.0	23.0	0.1	23	0								0.1	0

Test	Test name	Raw	Final-DL	DL(A)	Final-IDL	IDL(A)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R
20	200507-17 S														
XSOLID	% Solids	83.8	83.8	0.1	84	0								0.1	0
WGT	Initial Weight	8.2500													
FWGT	Final Weight	6.9100													
TARE	TARE Weight g	1.28													
WETWT	Wet Weight g	9.53													
DRYWT	Dry Weight g	8.19													

BATCH TEST RESULTS

BATCH NUMBER: 5009

Date: 07/26/2002

Method Code.: SOLIDS

Method Desc.:

Batch Status: RVWD

Analyst.: ksw

7 ID: 200952-7 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
DRYWT	Dry Weight g	6.72													+			
XMOIST	% Moisture	15.1	15.1	0.1	15	0						%		0.1	0			
8 ID: 200952-8 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
XSOLID	% Solids	84.7	84.7	0.1	85	0						%		0.1	0			
IWGT	Initial Weight	8.1600													+			
FWGT	Final Weight	5.2200													+			
TARE	TARE Weight g	1.25													+			
WETWT	Wet Weight g	7.41													+			
DRYWT	Dry Weight g	6.47													+			
XMOIST	% Moisture	15.3	15.3	0.1	15	0						%		0.1	0			
9 ID: 200953-1 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
XSOLID	% Solids	85.3	85.3	0.1	85	0						%		0.1	0			
IWGT	Initial Weight	7.0100													+			
FWGT	Final Weight	5.9800													+			
TARE	TARE Weight g	1.25													+			
WETWT	Wet Weight g	8.26													+			
DRYWT	Dry Weight g	7.23													+			
XMOIST	% Moisture	14.7	14.7	0.1	15	0						%		0.1	0			
10 ID: 200953-1 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
XSOLID	% Solids	97.5	97.5	0.1	98	0						%		0.1	0			
IWGT	Initial Weight	7.2000													+			
FWGT	Final Weight	7.0200													+			
TARE	TARE Weight g	1.25													+			
WETWT	Wet Weight g	8.45													+			
DRYWT	Dry Weight g	0.27													+			
XMOIST	% Moisture	2.5	2.5	0.1	2	0						%		0.1	0			
11 ID: 200953-2 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
XSOLID	% Solids	83.0	83.0	0.1	83	0						%		0.1	0			
IWGT	Initial Weight	8.3300													+			
FWGT	Final Weight	6.9100													+			
TARE	TARE Weight g	1.25													+			
WETWT	Wet Weight g	9.58													+			
DRYWT	Dry Weight g	8.16													+			
XMOIST	% Moisture	17.0	17.0	0.1	17	0						%		0.1	0			
12 ID: 200953-3 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
XSOLID	% Solids	95.8	95.8	0.1	96	0						%		0.1	0			
IWGT	Initial Weight	6.4900													+			
FWGT	Final Weight	6.2200													+			
TARE	TARE Weight g	1.28													+			
WETWT	Wet Weight g	7.77													+			
DRYWT	Dry Weight g	7.50													+			
XMOIST	% Moisture	4.2	4.2	0.1	4	0						%		0.1	0			
13 ID: 200953-4 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
XSOLID	% Solids	77.1	77.1	0.1	77	0						%		0.1	0			
IWGT	Initial Weight	6.0600													+			
FWGT	Final Weight	4.6700													+			
TARE	TARE Weight g	1.26													+			
WETWT	Wet Weight g	7.32													+			
DRYWT	Dry Weight g	5.93													+			
XMOIST	% Moisture	22.9	22.9	0.1	23	0						%		0.1	0			
14 ID: 200953-1 S	DL=	Prep=	Dry=	Regr=	DLF=	Units=												
Test	Test name	Raw	Final-DL	DL(Aj)	Final-IDL	IDL(Aj)	Raw-IDL	Flgs	Q	QC	QCX	Lg-Unt	Bt-DL	Log-DL	R			
XSOLID	% Solids	84.9	84.9	0.1	85	0						%		0.1	0			

Qualified Client Tables

FPM

TABLE 4.2.1
SOIL SAMPLE CHEMICAL ANALYTICAL DATA
REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

TCL Residues in mg/kg																			
Compound	Concentration	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
beta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
delta-BHC		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
Heptachlor	0.012 JB	0.0057 J	0.760 B	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.370	0.10
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.041
Heptachlor Epoxide	0.009	ND	0.100	0.700	ND	0.230 J	0.093	ND	0.500	0.440	ND	ND	ND	ND	ND	ND	ND	ND	0.02
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9
Dieldrin	0.120 B	0.0014 J	8.600 B	1.700 B	0.015	0.170 J	0.140	0.740	1.200	3.300	2.700,000 B	7.600	120,000 B	5.600	0.840 B	1.300	ND	0.044	
4,4'-DDE	0.210	0.011 J	3.300	2.700	0.047	ND	0.370	3.200 J	4.400 J	ND	ND	ND	1.400 J	2.000 J	0.320 J	ND	ND	2.1	
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10	
Endosulfan II	0.024 J	ND	ND	0.470 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9	
4,4'-DDD	0.042 J	0.0057 ND	2.300	0.980 J	0.015	0.670 J	ND	0.700	ND	0.540 J	410,000	ND	21,000 J	ND	1.000	ND	ND	2.9	
Endosulfan Sulfate	ND	ND	ND	0.230 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.0	
4,4'-DDT	0.340	0.014 J	7.300	7.700	0.065	0.670	0.600 J	3.800	7.000 J	0.940	370,000 J	1.900 J	24,000	17,000	3.200	1.400	ND	2.1	
Methoxychlor	ND	ND	ND	0.350 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	+	
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	+	
alpha-Chlordane	0.260 B	0.0035 ND	4.800 B	3.000 B	0.043	2.000 J	0.640 ND	2.200 J	2.500 ND	2.100 J	630,000 B	22,000 J	11,000 B	12,000	1.200 B	7.000	ND	0.54	
gamma-Chlordane	0.240 B	0.0023	4.700 B	3.000 B	0.023	1.100	0.270	1.100	1.000	2.000	1,100,000 B	21,000	17,000 B	11,000	1.200 B	5.200	ND	0.54	
Total Pesticides	1.347	0.038	34.86	20.96	0.22	4.84	2.37	12.38	16.72	10.92	8.814	60.1	211.19	51.200	8.213	15.27	ND	10	

Notes:

TCL = Target Compound List.
mg/kg = kilograms per kilogram.
ND = Not Detected.
B = Analysis was detected in Mean sample(s).
J = Concentration is estimated.
Bold values exceed the NYDEC Recommended Soil Cleanup Objectives.
+ = No Soil Cleanup Objective is available.
- = Not Sampled

TABLE 4.2.1 (CONTINUED)
SOIL SAMPLE CHEMICAL ANALYTICAL DATA
REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

[illegible]

Notes

TCL = Target Compound List
 Analyte = Milligant's pet Milligant
 ND = Not Detected
 B = Analysis was detected in blank sample(s)
 C = Concentration is estimated
 Bold values exceed the NYSDEC Recommended Soil Cleanup Objectives
 = NO SOI Cleanup Objective is available

TABLE 4.2.1 (CONTINUED)
SOIL SAMPLE CHEMICAL ANALYTICAL DATA
REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

TCL Pesticides in mg/kg														
Compound	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Delta-BHC	0.0026	ND	ND	0.210	ND	0.740	ND	ND	ND	ND	ND	ND	ND	0.2
Gamma-BHC	0.0012 JB	0.994 B	ND	ND	0.005 JB	0.050 JB	0.038 JB	ND	ND	ND	0.0031 JB	0.070 B	0.070 B	0.10
Alten	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.041
Heptachlor Epoxide	0.0035	0.139 J	0.098 J	0.014	0.014	0.008	0.350 J	ND	ND	ND	ND	ND	ND	0.02
Endosulfan I	ND	0.063 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9
Oxidrin	0.0036 JB	0.930 B	0.310 B	0.012 JB	0.012 JB	ND	0.194 JB	ND	ND	ND	0.0080 JB	0.0080 JB	0.0080 JB	0.044
4,4'-DDE	0.0047	0.680	0.980	0.016 J	0.016 J	1.300	1.300	ND	ND	ND	ND	ND	ND	2.1
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10
Endosulfan II	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9
4,4'-DDD	0.0048	1.400	0.380	0.008	0.008	1.600	2.000	ND	ND	ND	0.0036	0.0036	0.0036	2.9
Endosulfan Sulfate	ND	0.100 J	0.047 J	ND	ND	0.092 J	0.092 J	ND	ND	ND	ND	ND	ND	1.0
4,4'-DDT	0.0057 B	1.300	1.900 B	0.033 B	0.033 B	1.600 B	2.400 B	ND	ND	ND	0.0034	0.0034	0.0034	2.1
Methoxychlor	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
Endosulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
Endrin Kalsze	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10
Alpha Chlordane	0.010 B	1.400 B	0.470 B	0.005 B	0.005 B	0.400 B	2.400 B	ND	ND	ND	0.0037 B	0.0037 B	0.0037 B	0.54
Gamma-Chlordane	0.0075 B	1.900 B	0.110 B	0.047 B	0.047 B	3.200 B	1.800 B	ND	ND	ND	0.0028 B	0.0028 B	0.0028 B	0.54
Total Pesticides	0.0436	8.293	4.477	0.717	0.717	14.7	10.37	804	10.7	10.7	0.1883	1.716	0.61451	10

NOTE:

TCL = Target Compound Ltd.

mg/kg = Milligrams per kilogram

ND = Not Detected.

B = Analyte was detected in blank sample(s).

J = Concentration is estimated

Bold values exceed the NYSDEC Recommended Soil Cleanup Objectives.

+ = No Soil Cleanup Objective is available.

FPM

TABLE 4.2.1
SOIL SAMPLE CHEMICAL ANALYTICAL DATA
REMEDIAL INVESTIGATION
HARDER TREE SERVICE SITE
HEMPSTEAD, NEW YORK

ITCL Pesticides in mg/kg																	
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.2
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.3
gamma-BHC	0.017 JB	0.00357 J	0.760 B	ND	0.012	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.10
Aldrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.041
Heptachlor Epoxide	0.045	ND	3.100	0.750	ND	0.230 J	0.083	0.580	0.440	ND	ND	ND	ND	ND	ND	ND	0.02
Endosulfan I	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.9
Dieldrin	0.120 B	0.0014 J	0.600 B	1.700 B	0.015	0.170 J	0.140	0.740	1.200	3.300	2.700.000 B	7.600	120.000 B	5.900	0.640 B	1.300	0.044
4,4'-DOE	0.210	0.011	3.300	2.700	0.047	ND	0.510	3.200	4.400	ND	ND	ND	1.400 J	2.900 J	0.320 J	ND	2.1
Endosulfan II	0.024 J	ND	ND	ND	ND	ND	ND	ND	ND	0.200 J	87.000 J	ND	3.500 J	ND	ND	ND	0.10
4,4'-DDD	0.042 J	0.0057	2.300	0.980 J	0.015 J	0.670	ND	0.760	ND	0.540 J	410.000	ND	21.000 J	ND	1.000	ND	2.9
Endosulfan Sulfate	ND	ND	ND	0.290 J	ND	0.043 J	ND	3.800	7.000	0.540	376.000 J	1.500	24.000	17.000	3.200	1.400	1.0
4,4'-DDT	0.240	0.014	7.900	7.700	0.065	0.670	0.860	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.1
Heptachlor	ND	ND	ND	0.350 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.053 J	ND	10
Endrin aldehyde	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6
Endrin Ketone	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.110 J	17.000 J	ND	0.650 J	ND	ND	ND	1
gamma-Chlorobenzene	0.250 B	0.0035	4.000 B	3.000 B	0.043 J	2.000	0.640	2.200	2.500	2.100	630.000 B	22.000	11.000 B	12.000	1.200 B	7.800 J	0.54
gamma-Chlorobenzene	0.240 B	0.0023	4.000 B	3.000 B	0.023	1.800	0.270	1.100	1.000	2.000	1,100.000 B	21.000	17.000 B	11.000	1,200 B	5.200	0.54
Endrin	1.347	0.0238	34.86	20.06	0.22	4.84	2.37	12.38	16.72	10.02	8.814	60.1	211.19	51.200	8.215	15.27	10

Notes:

TCL = Target Component List

mmHg = Milligrams per kilogram.

mg/kg = Milligrams per kilogram.

N/A = Not Detected.

B - Analyte was detected in blank

J - Contribution is estimated

Grid values entered the N3DEC RECORDING

$+ = \text{NC SRI Objective is available.}$

2. **Verfahren zur Gewinnberechnung (Einkaufspreise, Herstellkosten, Verkaufspreise)**

(and report form)

(*) The data show heptachlor epoxide detected at 0.010 ng/kg in 55-10 (3-4')

This result is to be qualified "J", also. **FPM**

SS-3205-SS-33-0-025

TABLE 4.4.1
GROUNDWATER CHEMICAL ANALYTICAL DATA
HARDER TREE SERVICES SITE
1986, 1987, 1988, 1989, 2001, AND 2002 SAMPLING EVENTS

Pesticides in µg/l	1986	1987	1988	1989	2001	2002	Quality
Lindane (Hexachlorocyclohexane)	ND	ND	ND	ND	ND	ND	0.05
Dieldrin	ND	ND	ND	ND	ND	ND	0.004
Heptachlor	ND	ND	ND	ND	ND	ND	0.04
Heptachlor Epoxide	ND	ND	ND	ND	ND	ND	0.03
Endrin Ketone	ND	ND	ND	ND	ND	ND	5
Endrin BHC	ND	ND	ND	ND	ND	ND	0.01
Chlordane	ND	ND	ND	ND	ND	ND	0.05
4,4'-DDO	ND	ND	ND	ND	ND	ND	0.3
4,4'-DDT	ND	ND	ND	ND	ND	ND	0.2
Endrin	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND	ND	ND	ND
delta-BHC	ND	ND	ND	ND	ND	ND	ND
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND
Volatiles Organic Compounds in µg/l	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	5
Tetrachloroethane	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	ND	ND	ND	ND	ND	1
Benzene	ND	ND	ND	ND	ND	ND	5
Xylene	ND	ND	ND	ND	ND	ND	7
Chloroform	ND	ND	ND	ND	ND	ND	5
Toluene	ND	ND	ND	ND	ND	ND	5
Ethylbenzene	ND	ND	ND	ND	ND	ND	5
Methylbenzene	ND	ND	ND	ND	ND	ND	5
Acetone	ND	ND	ND	ND	ND	ND	50

Notes:

Only detected compounds are reported.

- = For chlordane, either total chlordane or alpha- and gamma isomers are reported.

µg/l = Micrograms per liter

ND = Not Detected

NA = Not Analyzed

J = Concentration is estimated

B = Analyte was detected in blank sample(s)

- = No NYSDDEC Class GA Ambient Water Quality Standard established for this analyte.

Bold values exceed NYSDDEC Class GA Ambient Water Quality Standard.

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TABLE 4.4.1 (CONTINUED)
GROUNDWATER CHEMICAL ANALYTICAL DATA
HARDER TREE SERVICES SITE
1986, 1987, 1988, 1998, 2001, AND 2002 SAMPLING EVENTS

Pesticides in ug/l	1986	1987	1988	1998	2001	2002	1986	1987	1988	1998	2001	2002	1986	1987	1988	1998	2001	2002	1986	1987	1988	1998	2001	2002
Pesticides in ug/l																								
Lindane (Hexachlorocyclohexane)	ND	ND	ND	ND	0.0028 J	0.67	ND	ND	ND	ND	0.05 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.05
Diakrin	ND	0.05 J	0.047	ND	1.4	0.22 J	ND	0.022 J	ND	0.04 J	0.19	ND	ND	ND	0.058	ND	ND	ND	ND	ND	0.11 J	ND	ND	0.004
Heptachlor Epoxide	0.05 J	NA	0.12	ND	0.10	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.036 J	ND	ND	0.04
Endrin Ketone	ND	ND	ND	ND	0.065 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
alpha-BHC	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.01
Chlordane	NA	0.42	ND	ND	-	-	ND	-	ND	NA	0.49	ND	ND	ND	-	0.31	ND	ND	ND	ND	-	ND	ND	0.05
4,4'-DDD	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	0.09 J	ND	ND	ND	0.17	ND	ND	ND	ND	ND	ND	ND	ND	0.3
4,4'-DDT	NA	0.38	ND	ND	ND	ND	ND	ND	ND	NA	0.48	ND	ND	ND	0.32	ND	ND	ND	ND	ND	ND	ND	ND	0.2
Endrin	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan Sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Endosulfan II	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	ND
alpha-Chlordane	NA	-	-	-	0.94 B	0.28	ND	0.92 B	ND	NA	-	ND	ND	ND	0.20 B	-	ND	ND	ND	ND	0.10	ND	ND	0.05
gamma-Chlordane	NA	-	-	-	0.21	ND	ND	ND	ND	NA	-	ND	ND	ND	0.20 B	-	ND	ND	ND	ND	0.061	ND	ND	0.05
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
beta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.04
4,4'-DDE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND	ND	ND	ND	ND	ND	ND	ND	0.02
Volatile Organic Compounds in ug/l																								
1,1-Dichloroethane	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Tetrachloroethene	ND	NA	720	ND	4	2.8	ND	ND	ND	ND	NA	ND	ND	ND	ND	5.8	ND	ND	ND	ND	ND	ND	ND	5
1,1,1-Trichloroethane	ND	NA	1.2	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Trichloroethene	ND	NA	ND	ND	ND	ND	ND	ND	ND	4.4	NA	ND	ND	ND	ND	10	ND	ND	ND	ND	ND	ND	ND	5
Benzene	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1
Xylene	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Chloroform	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7
Trisulfate	ND	NA	ND	ND	4.4	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Ethylbenzene	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Methylstyrene Chloride	ND	NA	ND	ND	7.6	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5
Acetone	ND	NA	ND	ND	13	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	50

Notes:

Only detected compounds are reported.

- = For chlordane, either total chlordane or alpha- and gamma-chlordane are reported.

ug/l = Micrograms per liter

ND = Not Detected.

NA = Not Analyzed.

J = Concentration is estimated

B = Analyte was detected in blank sample(s)

- = No NYSDEC Class GA Ambient Water Quality Standard established for this analyte.

Bold values exceed NYSDEC Class GA Ambient Water Quality Standard.

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TABLE 4.4.1 (CONTINUED)
GROUNDWATER CHEMICAL ANALYTICAL DATA
HARDER TREE SERVICES SITE
1986, 1987, 1988, 1999, 2001, AND 2002 SAMPLING EVENTS

those pesticides for these 2
showing "NA" "ND"
should read

Pesticides in ug/l	1986	1987	1988	1999	2001	2002	NYSED Class	GA Public Use
Lindane (Hexachlorocyclohexane)	ND	ND	ND	ND	ND	ND	0.05	0.04
Dieldrin	ND	ND	ND	ND	5.7	ND	0.04	0.04
Heptachlor Epoxide	ND	ND	ND	ND	2.1	ND	0.03	0.03
Endrin Ketone	ND	ND	ND	ND	0.065 J	ND	5	5
alpha-BHC	ND	ND	ND	ND	ND	NA	0.01	0.01
Chlordane	44	ND	ND	ND	ND	NA	0.06	0.06
4,4'-DDD	ND	ND	ND	ND	1.9 J	ND	0.3	0.2
4,4'-DDT	ND	ND	ND	ND	0.70 J	ND	0.2	0.2
Endrin	ND	ND	ND	ND	0.18 J	ND	ND	ND
Endosulfan Sulfate	ND	ND	ND	ND	0.77 J	ND	ND	ND
Endosulfan II	ND	ND	ND	ND	0.77 J	ND	ND	ND
alpha-Chlordane	ND	ND	ND	ND	1.8 J	ND	ND	ND
gamma-Chlordane	ND	ND	ND	ND	30	ND	0.05	0.05
delta-BHC	ND	ND	ND	ND	28	ND	0.05	0.05
Beta-BHC	ND	ND	ND	ND	4.3	ND	0.04	0.04
NA 4'-DDE	ND	ND	ND	ND	ND	NA	0.04	0.04
Volatile Organic Compounds in ug/l	ND	ND	ND	ND	ND	ND	0.02	0.02
1,1-Dichloroethane	ND	ND	ND	ND	ND	NA	5	5
Tetrachloroethene	ND	ND	ND	ND	ND	NA	5	5
1,1,1-Trichloroethane	1.4	ND	ND	ND	ND	NA	5	5
Trichloroethene	ND	ND	ND	ND	ND	NA	1	1
Benzene	ND	ND	ND	ND	ND	NA	5	5
Xylene	ND	ND	ND	ND	ND	NA	5	5
Chloroform	ND	ND	ND	ND	ND	NA	5	5
Trichloroethene	ND	ND	ND	ND	ND	NA	5	5
Ethylbenzene	ND	ND	ND	ND	ND	NA	5	5
Methylbenzene	ND	ND	ND	ND	ND	NA	5	5
Acetone	ND	ND	ND	ND	3.5	NA	5	5
Acetone	ND	ND	ND	ND	8.2	NA	50	50

Notes:

Only detected compounds are reported.
- = For chlordane, either total chlordane or alpha- and gamma-chlordane are reported.
ug/l = Micrograms per liter
ND = Not Detected.
NA = Not Analyzed.

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Groundwater Chemical Analytical Data

TABLE 4.8.2.2
OAXIC SAMPLE CHEMICAL ANALYTICAL DATA
DUPLICATE SAMPLES
HARDER TREE SERVICES SITI
HEMPSTEAD, NEW YORK

mw-10
mw-10D
7

SS-33
SS-33D
7

TCL Pesticides															
Heptachlor	0.011 J	ND	ND	ND	ND	0.006 B	0.0022 B	1.400 J	1.400 J	0.040 B	0.0045 JB	0.0568 JB	0.0250 JE	ND	ND
Heptachlor Epoxide	0.036 J	0.047 J	ND	ND	ND	0.014	ND	2.200	2.200	ND	ND	ND	ND	0.000 J	ND
Dieldrin	ND	ND	ND	ND	ND	0.017 JB	0.0080 JB	5.600	5.600	0.058 B	0.050 JB	0.110 B	0.120 B	0.310 B	1.200 J
4,4'-DDE	ND	ND	ND	ND	ND	0.016 J	0.058	2.000 J	2.000 J	0.110	0.083	0.380	0.360	0.580	1.300
delta-BHC	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.210	ND
4,4'-DDD	ND	ND	ND	ND	ND	0.026	0.016 J	ND	ND	0.000	0.510	0.220	0.180	0.360	0.420
Endosulfen Sulfate	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.047 J	ND
4,4'-DDT	ND	ND	ND	ND	ND	0.023 B	0.020 B	17.000	16.000	0.750	0.820	0.240 B	0.200 B	1.300 H	1.800 J
alpha-Chlordane	0.10	0.11	ND	ND	ND	0.068 B	0.058 B	12.000	12.000	0.130 B	0.120 E	0.120 B	0.130 B	0.470 B	5.200 J
gamma-Chlordane	0.001	0.072	ND	ND	ND	0.042 B	0.0004 B	11.000	11.000	0.180 B	0.200 B	0.180 B	0.170 B	0.110 B	4.800
TCL Volatile Organic Compounds															
Methylene Chloride	4.1	3.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	16	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:

- TCL = Target Compound List
ug/l = micrograms per liter
mg/kg = milligrams per kilogram
ND = Not Detected
NA = Not Applicable
B -- Analyte was detected in blank sample(s)
J = Concentration is estimated
* - SS-11G was mislabeled in the field. It should be SS-7C from 3-4 feet.

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TABLE 4.2.8.1
 TCLP EXTRACTION CHEMICAL ANALYTICAL DATA
 2001-2002 REMEDIAL INVESTIGATION
 HARDER TREE SERVICE SITE
 HEMPSTEAD, NEW YORK

Sample Depth (feet below grade)	Location	SS-11	SS-1	GP-4	D-2	RCRA Regulatory Level
		0-0.25	0-2	0-2	0-2	
TCLP Pesticides in mg/l						
Heptachlor		0.011 J	ND	ND	0.0014	0.008
Chlordane		0.17	ND	ND	ND	0.03
Endrin		ND	ND	ND	0.00098 J	0.020

Notes:

ND = Not detected

mg/l = Milligrams per liter.

TCLP = Toxicity Characteristic Leaching Procedure

RCRA = Resource Conservation and Recovery Act

Bold values exceed RCRA regulatory level

TABLE 4.6.2.1
QA/QC SAMPLE CHEMICAL ANALYTICAL DATA
EQUIPMENT AND TRIP BLANK SAMPLES
HARDER TREE SERVICES SITE
HEMPSTEAD, NEW YORK

Sample Type		Equipment Blank			
Sample ID	SS-11C	MW-1F	ES-1	MW-1F	ES-1
Analyte	ug/l	ug/l	ug/l	ug/l	ug/l
TCL Pesticides					
Heptachlor	ND	ND	ND	ND	NA
Heptachlor Epoxide	ND	ND	ND	ND	NA
Dieldrin	0.015 J	ND	ND	ND	NA
4,4'-DDE	ND	ND	ND	ND	NA
delta-BHC	ND	ND	ND	ND	NA
4,4'-DDD	ND	ND	ND	ND	NA
Endosulfan Sulfate	ND	ND	ND	ND	NA
4,4'-DDT	ND	ND	ND	ND	NA
alpha-Chlordane	ND	ND	ND	ND	NA
gamma-Chlordane	0.038 J	ND	ND	ND	NA
TCL Volatile Organics					
Methylene Chloride	NA	3.9	NA	NA	4.8
Acetone	NA	28	NA	NA	31

Notes:

TCL = Target Compound List.

ug/l = micrograms per liter.

mg/kg = milligrams per kilogram.

ND = Not Detected.

NA = Not Applicable.

B = Analyte was detected in blank sample(s).

J = Concentration is estimated.

* = SS-11C was mislabeled in the field. It should be SS-7C.

FB-1 from 2002
has alpha-chlordane at 0.043 J

and gamma-chlordane
at 0.025 J

they both also have
a "B" lab
flag.

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