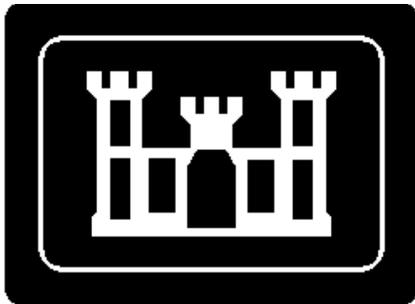


RCRA FACILITY INVESTIGATION REPORT

FOR

**FH-061 (Lake C and Wash
Rack/Sewer System)
FORT HOOD, TEXAS**



PREPARED FOR

**U.S. ARMY CORPS OF ENGINEERS
FORT WORTH DISTRICT**

CONTRACT NO. DACA63-96-D-0021

February 2000

**RCRA Facility Investigation Report
For
Site FH-061 (Lake C and Wash Rack/Sewer System)**

**Prepared for
U.S. Army Corps of Engineers
Fort Worth District
Fort Worth, Texas**

**Under Contract Number
DACA63-96-D-0021**

**Prepared by
Science Applications International Corp.
4900 Blazer Parkway
Dublin, OH 43017**

February 2000

TABLE OF CONTENTS

1.0 INTRODUCTION..... 1
 1.1 BACKGROUND..... 1
 1.2 SCOPE AND OBJECTIVES 1

2.0 ENVIRONMENTAL SETTING 5
 2.1 PHYSIOGRAPHIC SETTING 5
 2.2 GEOLOGIC CONDITIONS 5
 2.2.1 Bedrock 5
 2.2.2 Unconsolidated Materials 7
 2.3 CHARACTERIZATION OF SOILS..... 7
 2.4 CHARACTERIZATION OF CLIMATE 7

3.0 UNIT CHARACTERIZATION 8

4.0 CHARACTERIZATION OF UNIT CONTAMINATION..... 11
 4.1 TECHNICAL APPROACH 11
 4.1.1 Surface Water Sampling..... 11
 4.1.2 Sediment Sampling..... 13
 4.2 UNIT INVESTIGATION ANALYTICAL RESULTS 13
 4.2.1 Surface Water Analytical Results 13
 4.2.2 Sediment Analytical Results..... 13
 4.2.3 Investigation Derived Waste..... 17
 4.3 BACKGROUND CHARACTERIZATION AND COMPARISONS WITH WASTE UNIT
 SAMPLING RESULTS 17

5.0 SCREENING ANALYSIS RESULTS 21

6.0 INVESTIGATION ANALYSIS..... 24
 6.1 DATA QUALITY ASSURANCE/QUALITY CONTROL 24
 6.2 INVESTIGATION RESULTS 24

7.0 CONCLUSIONS AND RECOMMENDATIONS 26

8.0 REFERENCES 27

TABLES

Table 4.1 FH-061 Analytes Detected in Surface Water Above Practical Quantitation Limits (PQLs) 14
Table 4.2 FH-061 Analytes Detected in Sediment Above Practical Quantitation Limits 15
Table 4.3 Statistical Analysis of 95% UTL Concentrations Background Soils 20
Table 5.1 FH-061 Sediment Analyses Above Screening Criteria..... 22
Table 5.2 Lake Sediment Analytes above PQLs and Associated Screening Criteria..... 23

FIGURES

Figure 1.1 Fort Hood Vicinity Map 2
Figure 1.2 Fort Hood Installation Map 3
Figure 2.1 Topography of Main Cantonment and Vicinity 6
Figure 3.1 Photographs of FH-061 9
Figure 3.2 Photographs of Drainage Ditches at FH-061 10
Figure 4.1 FH-061 Sampling Locations Above Screening Criteria 12
Figure 4.2 Background Sampling Locations..... 19

APPENDICES

A FH-061 Sediment and Surface Water Analytical Results
B Fort Hood RFI Background Soils Data
C Fort Hood RFI Background Soil Boring Logs
D Statistical Calculations
E FH-061 Screening Results
F Sediment Benchmark Values

ACRONYMS

AA	Atomic absorption
BEGM	Bureau of Economic Geology
BG	background
BGS	below ground surface
CQAR	Chemical Quality Assessment Report
DOT	Department of Transportation
DPW	Directorate of Public Works
FH	Fort Hood
ft	feet or foot
GC/MS	Gas Chromatography/Mass Spectrometry
ICP	Inductively Coupled Plasma
IDW	Investigation Derived Waste
LCS	Laboratory Control Samples
msl	mean sea level
MS/MSDs	Matrix Spike/Matrix Spike Duplicate
NPDES	National Pollution Discharge Elimination System
ppb	parts per billion
ppm	parts per million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RRS	Risk Reduction Standards
SAIC	Science Applications International Corporation
SWMU	Solid Waste Management Unit
TNRCC	Texas Natural Resource Conservation Commission
USACE United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
UTL	upper tolerance limit

1.0 INTRODUCTION

Fort Hood is an active U.S. Army installation occupying 217,551 acres (339 square miles) in southern Coryell and Bell Counties in central Texas. It is situated 60 miles north of Austin, and about 50 miles south of Waco. The installation is located north of and adjacent to the city of Killeen, east of and adjacent to the city of Copperas Cove, and four miles south of the city of Gatesville. A vicinity map is shown in Figure 1.1.

Fort Hood began operations in 1942. Robert Gray Air Field, originally operated by the Air Force as Robert Gray Air Force Base, was established in 1947 (U. S. Army 1996a). Fort Hood's mission is training, testing, and deployment of military personnel and equipment. The post is commanded by the III Corps Commander. Currently, the post supports two full armored divisions (the 1st Cavalry and 4th Infantry Divisions). Forty-three thousand military personnel are stationed there; and an additional 30,000 family members, civilians, volunteers, and private-sector employees also live or work at Fort Hood (U.S. Army 1996b). Among the military assets of Fort Hood are approximately 2,500 tracked vehicles, over 11,000 wheeled vehicles, six fixed wing aircraft, and 230 rotary-wing aircraft. The post has 67 active firing and demolition ranges.

The Fort Hood military reservation is regulated under the Resource Conservation and Recovery Act (RCRA) as a hazardous waste management facility. Fort Hood has a RCRA permit to operate three hazardous waste storage units. The RCRA permit requires that Fort Hood perform a RCRA Facility Investigation (RFI) for 40 solid waste management units (SWMUs) listed in the permit. These SWMUs are distributed across the military reservation, in the main cantonment, West Fort Hood, and North Fort Hood. They include former solid waste landfills and burial sites, former and inactive underground storage tank locations, active wash rack/sewer systems, effluent ponds, and a sanitary sewer network. An installation map is shown in Figure 1.2.

This report describes the collection and analysis of data from SWMU FH-061, Lake C and Wash Rack/Sewer System, one of 35 SWMUs investigated during the RFI conducted November 1996 through September 1997. FH-061 is located northwest of the intersection of Clear Creek and Turkey Run Roads on the main cantonment.

1.1 BACKGROUND

Lake C is located in the main cantonment area approximately 4500 ft northwest of Lake Henry, north and west of the intersection of Clear Creek and Turkey Run Roads. Eleven wash racks located along North Avenue drain to Lake Henry, which is a temporary equalization basin for Lake C (Lake Henry, SWMU FH-029, is the subject of a separate RFI report). Lake C has a surface area of approximately 5 acres and drains a total area of approximately 1,100 acres (USACE 1995). Lake C is 21 ft deep and has a capacity of 105.47 acre-feet (34.3 million gallons). The lake is surrounded by large trees, scrub vegetation, and some steep rock outcrops.

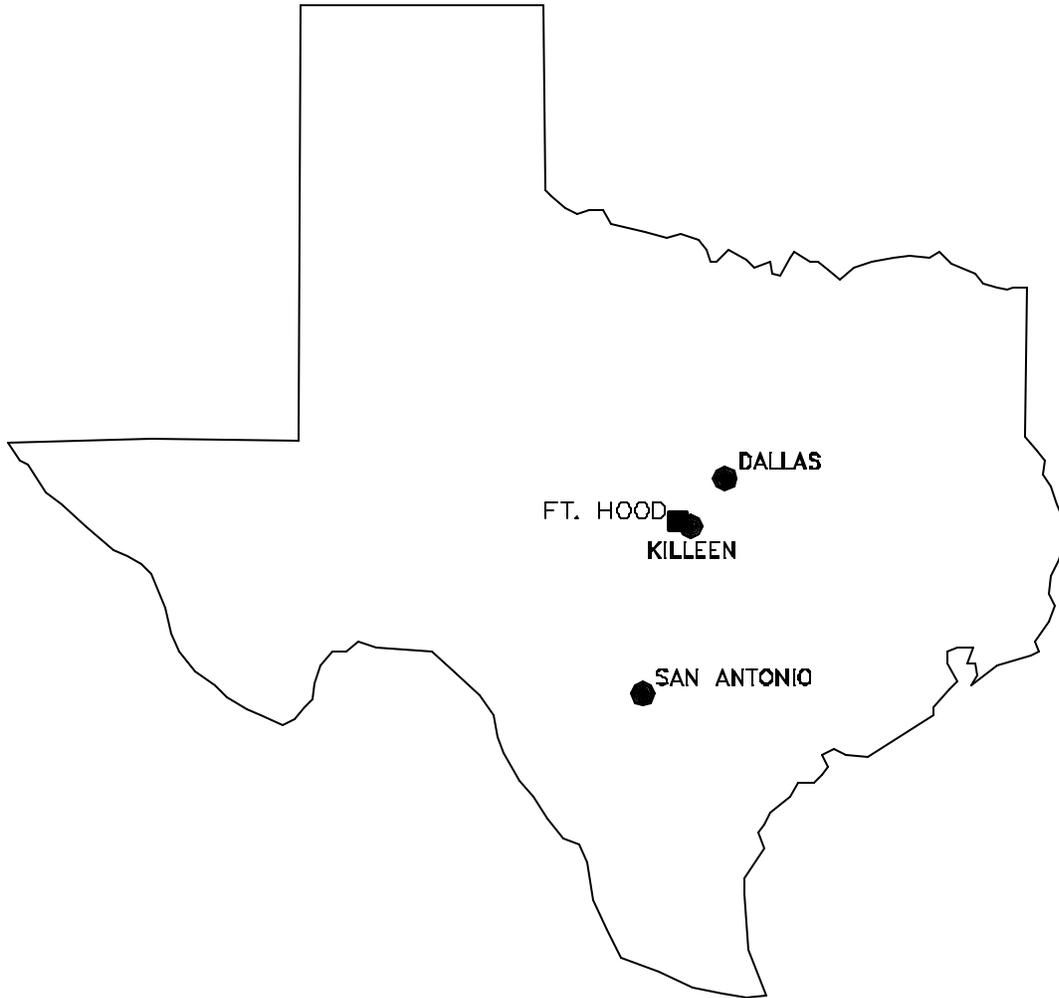
1.2 SCOPE AND OBJECTIVES

The objective of the RFI at FH-061 was to determine if a release of hazardous constituents has occurred and to characterize the potential source and extent of contamination. This report assesses the nature of sediment and surface water contamination at the site and evaluates what, if any, corrective measures are needed.

The specific objectives of the investigation of FH-061 are as follows:

- determine the presence or absence of contaminants in the surface water and sediments along the drainage system upstream of and within Lake C;

NAME: S:\HOOD\FHLOCAT.DWG DATE: APR 19, 1999 TIME: 12:51 PM PCP: S:\HOOD\PCP\FRF.PCP



U.S. ARMY
FORT HOOD, TEXAS



RCRA FACILITY INVESTIGATION

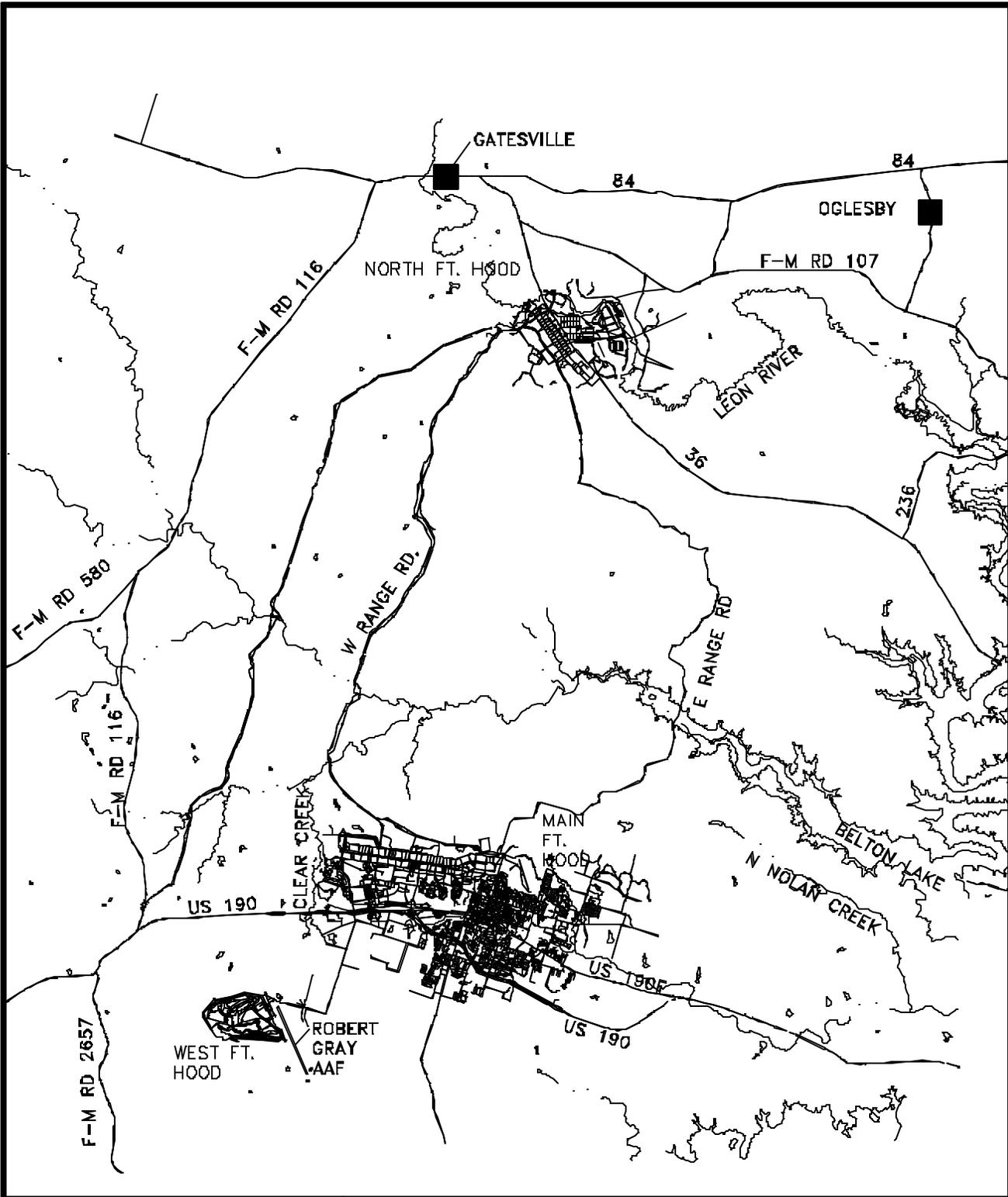
**FORT HOOD
VICINITY MAP**



*Science Applications
International Corporation* Columbus, Ohio

DRAWN	CHECKED	DATE	SCALE	PROJECT NO.	FIGURE NO.
SC			NO SCALE		1.1

NAME: S:\HOOD\RF\FACIL.DWG DATE: MAR 01, 1999 TIME: 2:56 PM PCIP: S:\HOOD\PCP\FRP.PCP



LEGEND

-  MAJOR ROADS
-  RIVERS/STREAMS
-  WATER BODIES

U.S. ARMY
FORT HOOD, TEXAS

RCRA FACILITY INVESTIGATION

FT. HOOD INSTALLATION MAP



Science Applications
International Corporation Columbus, Ohio

DRAWN	CHECKED	DATE	SCALE	PROJECT NO.	FIGURE NO.
			1"=7000M		1.2

- characterize the migration potential of any contaminants identified in the surface water and sediments along the drainage system and within Lake C;
- evaluate the potential human health risks associated with contaminants detected in surface water and sediments; and
- determine what, if any, corrective measures are needed to address contamination associated with SWMU FH-061.

The approach to the RFI included field sampling and laboratory analysis of sediments and surface water upstream and within Lake C. The sampling and analysis program was conducted in accordance with the Final RCRA Facility Investigation Work Plan for Fort Hood Site FH-061 (USACE 1995) and the RCRA Facility Investigation Chemical Data Acquisition Plan Addendum (USACE 1996).

2.0 ENVIRONMENTAL SETTING

The material presented in this section describes the physical characteristics of FH-061 and its surroundings. The geology, physiography, and climate are presented using regional and site-specific data where available.

2.1 PHYSIOGRAPHIC SETTING

Fort Hood is located within the eastern edge of the Lampasas Cut Plains region of the North-Central Plains physiographic province. The topography of Fort Hood consists of small stream valleys separated by ridge-forming mesas. Relief is as great as 340 ft. The Black and Blackwell Mountains are prominent features north of the main cantonment, as are Seven Mile Mountain at West Fort Hood, and the Dalton Mountains southwest of North Fort Hood. A topographic map of the main cantonment of Fort Hood is provided in Figure 2.1.

Local relief on the main cantonment and at West Fort Hood is generally less than 100 ft, with flat to gently rolling topography. Elevations on the main cantonment range from 860 to 940 ft above mean sea level (msl). Local elevation around FH-061 (Lake C) is approximately 25 ft, ranging in elevation from 890 ft to 915 ft above msl (USACE 1995).

The rivers, streams, and creeks that constitute the main surface water pathways at Fort Hood are shown on Figure 2.1. The main cantonment lies along a watershed divide between Belton Lake and the Leon River, downstream from the lake. The western and north-central parts of the main cantonment are drained by Clear Creek, which discharges to House Creek. House Creek is a tributary to the eastward-flowing Cowhouse Creek, which discharges to Belton Lake, a man-made reservoir. South Nolan Creek and North Nolan Creek both originate on Fort Hood and flow eastward to the Leon River, below Belton Lake. Surface water drains from Lake C via an unnamed tributary of House Creek, which in turn drains to Cowhouse Creek.

2.2 GEOLOGIC CONDITIONS

A summary of the geology of the Fort Hood area relevant to this RFI is adapted from the Final RCRA Facility Investigation Work Plan, 35 Solid Waste Management Units, Fort Hood, Texas (USACE 1995). Relevant information on the occurrences of soils and bedrock has been incorporated to further characterize the geology of FH-061 and its surroundings.

2.2.1 Bedrock

Lower Cretaceous marine sedimentary rocks make up the stratigraphy underlying Fort Hood. The Fredericksburg Group consists of several stratigraphic units. The Walnut Formation is the lowermost unit of the Fredericksburg Group and is the dominant stratigraphic unit in the main cantonment. It consists of shales with interbedded limestone, chalky nodular limestone, and shell aggregates. The fossiliferous Walnut Formation is exposed in many locations at Fort Hood. It varies in thickness from 100 to 150 ft (BEGM 1979). The Comanche Peak Formation and an undifferentiated unit overlie the Walnut Formation, but are present at the surface only north of the main cantonment in the Black and Blackwell Mountains, and on West Fort Hood on Seven Mile Mountain.

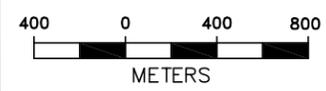
Bedrock dips gently to the southeast throughout the area. Inactive faults are present in the subsurface to the east of Fort Hood along the Balcones Fault Zone, which runs through Bell, McLennan, and Hill Counties.

NAME: N-S\HOOD\PI\61\TOPD99.DWG DATE: JAN 25, 2000 TIME: 2:30 PM PCP: S\HOOD\PCP\FRP.PCP



LEGEND

-  TOPOGRAPHIC CONTOUR (FT.)
-  DRAINAGE
-  SURFACE DRAINAGE FLOW
-  FH-061



U.S. ARMY
FORT HOOD, TEXAS

RCRA FACILITY INVESTIGATION

TOPOGRAPHY AND DRAINAGE
OF MAIN FT. HOOD



Science Applications
International Corporation Columbus, Ohio

DRAWN BW	CHECKED	DATE	SCALE AS SHOWN	PROJECT NO.	FIGURE NO. 2.1
-------------	---------	------	-------------------	-------------	-------------------

2.2.2 Unconsolidated Materials

Alluvial deposits of Quaternary age are present along stream valleys on the main cantonment, specifically along South Nolan Creek on the southern edge of the cantonment (USACE 1995). It is suspected that much alluvium and other natural surface deposits have been reworked throughout the active life of Fort Hood during construction projects.

2.3 CHARACTERIZATION OF SOILS

In many areas of the main cantonment, silty or sandy clay soils overlie bedrock. In upland areas, these soils contain abundant rock fragments. In general, these soils have low permeabilities (USDA 1985a,b). They range in thickness from 15 to 20 ft. Because soils have been extensively reworked for construction and landfilling in the SWMUs that were investigated, it is difficult to apply the USDA classification to the soils encountered on the main cantonment.

2.4 CHARACTERIZATION OF CLIMATE

The climate of the Fort Hood-Killeen area can be characterized as semi-arid continental. Winters (December-March) are mild, with the average daily maximum temperature in January (the coldest month) reaching 60° F. Below-freezing temperatures occur on an average of 23 days per year. The normal daily winter temperature range is 42 to 62° F. At times, strong northerly winds accompanied by sharp drops in temperature occur during the winter months. Summers (June-September) are hot and dry. The average daily maximum temperature in August, the hottest month, reaches 95.9° F. The normal daily temperature range for summer is 75 to 95° F. The average daily temperature in Killeen is 68.1° F.

Average annual rainfall in the Killeen area is 30.4 inches, and is most concentrated from September to May (U.S. Army 1996a). Snowfall is rare. The average annual humidity in the region is 55 percent. Total rainfall for 1996 at Fort Hood was 26.7 inches. The ten months prior to the start of the field program for this RFI were anomalously dry. During the five-month period in which the field program of the RFI was conducted, precipitation was higher than the historical monthly averages. Severe weather in the form of heavy rain, hail storms, and ice storms is common in the winter months.

3.0 UNIT CHARACTERIZATION

Thirty-five wash racks are located in motor pools. Each wash rack is equipped with an oil/water separator. Eleven of these wash racks discharge into lined and unlined drainage ditches that eventually drain into Lake Henry. The lake provides a means for the collection and settling out of oils and solids that may have bypassed the oil/water separators at the motor pools. Stormwater runoff and wash water effluent from the oil/water separators (generated during the cleaning of military vehicles) is discharged into both concrete lined ditches and unlined ditches.

Lake Henry acts as a temporary equalization pond for Lake C (FH-061), and discharges directly to Lake C (northwestward) via a drainage ditch. The lake drains at its northern end from a culvert. Flow into Lake C is irregular as a consequence of periods of inactivity at some motor pools and the long intervals without rainfall. It is characteristic for there to be little or no flow from the motor pools for days or weeks, followed by days of significant flow. Lake C has a surface area of approximately 5 acres and drains a total area of approximately 1,100 acres (USACE 1995). The lake has a capacity of 105.47 acre-feet (34.3 million gallons). In the driest months, low flow to Lake C may not exceed its holding capacity, and no water will be discharged from the lake. Flow from Lake C is recorded weekly in accordance with the monitoring requirements for the Fort Hood's National Pollutant Discharge Elimination System (NPDES) permit. Average daily and daily maximum flow (in millions of gallons per day) have been documented for Lake C.

Lake C, as well as all other surface water SWMUs on the main cantonment, discharges ultimately to Belton Lake, which is used as a source of the region's public water supply. Photographs of Lake C are shown in Figure 3.1. Photographs of the lined and unlined ditches are shown in Figure 3.2.

Little was known about the exact composition of wastes in the effluent from wash racks and in storm water runoff from the motor pools prior to this RFI. However, washing of tanks and other military vehicles clearly removes residues of fuels (such as JP-8, used as tank fuel), fuel by-products, oils and greases, metal shavings, paint, and soil particles. Oils, hydraulic fluids, and other petroleum-based products are frequently spilled or dripped on motor pool pavement in small quantities. These components are suspected to be present in surface water and sediments in both drainage ditches and Lake C. As required under the NPDES permit for Fort Hood, water from Lake C is sampled weekly and analyzed for indicator parameters such as chemical oxygen demand, total suspended solids, oils and greases, and pH. No exceedances of the permit limits have been noted.



Figure 3.1 Photographs of SWMU FH-061



Figure 3.2 Photographs of Drainage Ditches at FH-061

4.0 CHARACTERIZATION OF UNIT CONTAMINATION

The following sections describe the results of field activities and analytical procedures performed to achieve the site specific objectives defined in Section 1.2 of this report.

4.1 TECHNICAL APPROACH

Three surface water and three sediment samples were collected in November 1996 in the locations specified in the Final RCRA Facility Investigation Work Plan for 35 SWMUs (USACE 1995). Two additional samples of surface water and sediment were collected from Lake C in September 1997, based on discussions between USACE and the Texas Natural Resources Conservation Commission (TNRCC). All surface water and sediment sampling, sample handling, chain-of-custody, and other field activities were conducted in accordance with the RCRA Facility Investigation Work Plan for 35 SWMUs. A site map showing the sampling locations is presented in Figure 4.1.

Samples collected at FH-061 were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and eight metals. All sediment samples were also tested for moisture content to ensure that all analyses were reported on a dry-weight basis.

Contamination concentrations will vary based on depth or location because of the chemical nature of the contaminant and the method by which the contaminant is deposited in the sediment (i.e., spills, leaks, and atmospheric deposition). Concentrations in surface water or sediments may differ greatly from underlying or adjacent soil concentrations of the same contaminant. These factors were considered in selecting the sample locations.

Surface water constituents evaluated in drainage ditches for this RFI are likely to be representative of transient conditions in any given motor pool or wash rack area for a given day. Residence time for surface water in ditches is almost zero, and the composition of the effluent water may change depending on what cleaning activities are being performed in the wash rack areas. Sediments in drainage ditches may also possess chemical constituents only from the recent past, since residence times for sediments in the ditches are likely to be short. Analyses of Lake C's sediment and water, however, may provide information on chemical constituents that have accumulated over a much longer time interval.

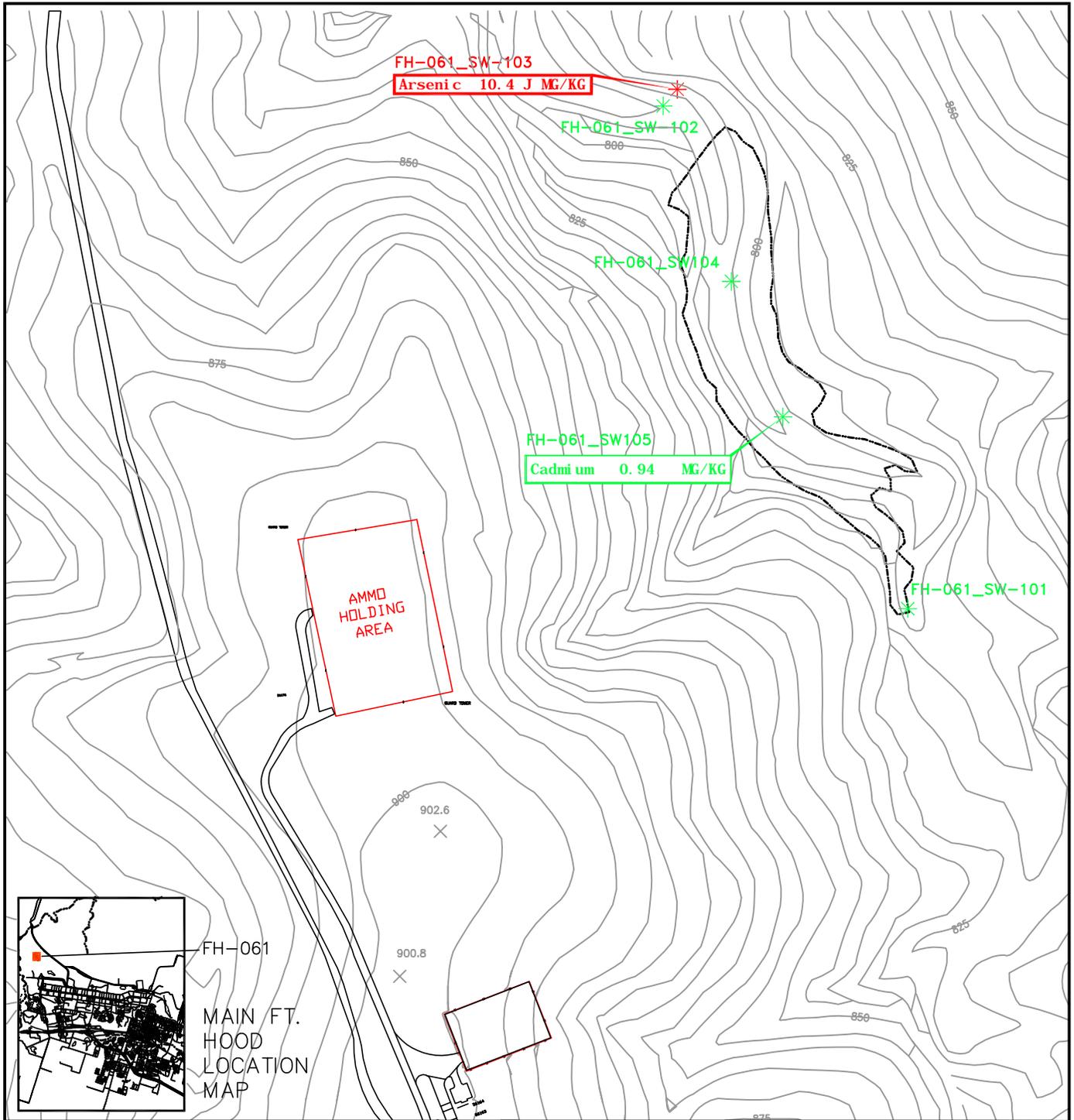
4.1.1 Surface Water Sampling

Surface water was sampled from the ditches (SW101, SW102, and SW103) and Lake C (SW104 and SW105) in November 1996 and September 1997, respectively. The locations of the sampling points are shown in Figure 4.1. Two surface water samples were collected from Lake C, and three were collected from the ditches where water was present. All samples were collected according to procedures discussed in Section 3.1 of the Final RCRA Facility Investigation Work Plan for 35 SWMUs (USACE 1995).

Surface water samples from Lake C were collected from the center of the lake. Lake water samples were collected at a depth of at least six inches below the water surface. Water was sampled by submerging the sample container, then removing the container cap and allowing the container to fill.

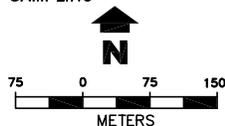
Surface water samples were also collected from the inlet to (SW101) and outlet from Lake C (SW102 and SW103). All water samples from the ditches were collected by submersion of the sample containers a minimum of 6 inches below the water surface when possible, then removing the cap and allowing the container to fill. When water depth was not sufficient to allow the container to be submerged, the water was dammed

NAME: S:\HOOD\PI\61SC99.DWG DATE: FEB 22, 2000 TIME: 3:47 PM PCP: S:\HOOD\PCP\FRPI.PCP



LEGEND

- TOPOGRAPHIC CONTOUR (FT.)
- POND
- * SURFACE WATER AND SEDIMENT LOCATION
- Lead 44.3 MG/L NOVEMBER 1996 SAMPLING
- Lead 44.3 MG/L SEPTEMBER 1997 SAMPLING



U.S. ARMY
FORT HOOD, TEXAS



RCRA FACILITY INVESTIGATION

FH-061 SAMPLING LOCATIONS AND RESULTS ABOVE SCREENING CRITERIA



Science Applications
International Corporation Columbus, Ohio

DRAWN	CHECKED	DATE	SCALE AS SHOWN	PROJECT NO.	FIGURE NO. 4.1
-------	---------	------	-------------------	-------------	-------------------

to concentrate the flow to a central collection point. The sample container was then submerged or the flow of water was directed into the container. The samples were analyzed for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and eight metals.

4.1.2 Sediment Sampling

Three ditch sediment samples were collected in November 1996. Samples of sediment from Lake C were collected in September 1997. Sediment samples were collected after the collection of the surface water samples from the same locations, to prevent suspension of sediment particles into the water column. Sampling began at the sampling point furthest downstream, and progressed upstream. This prevented cross-contamination between upstream and downstream samples. Sediment samples were collected from a maximum depth of 12 inches below the sediment-water interface.

In Lake C, a gravity coring device was used to collect the sediment samples SD104 and SD105 during September 1997. The ditch sediment samples were collected using stainless steel bowls and scoops. One discrete sample was collected from each location. Sediment collected downstream of oil/water separators came from the unlined portions of the ditches to which they discharge.

4.2 UNIT INVESTIGATION ANALYTICAL RESULTS

Analytical results for sediments and surface water at FH-061 are provided in their entirety in Appendix A. Figure 4.1 shows the sampling locations. Tables 4.1 and 4.2 summarize those constituents detected above the practical quantitation limits (PQLs) for surface water and sediment, respectively. Constituents detected above PQLs were screened against background and risk-based screening criteria as described in Section 4.3.

4.2.1 Surface Water Analytical Results

Arsenic, barium, cadmium, and selenium were each detected above the PQLs in surface water samples from FH-061. Mercury and selenium were each detected once, at SW104, at 0.19 and 2.8 ppb, respectively. Barium was detected in all five samples, in concentrations ranging from 21.7ppb at SW104 to 41.8 ppb at SW101. Arsenic was present in SW101 (2.6 ppb), SW104 (2.2 ppb), and SW105 (3.9 ppb).

The sole occurrence of VOCs above the PQLs in surface water was one detection of 2-butanone at SW101, at a concentration of 11 ppb. No other organic compounds were identified in surface water at FH-061.

4.2.2 Sediment Analytical Results

Arsenic, barium, cadmium, chromium, and lead were present above detection levels in all five sediment samples from FH-061. In addition, selenium was present above the PQL in SD105. Concentrations of metals ranged from 0.16 ppm cadmium in SD102 to 70 ppm barium in SD104. The detection of arsenic at 10.4 ppm at SD103 exceeds the background criterion of 9.2 ppm.

The occurrences of organic compounds were limited to one detection of VOCs in each of three samples. Toluene was detected above the PQL in SD101 and SD102, at 8 and 14 ppb, respectively. Acetone was detected at 20 ppb in SD105. Neither compound is known to be associated with activities at FH-061, and both are suspected laboratory contaminants.

Table 4.1 FH-061 Analytes Detected in Surface Water Above Practical Quantitation Limits (PQLs)

Location	Sample ID	Depth	Analysis Type	Parameter	Result	PQL	Units
SW101	61SW101	--	Metals	Arsenic	2.6	2.5	ug/l
				Barium	41.8	0.30	ug/l
			Volatile Organics	2-Butanone	11	5	ug/l
SW102	61SW102	--	Metals	Barium	34.4	0.30	ug/l
SW103	61SW103	--	Metals	Barium	39	0.30	ug/l
SW104	61SW104	--	Metals	Arsenic	2.2 B	2.1	ug/l
				Barium	21.7	0.3	ug/l
				Mercury	0.19 B	0.1	ug/l
				Selenium	2.8 B	2.2	ug/l
SW105	61SW105	--	Metals	Arsenic	3.9	2.1	ug/l
				Barium	27.9	0.3	ug/l

B (Inorganics) - Value was less then the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

Table 4.2 FH-061 Analytes Detected in Sediment Above Practical Quantitation Limits (PQLs)

Location	Sample ID	Depth	Analysis Type	Parameter	Result	PQL	Units
SW101	61SD101	-	Metals	Arsenic	3.1 J	0.41	mg/kg
				Barium	24.6	0.10	mg/kg
				Cadmium	0.17	0.05	mg/kg
				Chromium	1.4 J	0.10	mg/kg
				Lead	3	0.17	mg/kg
				Volatile Organics	Toluene	8	6
SW102	61SD102	-	Metals	Arsenic	3.9 J	0.38	mg/kg
				Barium	35.3	0.09	mg/kg
				Cadmium	0.16	0.05	mg/kg
				Chromium	6.5 J	0.09	mg/kg
				Lead	4.8	0.16	mg/kg
				Volatile Organics	Toluene	14	6
SW103	61SD103	-	Metals	Arsenic	10.4 J	0.41	mg/kg
				Barium	26.9	0.10	mg/kg
				Cadmium	0.24	0.05	mg/kg
				Chromium	2.9 J	0.10	mg/kg
				Lead	4.6	0.17	mg/kg
				SW104	61SD104	-	Metals
Barium	70	0.11	mg/kg				
Cadmium	0.66 B	0.093	mg/kg				
Chromium	13.5	0.13	mg/kg				

Table 4.2 FH-061 Analytes Detected in Sediment Above Practical Quantitation Limits (PQLs)

Location	Sample ID	Depth	Analysis Type	Parameter	Result	PQL	Units
SW104	61SD104	--	Metals	Lead	12.4	0.34	mg/kg
SW105	61SD105	--	Metals	Arsenic	6.4	0.55	mg/kg
				Barium	63.6	0.11	mg/kg
				Cadmium	0.94	0.089	mg/kg
				Chromium	10.8	0.12	mg/kg
				Lead	13.7	0.32	mg/kg
				Selenium	3.1 B	1.9	mg/kg
			Volatile Organics	Acetone	20 B	9	ug/kg

J - Indicates estimated value

B (Inorganics) - Value was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

B (Organics) - Constituent detected in associated blank sample

4.2.3 Investigation Derived Waste

Only a small amount of IDW was generated when cleaning sampling equipment for sampling at FH-061. No IDW was generated when sampling surface water; the sample containers were submerged and no sampling equipment was needed. The sediment sampling equipment was rinsed in the field of any excess sediment and then thoroughly decontaminated at the field trailer.

The IDW generated from the decontamination in the field trailer was combined with the decontamination waste from the other SWMUs for both the sediment and soil sampling equipment. This IDW was segregated into three types of waste: (1) potable wash/rinse water, (2) nitric acid/deionized water rinse, and (3) dilute methanol waste. Each waste stream is stored in containers in an accumulation area next to the field trailer. All containers are clearly identified with Department of Transportation (DOT) - approved labels containing the drums' contents and the dates they were filled. Drums are staged in the SAIC compound pending disposition. All IDW determined to be potentially hazardous is delivered to the Fort Hood Directorate of Public Works (DPW) Classification Unit with the accompanying characterization data.

4.3 BACKGROUND CHARACTERIZATION AND COMPARISONS WITH WASTE UNIT SAMPLING RESULTS

In order to characterize naturally occurring constituents in soils at Fort Hood, samples were located and collected at 10 separate locations within the facility boundaries in the north, west, and main cantonments. Sampling locations are believed to be outside the influence of past or current industrial and/or waste activities at the facility. The general background sampling locations are presented in Figure 4.2. Background soils data and soil boring logs are presented in Appendices B and C, respectively. The background criteria for soils are applied to all SWMU soil samples, as well as dry sediments, such as those collected in drainage ditches where flow is irregular.

A total of 44 background soil samples were analyzed for the following metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver. There were only 40 valid background sample results for selenium because of quality assurance/quality control (QA/QC) problems with the selenium data. A discussion of the QA/QC is presented in Section 6.1. Mercury was detected in only 1 of 43 background samples and selenium in 2 of 40 background samples. Silver was not detected in any background soil sample.

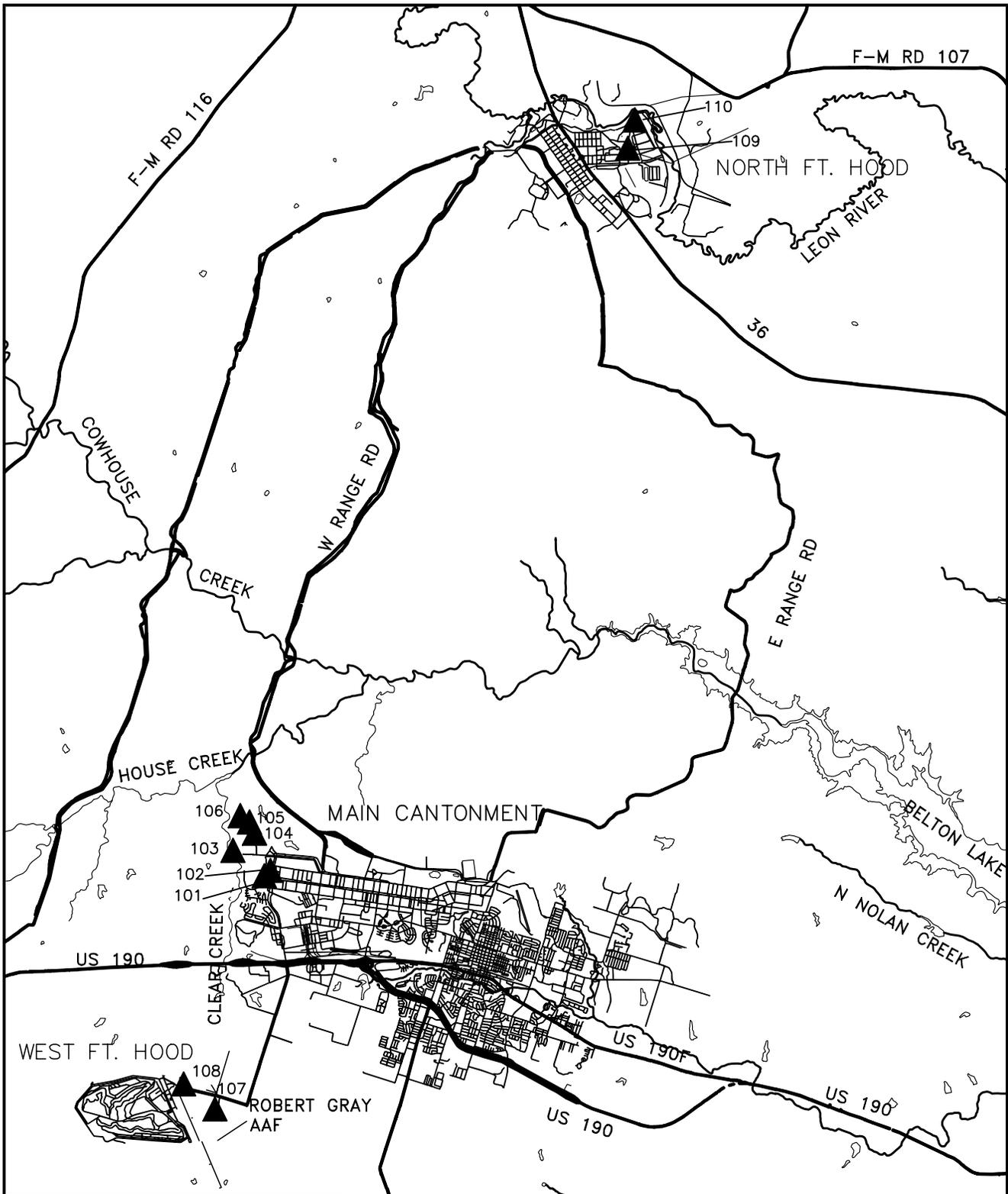
Two statistical methods presented in the RFI Work Plan can be used to determine if there is a statistically significant difference between background soil concentrations and the concentrations of metals detected in SWMU samples. The flow chart from the Final RCRA Facility Investigation Work Plan for 35 SWMUs (USACE 1995) used for the statistical evaluations is provided in Appendix D. Background statistical calculations were determined by combining metals results from surface soils (0-2 ft) and subsurface soils (>2 ft) into one background data set. The statistical methods used to evaluate the background soil results are presented in Section 6 of the Final RCRA Facility Investigation Work Plan (USACE 1995). The methods include (1) a 95% upper tolerance limit (UTL) calculation and (2) an overall data set mean background concentration.

The primary statistical method for screening data is to compare SWMU data to the respective background 95% UTL values. The 95% UTL is an estimate of the 95th percentile of the population of background concentrations, such that, with a high degree of confidence, 95% of all background concentrations would be less than the UTL value. Results of the 95% UTL calculation are presented in Table 4.3. For inorganic parameters where there were fewer than 50% detects, and the distribution was neither normal nor lognormal, the maximum detected concentration was used in place of the 95% UTL. For inorganic parameters where there were no detects, the PQLs were used in place of the 95% UTLs as the background comparison value.

The 95% UTL background values for surface and subsurface soils were used as the primary background screening criteria for inorganics. Appendix D contains spreadsheets of the Shapiro Wilk test on the background data for distribution, and results of the 95% UTL calculations for the background data.

The second statistical method compares the mean concentration for each metal in background samples to the mean for each metal in the SWMU samples. This method was not used for FH-061.

NAME: S:\HOOD\BACK.DWG DATE: OCT 13, 1999 TIME: 5:22 PM PCP: S:\HOOD\PCP\FRP.PCP



LEGEND

-  MAJOR ROADS
-  RIVERS/STREAMS
-  WATER BODIES
-  BACKGROUND SOIL SAMPLE LOCATION

U.S. ARMY
FORT HOOD, TEXAS

RCRA FACILITY INVESTIGATION

LOCATIONS OF
BACKGROUND SOIL SAMPLES



Science Applications
International Corporation Columbus, Ohio

DRAWN SC	CHECKED	DATE	SCALE 1"=5000M	PROJECT NO.	FIGURE NO. 4.2
-------------	---------	------	-------------------	-------------	-------------------

**Table 4.3 Statistical Analysis of 95% UTL Concentrations
Background Soils**

Analyte (units)	Mean	95% UTL	Maximum Detect	Results > PQL	Distribution
Arsenic (mg/kg)	4.3500	9.19	11.6	43/43	N
Barium (mg/kg)	30.19	157.3	155.0	43/43	L
Cadmium (mg/kg)	0.15	0.67	0.79	36/44	L
Chromium (mg/kg)	7.32	24.88	23.6	44/44	L
Lead (mg/kg)	5.77	19.0	33.20	44/44	L
Mercury (mg/kg)	0.0400	0.04*	0.04	1/44	D
Selenium (mg/kg)	0.345	0.44*	0.44	2/40	D
Silver (mg/kg)	0.218	**	ND	0/44	D

Results less than the detection limit were set to 2 the reported detection limit.

L-distribution most similar to lognormal.

N-distribution most similar to normal.

D-distribution not determined because fewer than five detects or less than 50% detects.

*UTL -maximum detected

**The 95% UTL could not be calculated due to no detects in the background data set, therefore, the PQL is used as the background comparison value.

ND - Not Detected

5.0 SCREENING ANALYSIS RESULTS

TNRCC has promulgated risk reduction standards (30 TAC 335, Subchapter S) for soils and groundwater for residential and industrial land uses. The TNRCC RRSs have been used to screen the data generated at FH-061 to determine whether or not constituents are present at the site at concentrations that may warrant further investigation. The comparisons to TNRCC criteria are shown in Tables 5.1 and 5.2. This information is presented graphically in Figure 4.1. The screening analyses are presented in their entirety in Appendix E.

At FH-061 sediment samples were collected in the ditches and from the bottom of the lake. The ditch sediments are dry for most of the year and exhibit properties similar to soils. These sediments were compared to the TNRCC RRS values for soils. Sediments on the bottom of lakes such as those at FH-061 at Fort Hood are characteristically different from soil and sediments in the ditches, in that they are constantly exposed to water and potential contaminants in the water. Since the lake is not used for recreational purposes, there is little likelihood that human receptors would come in contact with these sediments. Lake sediments pose greater risks to aquatic ecological species than to humans, therefore, a literature survey of sediment benchmark threshold values to the environment was conducted and the most conservative values were selected to screen against the lake sediments. Appendix F presents the sediment benchmark values from three studies that are commonly used as industry standards for aquatic ecological risk assessments.

The TNRCC RRSs Number 1 are defined as background concentrations or analytical PQLs, whichever are greater. The RRSs Number 1 were used to determine if there has been a release of hazardous constituents from the site. The RRS Number 1 criteria are the facility-wide 95% UTL soil background values, for metals (except for mercury, selenium, and silver, which were not detected in background soils), or the PQLs, for organic constituents or metals not detected in background samples. In order to determine whether there has been a release at FH-061, sediment sample results were compared to the background concentration levels for combined surface and subsurface soils (as presented in Section 4.3). Metals detected above background levels are considered a potential release from the unit. Detection of an organic constituent above the PQL for the analytical method is also considered a potential release. In surface water, all detections above PQLs are considered a potential release.

In surface water, arsenic, barium, selenium, and mercury were detected at concentrations above the PQLs, as shown in Table 4.1. 2-Butanone was the only organic compound that was present in water above the PQL.

In ditch sediments, arsenic was present above the soil background criteria in SD103. No other results exceeded the RRS Number 1 criteria.

In order to determine if the potential releases of metals or organic compounds detected at FH-061 warrant further action, sample results that exceeded the RRS Number 1 criteria were screened against the RRS Number 2 criteria. RRSs Number 2 are health-based standards and criteria that are deemed protective of human health or the environment. They are based on ingestion of soil and inhalation of particulates and volatiles or a soil-to-groundwater cross-media protection pathway.(GWP) Sediment samples collected from Lake C are compared to sediment benchmark values. All other sediments were compared to the background soil criteria for metals, or the 30 TAC 335 Industrial Soil GWP criteria, because these materials are generally dry. For surface water, the RRS Number 2 criteria are the 30 TAC 335 Groundwater Criteria.

The screening of the results indicates there were no exceedances of RRS Number 2 criteria in surface water. In ditch sediments only arsenic in SD103 exceeds these criteria. For lake sediments, arsenic, barium, and cadmium in SD104 and SD 105 exceed the sediment benchmark values, as does selenium in SD105. Acetone was present

Table 5.1 FH-061 Sediment Analytes Above Screening Criteria

Location	Sample ID	Depth	Parameter	Result	Units	Screening Criteria	Screening Concentration	Units
SW103	61SD103	--	Arsenic	10.4 J	mg/kg	Soil Background	9.2	mg/kg
SW104	61SD104	--	Arsenic	7	mg/kg	Sediment Benchmarks	6	mg/kg
			Barium	70	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Cadmium	0.66 B	mg/kg	Sediment Benchmarks	0.6	mg/kg
SW105	61SD105	--	Acetone	0.02 B	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Arsenic	6.4	mg/kg	Sediment Benchmarks	6	mg/kg
			Barium	63.6	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Cadmium	0.94	mg/kg	Sediment Benchmarks	0.6	mg/kg
			Selenium	3.1 B	mg/kg	Sediment Benchmarks	0.0	mg/kg

J - Indicates estimated value

B (Inorganics) - Value was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

B (Organics) - Constituent detected in associated blank sample

at a concentration of 0.02 ppm in lake sediments from SD105, which exceeds the risk criterion of zero, since no sediment benchmark values were available. Table 5.1 shows the constituents detected above RRSs or sediment benchmark criteria. Complete results of the screening analysis are presented in Appendix E.

In the sediments within Lake C, arsenic, barium, cadmium, selenium, and acetone were present at concentrations that exceed the sediment benchmark values. The following table presents the parameters detected above PQLs for the FH-061 lake sediment samples, the sediment benchmark criteria, 95% UTL (RRS Number 1) and the comparable RRS Number 2 screening values. Evaluation of this information indicates that sediment benchmark values do not exist for acetone, barium, and selenium. Consequently, these three contaminants could pose risk at FH-061 to lake ecological receptor. However, when the maximum concentration of the analytes found in lake sediments are screened against the RRS Number 1 (95% UTL) and RRS Number 2, in accordance to traditional TNRCC methodology, there is no risk to human health and environment from all the analytes except cadmium.

Table 5.2 Lake Sediment Analytes above PQLs and Associated Screening Criteria

Analyte	Maximum Concentration (mg/kg)	Sediment Benchmark (mg/kg)	RRS Number 1/ 95% UTL (mg/kg)	RRS Number 2 Industrial Soil GWP (mg/kg)
Acetone	0.02	0.0	.008	1020
Arsenic	7	6	9.2	5
Barium	70	0.0	157.3	200
Cadmium	0.94	0.6	0.67	0.5
Selenium	3.1	0.0	0.44	5

6.0 INVESTIGATION ANALYSIS

6.1 DATA QUALITY ASSURANCE/QUALITY CONTROL

The Fort Hood RFI Work Plan, the contract laboratory's Quality Assurance Plan, and USEPA SW-846 or other approved procedures for analytical chemistry and physical testing methods were followed for field and laboratory QA/QC of FH-061 samples. Field QC samples included trip blanks, rinsate blanks, and field duplicates. No QA split samples were submitted for FH-061. All QA and QC samples were collected as replicate samples of the same field sample. The QA and QC samples were collected at a frequency of 10 percent for the entire investigation and analyzed along with the associated environmental samples. Laboratory QC procedures as prescribed by each analytical method were followed by the contract laboratory and included, where applicable, gas chromatography/mass spectrometry (GC/MS) tuning, initial and continuing calibrations, method/extraction blanks, laboratory control samples (LCS), surrogate spikes, internal and external standards, duplicates, matrix spikes/matrix spike duplicates (MS/MSDs), inductively coupled plasma (ICP) and atomic absorption (AA) related QC procedures/samples, and spiked sample clean-up results.

Quality control analyses were conducted by the contract laboratory as an internal control measure of the accuracy and precision of the data. Quality assurance sample analyses were performed by the Army Corps of Engineers' Southwest District Laboratory as an external control measure of the accuracy and precision of the contract laboratory's results and of sampling procedures. The QA/QC, and corresponding field sample results are reviewed by Army Corps of Engineers quality assurance personnel, who then issue a Chemical Quality Assurance Report (CQAR).

The CQAR addressed concerns with the FH-061 data. The principal concern was for the potential for false positives and high bias for acetone in SD104 and SD105, and for methylene chloride and bis(2-ethylhexyl)phthalate in SW104 and SW105.

It should be noted that replication of a concentration of a constituent in soil samples is difficult due to the heterogeneity of soils. Analyses are considered good and reproducible for soil samples if the highest concentration reported in a set of samples for a single field sample is less than five times the lowest concentration reported in the same set of samples. This holds true as long as all other quality control measures and data quality objectives (e.g. holding times, surrogate recoveries, internal standards, etc.) are met. All quality control measures and data quality objectives were met for the replicate soil sample results; therefore, these results are good and reproducible for the site.

Data QA/QC procedures also included an independent data validation of 10 percent of the results for compliance of analyses to data quality objectives. All results for FH-061 data that were reviewed as a function of the data validation task met project data quality objectives, and are usable data with the exception of the selenium results for 10 background soil samples. The selenium results were rejected due to unacceptable matrix spike recoveries and were therefore excluded from background calculations. The rejected background data had no impact on the FH-061 results. No other problems with the data were encountered. A copy of the laboratory results and the associated quality control samples are included in Appendix A.

6.2 INVESTIGATION RESULTS

The data set for surface water and sediment at FH-061 and the quality of the data are useable to meet the objectives of the RFI as described in Section 1 of this report. A total of five surface water and five sediment samples were collected and analyzed according to the Final RCRA Facility Investigation Work Plan for 35 SWMUs (USACE 1995) and subsequent guidance from TNRC and USACE-Fort Worth. The number and location of the samples were adequate to provide information regarding the presence or absence of

contamination, the characterization of extent of potential contamination, and the boundaries of the suspected disposal area.

Results of the analyses of surface water, lake sediments, and ditch sediments at FH-061 indicate the following. There were no exceedances of RRS Number 2 criteria in surface water. Four metals and two VOCs detected above the PQLs in surface water were not present at concentrations that contribute to human health risk. In sediment, arsenic in SD103, SD104, and SD105 exceed the RRS Number 2 or sediment benchmark criterion. Barium and cadmium in SD104 and SD105 exceed the sediment benchmark values, as does selenium in SD105. Acetone was present in SD105 at a concentration of 0.02 ppm, which exceeds the risk criterion of zero. Additionally, acetone is not known to be associated with waste disposal practices in the motor pools that drain to Lake C, and is a common laboratory contaminant.

Acetone, barium, and selenium do not have sediment benchmark values. As stated in Section 5.0 and as presented in Table 5.2, a comparison of the lake sediment maximum detected concentrations to traditional TNRCC RRS screening values and methodology rather than sediment benchmark values indicates that only cadmium may pose a potential risk to human health and the environment

Metals are ubiquitous in soils and sediments, and it is recognized there is an inherent heterogeneity of metals concentrations in soils and sediments resulting in highly variable analytical results. This appears to be the case for arsenic and cadmium detected at FH-061. Based on the low concentrations, and only one sample location for each metal that exceeds TNRCC RRS Number 1, it has been determined that this is not indicative of a release to the environment and there is no risk to human health and the environment.

7.0 CONCLUSIONS AND RECOMMENDATIONS

The analytical results indicate that unit FH-061 has trace metals that were detected in samples resulting from activities at the vehicle wash racks, and from storm water runoff from the motor pools and pavement along North Avenue.

Surface water analyses indicate that no releases of contaminants at concentrations above risk criteria are occurring at FH-061. No VOCs, SVOCs, or metals were identified in surface water in concentrations above the PQLs that exceed the RRS Number 2 criteria. These results indicate that water collected from the ditches and Lake Henry is not causing a release to the environment through the surface water pathway at Lake C. The data indicate that the ditches and ponds constitute a properly functioning water treatment system, removing any contamination before discharging surface water to the receiving waters.

Inorganic constituents in sediment at FH-061 are indirectly caused by activities in the motor pools and wash racks that line North Avenue. Arsenic, barium, cadmium, and selenium are all present in the lake sediment above sediment benchmark criteria and all but cadmium are present at concentrations less than standard TNRCC RRS criteria. Lake sediment samples SD104 and SD105 have the greatest number of detected constituents. SD103, located adjacent to SD102 (which had no exceedances of risk values) at the outlet of the pond, had only arsenic at a concentration slightly above the background criterion and less than the maximum arsenic value detected in background soils of 11.6 ppm. In soils and sediments, metals are ubiquitous and their concentrations are heterogeneous which can produce high variability in analytical results. At FH-061 arsenic and cadmium were detected at low concentrations, and since each of these metals exceeded TNRCC RRS Number 1 criteria at one sample location, this is not indicative of a release to the environment nor poses risk to human and environmental health. Additionally, contaminated sediments that enter Lake C do not appear to be exiting the pond at the outlet. VOCs and SVOCs that may be generated in the motor pools are clearly not impacting the sediment at Lake C.

There being no release of contaminants above risk criteria from Lake C via the surface water pathway, and no current exposure to Lake C sediments, no further action is recommended for Lake C.

8.0 REFERENCES

- BEGM 1979. Geologic Atlas of Texas, Waco Sheet (map). University of Texas at Austin/Bureau of Economic Geology.
- 30 TAC 335. Industrial Solid Waste and Municipal Hazardous Waste, Subchapter K. Hazardous Substance Facilities Assessment and Remediation.
- U.S. Army. 1996a. Fort Hood 1996 Public Affairs Document. 72p.
- U.S. Army. 1996b. Fort Hood Command Information Summary, 2nd Quarter 1996. Public Affairs Office, 21p. (leaflet).
- U.S. Army. 1992. History of Fort Hood: The First Fifty Years 1942-1992. III Mobile Army Corps, 7p. (leaflet).
- USACE. 1995. Final RCRA Facility Investigation Work Plan. 35 Solid Waste Management Units, Fort Hood, Texas. December 1995.
- USDA. 1985a. Soil Survey of Coryell County, Texas. Soil Conservation Service.
- USDA. 1985b. Soil Survey of Bell County, Texas. Soil Conservation Service.
- USEPA, SW-846. Test Methods for Evaluating Solid Waste. Physical/Chemical. Second Edition, Rev. 0, September, 1986, and Third Edition, Rev. 1, November 1990.
- USEPA, 1989. Guidance Document on the Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, EPA/530-SW-89-026.
- IIA. 1982. Installation Assessment of Fort Hood, Texas, Report Number DRXTH-ES-IA-81188. June, 1982.

APPENDIX A

FH-061 Sediment and Surface Water Analytical Results

Location: SW101
 Sample ID: 61SD101 Depth: NA
 COE Sample ID: FH061-SD101/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	3.1	0.41	N	J	mg/kg	SW846 6010
Barium	7440-39-3	24.6	0.10			mg/kg	SW846 6010
Cadmium	7440-43-9	0.17	0.05	B		mg/kg	SW846 6010
Chromium	7440-47-3	1.4	0.10	E	J	mg/kg	SW846 6010
Lead	7439-92-1	3	0.17			mg/kg	SW846 6010
Mercury	7439-97-6	0.04	0.04	U	U	mg/kg	SW846 7470
Selenium	7782-49-2	0.37	0.37	U	U	mg/kg	SW846 6010
Silver	7440-22-4	0.23	0.23	U	U	mg/kg	SW846 6010
SEMIVOLATILE ORGANICS							
1,2,4,5-Tetrachlorobenzene	95-94-3	410	410	U		ug/kg	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	410	410	U		ug/kg	SW846 8270
1,2-Dichlorobenzene	95-50-1	410	410	U		ug/kg	SW846 8270
1,3-Dichlorobenzene	541-73-1	410	410	U		ug/kg	SW846 8270
1,4-Dichlorobenzene	106-46-7	410	410	U		ug/kg	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	410	410	U		ug/kg	SW846 8270
2,4,5-Trichlorophenol	95-95-4	2000	2000	U		ug/kg	SW846 8270
2,4,6-Trichlorophenol	88-06-2	410	410	U		ug/kg	SW846 8270
2,4-Dichlorophenol	120-83-2	410	410	U		ug/kg	SW846 8270
2,4-Dimethylphenol	105-67-9	410	410	U		ug/kg	SW846 8270
2,4-Dinitrophenol	51-28-5	2000	2000	U		ug/kg	SW846 8270
2,4-Dinitrotoluene	121-14-2	410	410	U		ug/kg	SW846 8270
2,6-Dinitrotoluene	606-20-2	410	410	U		ug/kg	SW846 8270
2-Chloronaphthalene	91-58-7	410	410	U		ug/kg	SW846 8270
2-Chlorophenol	95-57-8	410	410	U		ug/kg	SW846 8270
2-Methylnaphthalene	91-57-6	410	410	U		ug/kg	SW846 8270
2-Methylphenol	95-48-7	410	410	U		ug/kg	SW846 8270
2-Nitroaniline	88-74-4	2000	2000	U		ug/kg	SW846 8270
2-Nitrophenol	88-75-5	410	410	U		ug/kg	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	810	810	U		ug/kg	SW846 8270
3-Nitroaniline	99-09-2	2000	2000	U		ug/kg	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	2000	2000	U		ug/kg	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	410	410	U		ug/kg	SW846 8270
4-chloro-3-methylphenol	59-50-7	410	410	U		ug/kg	SW846 8270
4-Chloroaniline	106-47-8	410	410	U		ug/kg	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	410	410	U		ug/kg	SW846 8270
4-Methylphenol	106-44-5	410	410	U		ug/kg	SW846 8270
4-Nitroaniline	100-01-6	2000	2000	U		ug/kg	SW846 8270
4-Nitrophenol	100-02-7	2000	2000	U		ug/kg	SW846 8270
Acenaphthene	83-32-9	410	410	U		ug/kg	SW846 8270
Acenaphthylene	208-96-8	410	410	U		ug/kg	SW846 8270
Anthracene	120-12-7	410	410	U		ug/kg	SW846 8270
Benzo(a)anthracene	56-55-3	410	410	U		ug/kg	SW846 8270
Benzo(a)pyrene	50-32-8	410	410	U		ug/kg	SW846 8270
Benzo(b)fluoranthene	205-99-2	410	410	U		ug/kg	SW846 8270
Benzo(g,h,i)perylene	191-24-2	410	410	U		ug/kg	SW846 8270
Benzo(k)fluoranthene	207-08-9	410	410	U		ug/kg	SW846 8270
Benzoic Acid	65-85-0	2000	2000	U		ug/kg	SW846 8270
Benzyl Alcohol	100-51-6	410	410	U		ug/kg	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	410	410	U		ug/kg	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	410	410	U		ug/kg	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	410	410	U		ug/kg	SW846 8270
Butyl Benzyl Phthalate	85-68-7	410	410	U		ug/kg	SW846 8270
Chrysene	218-01-9	410	410	U		ug/kg	SW846 8270
Di-n-butyl Phthalate	84-74-2	410	410	U		ug/kg	SW846 8270
Di-n-octyl Phthalate	117-84-0	410	410	U		ug/kg	SW846 8270
Dibenz(a,h)anthracene	53-70-3	410	410	U		ug/kg	SW846 8270
Dibenzofuran	132-64-9	410	410	U		ug/kg	SW846 8270
Diethyl Phthalate	84-66-2	410	410	U		ug/kg	SW846 8270
Dimethyl Phthalate	131-11-3	410	410	U		ug/kg	SW846 8270
Fluoranthene	206-44-0	410	410	U		ug/kg	SW846 8270
Fluorene	86-73-7	410	410	U		ug/kg	SW846 8270
Hexachlorobenzene	118-74-1	410	410	U		ug/kg	SW846 8270

Location: SW101
 Sample ID: 61SD101 Depth: NA
 COE Sample ID: FH061-SD101/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Hexachlorobutadiene	87-68-3	410	410	U		ug/kg	SW846 8270
Hexachlorocyclopentadiene	77-47-4	410	410	U		ug/kg	SW846 8270
Hexachloroethane	67-72-1	410	410	U		ug/kg	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	410	410	U		ug/kg	SW846 8270
Isophorone	78-59-1	410	410	U		ug/kg	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	410	410	U		ug/kg	SW846 8270
N-Nitrosodiphenylamine	86-30-6	410	410	U		ug/kg	SW846 8270
Naphthalene	91-20-3	410	410	U		ug/kg	SW846 8270
Nitrobenzene	98-95-3	410	410	U		ug/kg	SW846 8270
Pentachlorophenol	87-86-5	2000	2000	U		ug/kg	SW846 8270
Phenanthrene	85-01-8	410	410	U		ug/kg	SW846 8270
Phenol	108-95-2	410	410	U		ug/kg	SW846 8270
Pyrene	129-00-0	410	410	U		ug/kg	SW846 8270
Pyridine	110-86-1	410	410	U		ug/kg	SW846 8270
<u>VOLATILE ORGANICS</u>							
1,1,1,2-Tetrachloroethane	630-20-6	6	6	U	U	ug/kg	SW846 8260
1,1,1-Trichloroethane	71-55-6	6	6	U	U	ug/kg	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	6	6	U	U	ug/kg	SW846 8260
1,1,2-Trichloroethane	79-00-5	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloroethane	75-34-3	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloroethene	75-35-4	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloropropene	563-58-6	6	6	U	U	ug/kg	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	6	6	U	U	ug/kg	SW846 8260
1,2,3-Trichloropropane	96-18-4	6	6	U	U	ug/kg	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	6	6	U	U	ug/kg	SW846 8260
1,2,4-trimethylbenzene	95-63-6	6	6	U	U	ug/kg	SW846 8260
1,2-cis-Dichloroethene	156-59-2	6	6	U	U	ug/kg	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	6	6	U	U	ug/kg	SW846 8260
1,2-Dibromoethane	106-93-4	6	6	U	U	ug/kg	SW846 8260
1,2-Dichlorobenzene	95-50-1	6	6	U	U	ug/kg	SW846 8260
1,2-Dichloroethane	107-06-2	6	6	U	U	ug/kg	SW846 8260
1,2-Dichloropropane	78-87-5	6	6	U	U	ug/kg	SW846 8260
1,2-trans-Dichloroethene	156-60-5	6	6	U	U	ug/kg	SW846 8260
1,3,5-trimethylbenzene	108-67-8	6	6	U	U	ug/kg	SW846 8260
1,3-Dichlorobenzene	541-73-1	6	6	U	U	ug/kg	SW846 8260
1,3-Dichloropropane	142-28-9	6	6	U	U	ug/kg	SW846 8260
1,4-Dichlorobenzene	106-46-7	6	6	U	U	ug/kg	SW846 8260
2,2-Dichloropropane	594-20-7	6	6	U	U	ug/kg	SW846 8260
2-Butanone	78-93-3	6	6	U	U	ug/kg	SW846 8260
2-Chlorotoluene	95-49-8	6	6	U	U	ug/kg	SW846 8260
2-Hexanone	591-78-6	6	6	U	U	ug/kg	SW846 8260
4-Chlorotoluene	106-43-4	6	6	U	U	ug/kg	SW846 8260
4-Methyl-2-pentanone	108-10-1	6	6	U	U	ug/kg	SW846 8260
Acetone	67-64-1	23	6	B	U	ug/kg	SW846 8260
Benzene	71-43-2	6	6	U	U	ug/kg	SW846 8260
Bromobenzene	108-86-1	6	6	U	U	ug/kg	SW846 8260
Bromochloromethane	74-97-5	6	6	U	U	ug/kg	SW846 8260
Bromodichloromethane	75-27-4	6	6	U	U	ug/kg	SW846 8260
Bromoform	75-25-2	6	6	U	U	ug/kg	SW846 8260
Bromomethane	74-83-9	6	6	U	U	ug/kg	SW846 8260
Carbon Tetrachloride	56-23-5	6	6	U	U	ug/kg	SW846 8260
Chlorobenzene	108-90-7	6	6	U	U	ug/kg	SW846 8260
Chloroethane	75-00-3	6	6	U	U	ug/kg	SW846 8260
Chloroform	67-66-3	6	6	U	U	ug/kg	SW846 8260
Chloromethane	74-87-3	6	6	U	U	ug/kg	SW846 8260
Dibromochloromethane	124-48-1	6	6	U	U	ug/kg	SW846 8260
Dibromomethane	74-95-3	6	6	U	U	ug/kg	SW846 8260
Dichlorodifluoromethane	75-71-8	6	6	U	U	ug/kg	SW846 8260
Ethylbenzene	100-41-4	6	6	U	U	ug/kg	SW846 8260
Hexachlorobutadiene	87-68-3	6	6	U	U	ug/kg	SW846 8260
Isopropyl Benzene	98-82-8	6	6	U	U	ug/kg	SW846 8260
m,p-Xylene	13-302-07	6	6	U	U	ug/kg	SW846 8260
Methylene Chloride	75-09-2	6	6	U	U	ug/kg	SW846 8260
n-Butylbenzene	104-51-8	6	6	U	U	ug/kg	SW846 8260

Location: SW101
 Sample ID: 61SD101 Depth: NA
 COE Sample ID: FH061-SD101/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
n-propylbenzene	103-65-1	6	6	U	U	ug/kg	SW846 8260
Naphthalene	91-20-3	6	6	U	U	ug/kg	SW846 8260
o-Xylene	95-47-6	6	6	U	U	ug/kg	SW846 8260
p-Isopropyltoluene	99-87-6	6	6	U	U	ug/kg	SW846 8260
sec-Butylbenzene	135-98-8	6	6	U	U	ug/kg	SW846 8260
Styrene	100-42-5	6	6	U	U	ug/kg	SW846 8260
tert-Butylbenzene	98-06-6	6	6	U	U	ug/kg	SW846 8260
Tetrachloroethene	127-18-4	6	6	U	U	ug/kg	SW846 8260
Toluene	108-88-3	8	6			ug/kg	SW846 8260
Trichloroethene	79-01-6	6	6	U	U	ug/kg	SW846 8260
Trichlorofluoromethane	75-69-4	6	6	U	U	ug/kg	SW846 8260
Vinyl Chloride	75-01-4	6	6	U	U	ug/kg	SW846 8260

Location: SW101
 Sample ID: 61SW101 Depth: NA
 COE Sample ID: FH061-SW101/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	2.6	2.5	B		ug/l	SW846 6010
Barium	7440-39-3	41.8	0.30			ug/l	SW846 6010
Cadmium	7440-43-9	0.5	0.50	U	U	ug/l	SW846 6010
Chromium	7440-47-3	0.8	0.80	U	U	ug/l	SW846 6010
Lead	7439-92-1	1.7	1.7	U	U	ug/l	SW846 6010
Mercury	7439-97-6	0.1	0.10	UN	U	ug/l	SW846 7470
Selenium	7782-49-2	2.8	2.8	U	U	ug/l	SW846 6010
Silver	7440-22-4	1.2	1.2	U	U	ug/l	SW846 6010

SEMIVOLATILE ORGANICS

1,2,4,5-Tetrachlorobenzene	95-94-3	10	10	U		ug/l	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	10	10	U		ug/l	SW846 8270
1,2-Dichlorobenzene	95-50-1	10	10	U		ug/l	SW846 8270
1,3-Dichlorobenzene	541-73-1	10	10	U		ug/l	SW846 8270
1,4-Dichlorobenzene	106-46-7	10	10	U		ug/l	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	10	10	U		ug/l	SW846 8270
2,4,5-Trichlorophenol	95-95-4	50	50	U		ug/l	SW846 8270
2,4,6-Trichlorophenol	88-06-2	10	10	U		ug/l	SW846 8270
2,4-Dichlorophenol	120-83-2	10	10	U		ug/l	SW846 8270
2,4-Dimethylphenol	105-67-9	10	10	U		ug/l	SW846 8270
2,4-Dinitrophenol	51-28-5	50	50	U		ug/l	SW846 8270
2,4-Dinitrotoluene	121-14-2	10	10	U		ug/l	SW846 8270
2,6-Dinitrotoluene	606-20-2	10	10	U		ug/l	SW846 8270
2-Chloronaphthalene	91-58-7	10	10	U		ug/l	SW846 8270
2-Chlorophenol	95-57-8	10	10	U		ug/l	SW846 8270
2-Methylnaphthalene	91-57-6	10	10	U		ug/l	SW846 8270
2-Methylphenol	95-48-7	10	10	U		ug/l	SW846 8270
2-Nitroaniline	88-74-4	50	50	U		ug/l	SW846 8270
2-Nitrophenol	88-75-5	10	10	U		ug/l	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	20	20	U		ug/l	SW846 8270
3-Nitroaniline	99-09-2	50	50	U		ug/l	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	50	50	U		ug/l	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	10	10	U		ug/l	SW846 8270
4-chloro-3-methylphenol	59-50-7	10	10	U		ug/l	SW846 8270
4-Chloroaniline	106-47-8	10	10	U		ug/l	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	10	10	U		ug/l	SW846 8270
4-Methylphenol	106-44-5	10	10	U		ug/l	SW846 8270
4-Nitroaniline	100-01-6	50	50	U		ug/l	SW846 8270
4-Nitrophenol	100-02-7	50	50	U		ug/l	SW846 8270
Acenaphthene	83-32-9	10	10	U		ug/l	SW846 8270

Location: SW101
 Sample ID: 61SW101 Depth: NA
 COE Sample ID: FH061-SW101/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Acenaphthylene	208-96-8	10	10	U		ug/l	SW846 8270
Anthracene	120-12-7	10	10	U		ug/l	SW846 8270
Benzo(a)anthracene	56-55-3	10	10	U		ug/l	SW846 8270
Benzo(a)pyrene	50-32-8	10	10	U		ug/l	SW846 8270
Benzo(b)fluoranthene	205-99-2	10	10	U		ug/l	SW846 8270
Benzo(g,h,i)perylene	191-24-2	10	10	U		ug/l	SW846 8270
Benzo(k)fluoranthene	207-08-9	10	10	U		ug/l	SW846 8270
Benzoic Acid	65-85-0	50	50	U		ug/l	SW846 8270
Benzyl Alcohol	100-51-6	10	10	U		ug/l	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	10	10	U		ug/l	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	10	10	U		ug/l	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	10	10	U		ug/l	SW846 8270
Butyl Benzyl Phthalate	85-68-7	10	10	U		ug/l	SW846 8270
Chrysene	218-01-9	10	10	U		ug/l	SW846 8270
Di-n-butyl Phthalate	84-74-2	10	10	U		ug/l	SW846 8270
Di-n-octyl Phthalate	117-84-0	10	10	U		ug/l	SW846 8270
Dibenz(a,h)anthracene	53-70-3	10	10	U		ug/l	SW846 8270
Dibenzofuran	132-64-9	10	10	U		ug/l	SW846 8270
Diethyl Phthalate	84-66-2	10	10	U		ug/l	SW846 8270
Dimethyl Phthalate	131-11-3	10	10	U		ug/l	SW846 8270
Fluoranthene	206-44-0	10	10	U		ug/l	SW846 8270
Fluorene	86-73-7	10	10	U		ug/l	SW846 8270
Hexachlorobenzene	118-74-1	10	10	U		ug/l	SW846 8270
Hexachlorobutadiene	87-68-3	10	10	U		ug/l	SW846 8270
Hexachlorocyclopentadiene	77-47-4	10	10	U		ug/l	SW846 8270
Hexachloroethane	67-72-1	10	10	U		ug/l	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	10	10	U		ug/l	SW846 8270
Isophorone	78-59-1	10	10	U		ug/l	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	10	10	U		ug/l	SW846 8270
N-Nitrosodiphenylamine	86-30-6	10	10	U		ug/l	SW846 8270
Naphthalene	91-20-3	10	10	U		ug/l	SW846 8270
Nitrobenzene	98-95-3	10	10	U		ug/l	SW846 8270
Pentachlorophenol	87-86-5	50	50	U		ug/l	SW846 8270
Phenanthrene	85-01-8	10	10	U		ug/l	SW846 8270
Phenol	108-95-2	10	10	U		ug/l	SW846 8270
Pyrene	129-00-0	10	10	U		ug/l	SW846 8270
Pyridine	110-86-1	50	50	U		ug/l	SW846 8270
VOLATILE ORGANICS							
1,1,1,2-Tetrachloroethane	630-20-6	5	5	U	U	ug/l	SW846 8240
1,1,1-Trichloroethane	71-55-6	5	5	U	U	ug/l	SW846 8240
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U	U	ug/l	SW846 8240
1,1,2-Trichloroethane	79-00-5	5	5	U	U	ug/l	SW846 8240
1,1-Dichloroethane	75-34-3	5	5	U	U	ug/l	SW846 8240
1,1-Dichloroethene	75-35-4	5	5	U	U	ug/l	SW846 8240
1,1-Dichloropropene	563-58-6	5	5	U	U	ug/l	SW846 8240
1,2,3-Trichlorobenzene	87-61-6	5	5	U	U	ug/l	SW846 8240
1,2,3-Trichloropropane	96-18-4	5	5	U	U	ug/l	SW846 8240
1,2,4-Trichlorobenzene	120-82-1	5	5	U	U	ug/l	SW846 8240
1,2,4-trimethylbenzene	95-63-6	5	5	U	U	ug/l	SW846 8240
1,2-cis-Dichloroethene	156-59-2	5	5	U	U	ug/l	SW846 8240
1,2-dibromo-3-chloropropane	96-12-8	5	5	U	U	ug/l	SW846 8240
1,2-Dibromoethane	106-93-4	5	5	U	U	ug/l	SW846 8240
1,2-Dichlorobenzene	95-50-1	5	5	U	U	ug/l	SW846 8240
1,2-Dichloroethane	107-06-2	5	5	U	U	ug/l	SW846 8240
1,2-Dichloropropane	78-87-5	5	5	U	U	ug/l	SW846 8240
1,2-trans-Dichloroethene	156-60-5	5	5	U	U	ug/l	SW846 8240
1,3,5-trimethylbenzene	108-67-8	5	5	U	U	ug/l	SW846 8240
1,3-Dichlorobenzene	541-73-1	5	5	U	U	ug/l	SW846 8240
1,3-Dichloropropane	142-28-9	5	5	U	U	ug/l	SW846 8240
1,4-Dichlorobenzene	106-46-7	5	5	U	U	ug/l	SW846 8240
2,2-Dichloropropane	594-20-7	5	5	U	U	ug/l	SW846 8240
2-Butanone	78-93-3	11	5			ug/l	SW846 8240
2-Chlorotoluene	95-49-8	5	5	U	U	ug/l	SW846 8240
2-Hexanone	591-78-6	5	5	U	U	ug/l	SW846 8240

Location: SW101
 Sample ID: 61SW101 Depth: NA
 COE Sample ID: FH061-SW101/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
4-Chlorotoluene	106-43-4	5	5	U	U	ug/l	SW846 8240
4-Methyl-2-pentanone	108-10-1	5	5	U	U	ug/l	SW846 8240
Acetone	67-64-1	23	5	U	U	ug/l	SW846 8240
Benzene	71-43-2	5	5	U	U	ug/l	SW846 8240
Bromobenzene	108-86-1	5	5	U	U	ug/l	SW846 8240
Bromochloromethane	74-97-5	5	5	U	U	ug/l	SW846 8240
Bromodichloromethane	75-27-4	5	5	U	U	ug/l	SW846 8240
Bromoform	75-25-2	5	5	U	U	ug/l	SW846 8240
Bromomethane	74-83-9	5	5	U	U	ug/l	SW846 8240
Carbon Tetrachloride	56-23-5	5	5	U	U	ug/l	SW846 8240
Chlorobenzene	108-90-7	5	5	U	U	ug/l	SW846 8240
Chloroethane	75-00-3	5	5	U	U	ug/l	SW846 8240
Chloroform	67-66-3	5	5	U	U	ug/l	SW846 8240
Chloromethane	74-87-3	5	5	U	U	ug/l	SW846 8240
Dibromochloromethane	124-48-1	5	5	U	U	ug/l	SW846 8240
Dibromomethane	74-95-3	5	5	U	U	ug/l	SW846 8240
Dichlorodifluoromethane	75-71-8	5	5	U	U	ug/l	SW846 8240
Ethylbenzene	100-41-4	5	5	U	U	ug/l	SW846 8240
Hexachlorobutadiene	87-68-3	5	5	U	U	ug/l	SW846 8240
Isopropyl Benzene	98-82-8	5	5	U	U	ug/l	SW846 8240
m,p-Xylene	13-302-07	5	5	U	U	ug/l	SW846 8240
Methylene Chloride	75-09-2	5	5	U	U	ug/l	SW846 8240
n-Butylbenzene	104-51-8	5	5	U	U	ug/l	SW846 8240
n-propylbenzene	103-65-1	5	5	U	U	ug/l	SW846 8240
Naphthalene	91-20-3	5	5	U	U	ug/l	SW846 8240
o-Xylene	95-47-6	5	5	U	U	ug/l	SW846 8240
p-Isopropyltoluene	99-87-6	5	5	U	U	ug/l	SW846 8240
sec-Butylbenzene	135-98-8	5	5	U	U	ug/l	SW846 8240
Styrene	100-42-5	5	5	U	U	ug/l	SW846 8240
tert-Butylbenzene	98-06-6	5	5	U	U	ug/l	SW846 8240
Tetrachloroethene	127-18-4	5	5	U	U	ug/l	SW846 8240
Toluene	108-88-3	5	5	U	U	ug/l	SW846 8240
Trichloroethene	79-01-6	5	5	U	U	ug/l	SW846 8240
Trichlorofluoromethane	75-69-4	5	5	U	U	ug/l	SW846 8240
Vinyl Chloride	75-01-4	5	5	U	U	ug/l	SW846 8240

Location: SW102
 Sample ID: 61SD102 Depth: NA
 COE Sample ID: FH061-SD102/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	3.9	0.38	N	J	mg/kg	SW846 6010
Barium	7440-39-3	35.3	0.09			mg/kg	SW846 6010
Cadmium	7440-43-9	0.16	0.05	B		mg/kg	SW846 6010
Chromium	7440-47-3	6.5	0.09	E	J	mg/kg	SW846 6010
Lead	7439-92-1	4.8	0.16			mg/kg	SW846 6010
Mercury	7439-97-6	0.04	0.04	U	U	mg/kg	SW846 7470
Selenium	7782-49-2	0.34	0.34	U	U	mg/kg	SW846 6010
Silver	7440-22-4	0.22	0.22	U	U	mg/kg	SW846 6010
SEMIVOLATILE ORGANICS							
1,2,4,5-Tetrachlorobenzene	95-94-3	380	380	U		ug/kg	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	380	380	U		ug/kg	SW846 8270
1,2-Dichlorobenzene	95-50-1	380	380	U		ug/kg	SW846 8270
1,3-Dichlorobenzene	541-73-1	380	380	U		ug/kg	SW846 8270
1,4-Dichlorobenzene	106-46-7	380	380	U		ug/kg	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	380	380	U		ug/kg	SW846 8270

Location: SW102
 Sample ID: 61SD102 Depth: NA
 COE Sample ID: FH061-SD102/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
2,4,5-Trichlorophenol	95-95-4	1800	1800	U		ug/kg	SW846 8270
2,4,6-Trichlorophenol	88-06-2	380	380	U		ug/kg	SW846 8270
2,4-Dichlorophenol	120-83-2	380	380	U		ug/kg	SW846 8270
2,4-Dimethylphenol	105-67-9	380	380	U		ug/kg	SW846 8270
2,4-Dinitrophenol	51-28-5	1800	1800	U		ug/kg	SW846 8270
2,4-Dinitrotoluene	121-14-2	380	380	U		ug/kg	SW846 8270
2,6-Dinitrotoluene	606-20-2	380	380	U		ug/kg	SW846 8270
2-Chloronaphthalene	91-58-7	380	380	U		ug/kg	SW846 8270
2-Chlorophenol	95-57-8	380	380	U		ug/kg	SW846 8270
2-Methylnaphthalene	91-57-6	380	380	U		ug/kg	SW846 8270
2-Methylphenol	95-48-7	380	380	U		ug/kg	SW846 8270
2-Nitroaniline	88-74-4	1800	1800	U		ug/kg	SW846 8270
2-Nitrophenol	88-75-5	380	380	U		ug/kg	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	760	760	U		ug/kg	SW846 8270
3-Nitroaniline	99-09-2	1800	1800	U		ug/kg	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	1800	1800	U		ug/kg	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	380	380	U		ug/kg	SW846 8270
4-chloro-3-methylphenol	59-50-7	380	380	U		ug/kg	SW846 8270
4-Chloroaniline	106-47-8	380	380	U		ug/kg	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	380	380	U		ug/kg	SW846 8270
4-Methylphenol	106-44-5	380	380	U		ug/kg	SW846 8270
4-Nitroaniline	100-01-6	1800	1800	U		ug/kg	SW846 8270
4-Nitrophenol	100-02-7	1800	1800	U		ug/kg	SW846 8270
Acenaphthene	83-32-9	380	380	U		ug/kg	SW846 8270
Acenaphthylene	208-96-8	380	380	U		ug/kg	SW846 8270
Anthracene	120-12-7	380	380	U		ug/kg	SW846 8270
Benzo(a)anthracene	56-55-3	380	380	U		ug/kg	SW846 8270
Benzo(a)pyrene	50-32-8	380	380	U		ug/kg	SW846 8270
Benzo(b)fluoranthene	205-99-2	380	380	U		ug/kg	SW846 8270
Benzo(g,h,i)perylene	191-24-2	380	380	U		ug/kg	SW846 8270
Benzo(k)fluoranthene	207-08-9	380	380	U		ug/kg	SW846 8270
Benzoic Acid	65-85-0	1800	1800	U		ug/kg	SW846 8270
Benzyl Alcohol	100-51-6	380	380	U		ug/kg	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	380	380	U		ug/kg	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	380	380	U		ug/kg	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	380	380	U		ug/kg	SW846 8270
Butyl Benzyl Phthalate	85-68-7	380	380	U		ug/kg	SW846 8270
Chrysene	218-01-9	380	380	U		ug/kg	SW846 8270
Di-n-butyl Phthalate	84-74-2	380	380	U		ug/kg	SW846 8270
Di-n-octyl Phthalate	117-84-0	380	380	U		ug/kg	SW846 8270
Dibenz(a,h)anthracene	53-70-3	380	380	U		ug/kg	SW846 8270
Dibenzofuran	132-64-9	380	380	U		ug/kg	SW846 8270
Diethyl Phthalate	84-66-2	380	380	U		ug/kg	SW846 8270
Dimethyl Phthalate	131-11-3	380	380	U		ug/kg	SW846 8270
Fluoranthene	206-44-0	380	380	U		ug/kg	SW846 8270
Fluorene	86-73-7	380	380	U		ug/kg	SW846 8270
Hexachlorobenzene	118-74-1	380	380	U		ug/kg	SW846 8270
Hexachlorobutadiene	87-68-3	380	380	U		ug/kg	SW846 8270
Hexachlorocyclopentadiene	77-47-4	380	380	U		ug/kg	SW846 8270
Hexachloroethane	67-72-1	380	380	U		ug/kg	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	380	380	U		ug/kg	SW846 8270
Isophorone	78-59-1	380	380	U		ug/kg	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	380	380	U		ug/kg	SW846 8270
N-Nitrosodiphenylamine	86-30-6	380	380	U		ug/kg	SW846 8270
Naphthalene	91-20-3	380	380	U		ug/kg	SW846 8270
Nitrobenzene	98-95-3	380	380	U		ug/kg	SW846 8270
Pentachlorophenol	87-86-5	1800	1800	U		ug/kg	SW846 8270
Phenanthrene	85-01-8	380	380	U		ug/kg	SW846 8270
Phenol	108-95-2	380	380	U		ug/kg	SW846 8270
Pyrene	129-00-0	380	380	U		ug/kg	SW846 8270
Pyridine	110-86-1	380	380	U		ug/kg	SW846 8270
VOLATILE ORGANICS							
1,1,1,2-Tetrachloroethane	630-20-6	6	6	U	U	ug/kg	SW846 8260
1,1,1-Trichloroethane	71-55-6	6	6	U	U	ug/kg	SW846 8260

Location: SW102
Sample ID: 61SD102 Depth: NA
COE Sample ID: FH061-SD102/11-15-96
Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
1,1,2,2-Tetrachloroethane	79-34-5	6	6	U	U	ug/kg	SW846 8260
1,1,2-Trichloroethane	79-00-5	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloroethane	75-34-3	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloroethene	75-35-4	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloropropene	563-58-6	6	6	U	U	ug/kg	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	6	6	U	U	ug/kg	SW846 8260
1,2,3-Trichloropropane	96-18-4	6	6	U	U	ug/kg	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	6	6	U	U	ug/kg	SW846 8260
1,2,4-trimethylbenzene	95-63-6	6	6	U	U	ug/kg	SW846 8260
1,2-cis-Dichloroethene	156-59-2	6	6	U	U	ug/kg	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	6	6	U	U	ug/kg	SW846 8260
1,2-Dibromoethane	106-93-4	6	6	U	U	ug/kg	SW846 8260
1,2-Dichlorobenzene	95-50-1	6	6	U	U	ug/kg	SW846 8260
1,2-Dichloroethane	107-06-2	6	6	U	U	ug/kg	SW846 8260
1,2-Dichloropropane	78-87-5	6	6	U	U	ug/kg	SW846 8260
1,2-trans-Dichloroethene	156-60-5	6	6	U	U	ug/kg	SW846 8260
1,3,5-trimethylbenzene	108-67-8	6	6	U	U	ug/kg	SW846 8260
1,3-Dichlorobenzene	541-73-1	6	6	U	U	ug/kg	SW846 8260
1,3-Dichloropropane	142-28-9	6	6	U	U	ug/kg	SW846 8260
1,4-Dichlorobenzene	106-46-7	6	6	U	U	ug/kg	SW846 8260
2,2-Dichloropropane	594-20-7	6	6	U	U	ug/kg	SW846 8260
2-Butanone	78-93-3	6	6	J	J	ug/kg	SW846 8260
2-Chlorotoluene	95-49-8	6	6	U	U	ug/kg	SW846 8260
2-Hexanone	591-78-6	6	6	U	U	ug/kg	SW846 8260
4-Chlorotoluene	106-43-4	6	6	U	U	ug/kg	SW846 8260
4-Methyl-2-pentanone	108-10-1	6	6	U	U	ug/kg	SW846 8260
Acetone	67-64-1	48	6	B	U	ug/kg	SW846 8260
Benzene	71-43-2	6	6	U	U	ug/kg	SW846 8260
Bromobenzene	108-86-1	6	6	U	U	ug/kg	SW846 8260
Bromochloromethane	74-97-5	6	6	U	U	ug/kg	SW846 8260
Bromodichloromethane	75-27-4	6	6	U	U	ug/kg	SW846 8260
Bromoform	75-25-2	6	6	U	U	ug/kg	SW846 8260
Bromomethane	74-83-9	6	6	U	U	ug/kg	SW846 8260
Carbon Tetrachloride	56-23-5	6	6	U	U	ug/kg	SW846 8260
Chlorobenzene	108-90-7	6	6	U	U	ug/kg	SW846 8260
Chloroethane	75-00-3	6	6	U	U	ug/kg	SW846 8260
Chloroform	67-66-3	6	6	U	U	ug/kg	SW846 8260
Chloromethane	74-87-3	6	6	U	U	ug/kg	SW846 8260
Dibromochloromethane	124-48-1	6	6	U	U	ug/kg	SW846 8260
Dibromomethane	74-95-3	6	6	U	U	ug/kg	SW846 8260
Dichlorodifluoromethane	75-71-8	6	6	U	U	ug/kg	SW846 8260
Ethylbenzene	100-41-4	6	6	U	U	ug/kg	SW846 8260
Hexachlorobutadiene	87-68-3	6	6	U	U	ug/kg	SW846 8260
Isopropyl Benzene	98-82-8	6	6	U	U	ug/kg	SW846 8260
m,p-Xylene	13-302-07	6	6	U	U	ug/kg	SW846 8260
Methylene Chloride	75-09-2	6	6	U	U	ug/kg	SW846 8260
n-Butylbenzene	104-51-8	6	6	U	U	ug/kg	SW846 8260
n-propylbenzene	103-65-1	6	6	U	U	ug/kg	SW846 8260
Naphthalene	91-20-3	6	6	U	U	ug/kg	SW846 8260
o-Xylene	95-47-6	6	6	U	U	ug/kg	SW846 8260
p-Isopropyltoluene	99-87-6	6	6	U	U	ug/kg	SW846 8260
sec-Butylbenzene	135-98-8	6	6	U	U	ug/kg	SW846 8260
Styrene	100-42-5	6	6	U	U	ug/kg	SW846 8260
tert-Butylbenzene	98-06-6	6	6	U	U	ug/kg	SW846 8260
Tetrachloroethene	127-18-4	6	6	U	U	ug/kg	SW846 8260
Toluene	108-88-3	14	6			ug/kg	SW846 8260
Trichloroethene	79-01-6	6	6	U	U	ug/kg	SW846 8260
Trichlorofluoromethane	75-69-4	6	6	U	U	ug/kg	SW846 8260
Vinyl Chloride	75-01-4	6	6	U	U	ug/kg	SW846 8260

Location: SW102
 Sample ID: 61SW102 Depth: NA
 COE Sample ID: FH061-SW102/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	2.5	2.5	U	U	ug/l	SW846 6010
Barium	7440-39-3	34.4	0.30			ug/l	SW846 6010
Cadmium	7440-43-9	0.5	0.50	U	U	ug/l	SW846 6010
Chromium	7440-47-3	0.8	0.80	U	U	ug/l	SW846 6010
Lead	7439-92-1	1.7	1.7	U	U	ug/l	SW846 6010
Mercury	7439-97-6	0.1	0.10	UN	U	ug/l	SW846 7470
Selenium	7782-49-2	2.8	2.8	U	U	ug/l	SW846 6010
Silver	7440-22-4	1.2	1.2	U	U	ug/l	SW846 6010
SEMIVOLATILE ORGANICS							
1,2,4,5-Tetrachlorobenzene	95-94-3	10	10	U		ug/l	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	10	10	U		ug/l	SW846 8270
1,2-Dichlorobenzene	95-50-1	10	10	U		ug/l	SW846 8270
1,3-Dichlorobenzene	541-73-1	10	10	U		ug/l	SW846 8270
1,4-Dichlorobenzene	106-46-7	10	10	U		ug/l	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	10	10	U		ug/l	SW846 8270
2,4,5-Trichlorophenol	95-95-4	50	50	U		ug/l	SW846 8270
2,4,6-Trichlorophenol	88-06-2	10	10	U		ug/l	SW846 8270
2,4-Dichlorophenol	120-83-2	10	10	U		ug/l	SW846 8270
2,4-Dimethylphenol	105-67-9	10	10	U		ug/l	SW846 8270
2,4-Dinitrophenol	51-28-5	50	50	U		ug/l	SW846 8270
2,4-Dinitrotoluene	121-14-2	10	10	U		ug/l	SW846 8270
2,6-Dinitrotoluene	606-20-2	10	10	U		ug/l	SW846 8270
2-Chloronaphthalene	91-58-7	10	10	U		ug/l	SW846 8270
2-Chlorophenol	95-57-8	10	10	U		ug/l	SW846 8270
2-Methylnaphthalene	91-57-6	10	10	U		ug/l	SW846 8270
2-Methylphenol	95-48-7	10	10	U		ug/l	SW846 8270
2-Nitroaniline	88-74-4	50	50	U		ug/l	SW846 8270
2-Nitrophenol	88-75-5	10	10	U		ug/l	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	20	20	U		ug/l	SW846 8270
3-Nitroaniline	99-09-2	50	50	U		ug/l	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	50	50	U		ug/l	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	10	10	U		ug/l	SW846 8270
4-chloro-3-methylphenol	59-50-7	10	10	U		ug/l	SW846 8270
4-Chloroaniline	106-47-8	10	10	U		ug/l	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	10	10	U		ug/l	SW846 8270
4-Methylphenol	106-44-5	10	10	U		ug/l	SW846 8270
4-Nitroaniline	100-01-6	50	50	U		ug/l	SW846 8270
4-Nitrophenol	100-02-7	50	50	U		ug/l	SW846 8270
Acenaphthene	83-32-9	10	10	U		ug/l	SW846 8270
Acenaphthylene	208-96-8	10	10	U		ug/l	SW846 8270
Anthracene	120-12-7	10	10	U		ug/l	SW846 8270
Benzo(a)anthracene	56-55-3	10	10	U		ug/l	SW846 8270
Benzo(a)pyrene	50-32-8	10	10	U		ug/l	SW846 8270
Benzo(b)fluoranthene	205-99-2	10	10	U		ug/l	SW846 8270
Benzo(g,h,i)perylene	191-24-2	10	10	U		ug/l	SW846 8270
Benzo(k)fluoranthene	207-08-9	10	10	U		ug/l	SW846 8270
Benzoic Acid	65-85-0	50	50	U		ug/l	SW846 8270
Benzyl Alcohol	100-51-6	10	10	U		ug/l	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	10	10	U		ug/l	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	10	10	U		ug/l	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	2	10	J		ug/l	SW846 8270
Butyl Benzyl Phthalate	85-68-7	10	10	U		ug/l	SW846 8270
Chrysene	218-01-9	10	10	U		ug/l	SW846 8270
Di-n-butyl Phthalate	84-74-2	10	10	U		ug/l	SW846 8270
Di-n-octyl Phthalate	117-84-0	10	10	U		ug/l	SW846 8270
Dibenz(a,h)anthracene	53-70-3	10	10	U		ug/l	SW846 8270
Dibenzofuran	132-64-9	10	10	U		ug/l	SW846 8270
Diethyl Phthalate	84-66-2	10	10	U		ug/l	SW846 8270
Dimethyl Phthalate	131-11-3	10	10	U		ug/l	SW846 8270
Fluoranthene	206-44-0	10	10	U		ug/l	SW846 8270
Fluorene	86-73-7	10	10	U		ug/l	SW846 8270
Hexachlorobenzene	118-74-1	10	10	U		ug/l	SW846 8270

Location: SW102
Sample ID: 61SW102 Depth: NA
COE Sample ID: FH061-SW102/11-15-96
Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Hexachlorobutadiene	87-68-3	10	10	U		ug/l	SW846 8270
Hexachlorocyclopentadiene	77-47-4	10	10	U		ug/l	SW846 8270
Hexachloroethane	67-72-1	10	10	U		ug/l	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	10	10	U		ug/l	SW846 8270
Isophorone	78-59-1	10	10	U		ug/l	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	10	10	U		ug/l	SW846 8270
N-Nitrosodiphenylamine	86-30-6	10	10	U		ug/l	SW846 8270
Naphthalene	91-20-3	10	10	U		ug/l	SW846 8270
Nitrobenzene	98-95-3	10	10	U		ug/l	SW846 8270
Pentachlorophenol	87-86-5	50	50	U		ug/l	SW846 8270
Phenanthrene	85-01-8	10	10	U		ug/l	SW846 8270
Phenol	108-95-2	10	10	U		ug/l	SW846 8270
Pyrene	129-00-0	10	10	U		ug/l	SW846 8270
Pyridine	110-86-1	50	50	U		ug/l	SW846 8270
<u>VOLATILE ORGANICS</u>							
1,1,1,2-Tetrachloroethane	630-20-6	5	5	U		ug/l	SW846 8240
1,1,1-Trichloroethane	71-55-6	5	5	U		ug/l	SW846 8240
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U		ug/l	SW846 8240
1,1,2-Trichloroethane	79-00-5	5	5	U		ug/l	SW846 8240
1,1-Dichloroethane	75-34-3	5	5	U		ug/l	SW846 8240
1,1-Dichloroethene	75-35-4	5	5	U		ug/l	SW846 8240
1,1-Dichloropropene	563-58-6	5	5	U		ug/l	SW846 8240
1,2,3-Trichlorobenzene	87-61-6	5	5	U		ug/l	SW846 8240
1,2,3-Trichloropropane	96-18-4	5	5	U		ug/l	SW846 8240
1,2,4-Trichlorobenzene	120-82-1	5	5	U		ug/l	SW846 8240
1,2,4-trimethylbenzene	95-63-6	5	5	U		ug/l	SW846 8240
1,2-cis-Dichloroethene	156-59-2	5	5	U		ug/l	SW846 8240
1,2-dibromo-3-chloropropane	96-12-8	5	5	U		ug/l	SW846 8240
1,2-Dibromoethane	106-93-4	5	5	U		ug/l	SW846 8240
1,2-Dichlorobenzene	95-50-1	5	5	U		ug/l	SW846 8240
1,2-Dichloroethane	107-06-2	5	5	U		ug/l	SW846 8240
1,2-Dichloropropane	78-87-5	5	5	U		ug/l	SW846 8240
1,2-trans-Dichloroethene	156-60-5	5	5	U		ug/l	SW846 8240
1,3,5-trimethylbenzene	108-67-8	5	5	U		ug/l	SW846 8240
1,3-Dichlorobenzene	541-73-1	5	5	U		ug/l	SW846 8240
1,3-Dichloropropane	142-28-9	5	5	U		ug/l	SW846 8240
1,4-Dichlorobenzene	106-46-7	5	5	U		ug/l	SW846 8240
2,2-Dichloropropane	594-20-7	5	5	U		ug/l	SW846 8240
2-Butanone	78-93-3	5	5	U		ug/l	SW846 8240
2-Chlorotoluene	95-49-8	5	5	U		ug/l	SW846 8240
2-Hexanone	591-78-6	5	5	U		ug/l	SW846 8240
4-Chlorotoluene	106-43-4	5	5	U		ug/l	SW846 8240
4-Methyl-2-pentanone	108-10-1	5	5	U		ug/l	SW846 8240
Acetone	67-64-1	5	5	U		ug/l	SW846 8240
Benzene	71-43-2	5	5	U		ug/l	SW846 8240
Bromobenzene	108-86-1	5	5	U		ug/l	SW846 8240
Bromochloromethane	74-97-5	5	5	U		ug/l	SW846 8240
Bromodichloromethane	75-27-4	5	5	U		ug/l	SW846 8240
Bromoform	75-25-2	5	5	U		ug/l	SW846 8240
Bromomethane	74-83-9	5	5	U		ug/l	SW846 8240
Carbon Tetrachloride	56-23-5	5	5	U		ug/l	SW846 8240
Chlorobenzene	108-90-7	5	5	U		ug/l	SW846 8240
Chloroethane	75-00-3	5	5	U		ug/l	SW846 8240
Chloroform	67-66-3	5	5	U		ug/l	SW846 8240
Chloromethane	74-87-3	5	5	U		ug/l	SW846 8240
Dibromochloromethane	124-48-1	5	5	U		ug/l	SW846 8240
Dibromomethane	74-95-3	5	5	U		ug/l	SW846 8240
Dichlorodifluoromethane	75-71-8	5	5	U		ug/l	SW846 8240
Ethylbenzene	100-41-4	5	5	U		ug/l	SW846 8240
Hexachlorobutadiene	87-68-3	5	5	U		ug/l	SW846 8240
Isopropyl Benzene	98-82-8	5	5	U		ug/l	SW846 8240
m,p-Xylene	13-302-07	5	5	U		ug/l	SW846 8240
Methylene Chloride	75-09-2	5	5	U		ug/l	SW846 8240
n-Butylbenzene	104-51-8	5	5	U		ug/l	SW846 8240

Location: SW102
 Sample ID: 61SW102 Depth: NA
 COE Sample ID: FH061-SW102/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
n-propylbenzene	103-65-1	5	5	U		ug/l	SW846 8240
Naphthalene	91-20-3	5	5	U		ug/l	SW846 8240
o-Xylene	95-47-6	5	5	U		ug/l	SW846 8240
p-Isopropyltoluene	99-87-6	5	5	U		ug/l	SW846 8240
sec-Butylbenzene	135-98-8	5	5	U		ug/l	SW846 8240
Styrene	100-42-5	5	5	U		ug/l	SW846 8240
tert-Butylbenzene	98-06-6	5	5	U		ug/l	SW846 8240
Tetrachloroethene	127-18-4	5	5	U		ug/l	SW846 8240
Toluene	108-88-3	5	5	U		ug/l	SW846 8240
Trichloroethene	79-01-6	5	5	U		ug/l	SW846 8240
Trichlorofluoromethane	75-69-4	5	5	U		ug/l	SW846 8240
Vinyl Chloride	75-01-4	5	5	U		ug/l	SW846 8240

Location: SW103
 Sample ID: 61SD103 Depth: NA
 COE Sample ID: FH061-SD103/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	10.4	0.41	J		mg/kg	SW846 6010
Barium	7440-39-3	26.9	0.10			mg/kg	SW846 6010
Cadmium	7440-43-9	0.24	0.05			mg/kg	SW846 6010
Chromium	7440-47-3	2.9	0.10	J		mg/kg	SW846 6010
Lead	7439-92-1	4.6	0.17			mg/kg	SW846 6010
Mercury	7439-97-6	0.04	0.04	U		mg/kg	SW846 7470
Selenium	7782-49-2	0.37	0.37	U		mg/kg	SW846 6010
Silver	7440-22-4	0.24	0.24	U		mg/kg	SW846 6010
SEMIVOLATILE ORGANICS							
1,2,4,5-Tetrachlorobenzene	95-94-3	410	410	U		ug/kg	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	410	410	U		ug/kg	SW846 8270
1,2-Dichlorobenzene	95-50-1	410	410	U		ug/kg	SW846 8270
1,3-Dichlorobenzene	541-73-1	410	410	U		ug/kg	SW846 8270
1,4-Dichlorobenzene	106-46-7	410	410	U		ug/kg	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	410	410	U		ug/kg	SW846 8270
2,4,5-Trichlorophenol	95-95-4	2000	2000	U		ug/kg	SW846 8270
2,4,6-Trichlorophenol	88-06-2	410	410	U		ug/kg	SW846 8270
2,4-Dichlorophenol	120-83-2	410	410	U		ug/kg	SW846 8270
2,4-Dimethylphenol	105-67-9	410	410	U		ug/kg	SW846 8270
2,4-Dinitrophenol	51-28-5	2000	2000	U		ug/kg	SW846 8270
2,4-Dinitrotoluene	121-14-2	410	410	U		ug/kg	SW846 8270
2,6-Dinitrotoluene	606-20-2	410	410	U		ug/kg	SW846 8270
2-Chloronaphthalene	91-58-7	410	410	U		ug/kg	SW846 8270
2-Chlorophenol	95-57-8	410	410	U		ug/kg	SW846 8270
2-Methylnaphthalene	91-57-6	410	410	U		ug/kg	SW846 8270
2-Methylphenol	95-48-7	410	410	U		ug/kg	SW846 8270
2-Nitroaniline	88-74-4	2000	2000	U		ug/kg	SW846 8270
2-Nitrophenol	88-75-5	410	410	U		ug/kg	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	810	810	U		ug/kg	SW846 8270
3-Nitroaniline	99-09-2	2000	2000	U		ug/kg	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	2000	2000	U		ug/kg	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	410	410	U		ug/kg	SW846 8270
4-chloro-3-methylphenol	59-50-7	410	410	U		ug/kg	SW846 8270
4-Chloroaniline	106-47-8	410	410	U		ug/kg	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	410	410	U		ug/kg	SW846 8270
4-Methylphenol	106-44-5	410	410	U		ug/kg	SW846 8270
4-Nitroaniline	100-01-6	2000	2000	U		ug/kg	SW846 8270
4-Nitrophenol	100-02-7	2000	2000	U		ug/kg	SW846 8270

Location: SW103
Sample ID: 61SD103 Depth: NA
COE Sample ID: FH061-SD103/11-15-96
Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Acenaphthene	83-32-9	410	410	U		ug/kg	SW846 8270
Acenaphthylene	208-96-8	410	410	U		ug/kg	SW846 8270
Anthracene	120-12-7	410	410	U		ug/kg	SW846 8270
Benzo(a)anthracene	56-55-3	410	410	U		ug/kg	SW846 8270
Benzo(a)pyrene	50-32-8	410	410	U		ug/kg	SW846 8270
Benzo(b)fluoranthene	205-99-2	410	410	U		ug/kg	SW846 8270
Benzo(g,h,i)perylene	191-24-2	410	410	U		ug/kg	SW846 8270
Benzo(k)fluoranthene	207-08-9	410	410	U		ug/kg	SW846 8270
Benzoic Acid	65-85-0	2000	2000	U		ug/kg	SW846 8270
Benzyl Alcohol	100-51-6	410	410	U		ug/kg	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	410	410	U		ug/kg	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	410	410	U		ug/kg	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	410	410	U		ug/kg	SW846 8270
Butyl Benzyl Phthalate	85-68-7	410	410	U		ug/kg	SW846 8270
Chrysene	218-01-9	410	410	U		ug/kg	SW846 8270
Di-n-butyl Phthalate	84-74-2	410	410	U		ug/kg	SW846 8270
Di-n-octyl Phthalate	117-84-0	410	410	U		ug/kg	SW846 8270
Dibenz(a,h)anthracene	53-70-3	410	410	U		ug/kg	SW846 8270
Dibenzofuran	132-64-9	410	410	U		ug/kg	SW846 8270
Diethyl Phthalate	84-66-2	410	410	U		ug/kg	SW846 8270
Dimethyl Phthalate	131-11-3	410	410	U		ug/kg	SW846 8270
Fluoranthene	206-44-0	410	410	U		ug/kg	SW846 8270
Fluorene	86-73-7	410	410	U		ug/kg	SW846 8270
Hexachlorobenzene	118-74-1	410	410	U		ug/kg	SW846 8270
Hexachlorobutadiene	87-68-3	410	410	U		ug/kg	SW846 8270
Hexachlorocyclopentadiene	77-47-4	410	410	U		ug/kg	SW846 8270
Hexachloroethane	67-72-1	410	410	U		ug/kg	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	410	410	U		ug/kg	SW846 8270
Isophorone	78-59-1	410	410	U		ug/kg	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	410	410	U		ug/kg	SW846 8270
N-Nitrosodiphenylamine	86-30-6	410	410	U		ug/kg	SW846 8270
Naphthalene	91-20-3	410	410	U		ug/kg	SW846 8270
Nitrobenzene	98-95-3	410	410	U		ug/kg	SW846 8270
Pentachlorophenol	87-86-5	2000	2000	U		ug/kg	SW846 8270
Phenanthrene	85-01-8	410	410	U		ug/kg	SW846 8270
Phenol	108-95-2	410	410	U		ug/kg	SW846 8270
Pyrene	129-00-0	410	410	U		ug/kg	SW846 8270
Pyridine	110-86-1	410	410	U		ug/kg	SW846 8270
VOLATILE ORGANICS							
1,1,1,2-Tetrachloroethane	630-20-6	6	6	U	U	ug/kg	SW846 8260
1,1,1-Trichloroethane	71-55-6	6	6	U	U	ug/kg	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	6	6	U	U	ug/kg	SW846 8260
1,1,2-Trichloroethane	79-00-5	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloroethane	75-34-3	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloroethene	75-35-4	6	6	U	U	ug/kg	SW846 8260
1,1-Dichloropropene	563-58-6	6	6	U	U	ug/kg	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	6	6	U	U	ug/kg	SW846 8260
1,2,3-Trichloropropane	96-18-4	6	6	U	U	ug/kg	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	6	6	U	U	ug/kg	SW846 8260
1,2,4-trimethylbenzene	95-63-6	6	6	U	U	ug/kg	SW846 8260
1,2-cis-Dichloroethene	156-59-2	6	6	U	U	ug/kg	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	6	6	U	U	ug/kg	SW846 8260
1,2-Dibromoethane	106-93-4	6	6	U	U	ug/kg	SW846 8260
1,2-Dichlorobenzene	95-50-1	6	6	U	U	ug/kg	SW846 8260
1,2-Dichloroethane	107-06-2	6	6	U	U	ug/kg	SW846 8260
1,2-Dichloropropane	78-87-5	6	6	U	U	ug/kg	SW846 8260
1,2-trans-Dichloroethene	156-60-5	6	6	U	U	ug/kg	SW846 8260
1,3,5-trimethylbenzene	108-67-8	6	6	U	U	ug/kg	SW846 8260
1,3-Dichlorobenzene	541-73-1	6	6	U	U	ug/kg	SW846 8260
1,3-Dichloropropane	142-28-9	6	6	U	U	ug/kg	SW846 8260
1,4-Dichlorobenzene	106-46-7	6	6	U	U	ug/kg	SW846 8260
2,2-Dichloropropane	594-20-7	6	6	U	U	ug/kg	SW846 8260
2-Butanone	78-93-3	6	6	U	U	ug/kg	SW846 8260
2-Chlorotoluene	95-49-8	6	6	U	U	ug/kg	SW846 8260

Location: SW103
 Sample ID: 61SD103 Depth: NA
 COE Sample ID: FH061-SD103/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
2-Hexanone	591-78-6	6	6	U	U	ug/kg	SW846 8260
4-Chlorotoluene	106-43-4	6	6	U	U	ug/kg	SW846 8260
4-Methyl-2-pentanone	108-10-1	6	6	U	U	ug/kg	SW846 8260
Acetone	67-64-1	8	6	B	U	ug/kg	SW846 8260
Benzene	71-43-2	6	6	U	U	ug/kg	SW846 8260
Bromobenzene	108-86-1	6	6	U	U	ug/kg	SW846 8260
Bromochloromethane	74-97-5	6	6	U	U	ug/kg	SW846 8260
Bromodichloromethane	75-27-4	6	6	U	U	ug/kg	SW846 8260
Bromoform	75-25-2	6	6	U	U	ug/kg	SW846 8260
Bromomethane	74-83-9	6	6	U	U	ug/kg	SW846 8260
Carbon Tetrachloride	56-23-5	6	6	U	U	ug/kg	SW846 8260
Chlorobenzene	108-90-7	6	6	U	U	ug/kg	SW846 8260
Chloroethane	75-00-3	6	6	U	U	ug/kg	SW846 8260
Chloroform	67-66-3	6	6	U	U	ug/kg	SW846 8260
Chloromethane	74-87-3	6	6	U	U	ug/kg	SW846 8260
Dibromochloromethane	124-48-1	6	6	U	U	ug/kg	SW846 8260
Dibromomethane	74-95-3	6	6	U	U	ug/kg	SW846 8260
Dichlorodifluoromethane	75-71-8	6	6	U	U	ug/kg	SW846 8260
Ethylbenzene	100-41-4	6	6	U	U	ug/kg	SW846 8260
Hexachlorobutadiene	87-68-3	6	6	U	U	ug/kg	SW846 8260
Isopropyl Benzene	98-82-8	6	6	U	U	ug/kg	SW846 8260
m,p-Xylene	13-302-07	6	6	U	U	ug/kg	SW846 8260
Methylene Chloride	75-09-2	11	6	B	U	ug/kg	SW846 8260
n-Butylbenzene	104-51-8	6	6	U	U	ug/kg	SW846 8260
n-propylbenzene	103-65-1	6	6	U	U	ug/kg	SW846 8260
Naphthalene	91-20-3	6	6	U	U	ug/kg	SW846 8260
o-Xylene	95-47-6	6	6	U	U	ug/kg	SW846 8260
p-Isopropyltoluene	99-87-6	6	6	U	U	ug/kg	SW846 8260
sec-Butylbenzene	135-98-8	6	6	U	U	ug/kg	SW846 8260
Styrene	100-42-5	6	6	U	U	ug/kg	SW846 8260
tert-Butylbenzene	98-06-6	6	6	U	U	ug/kg	SW846 8260
Tetrachloroethene	127-18-4	6	6	U	U	ug/kg	SW846 8260
Toluene	108-88-3	6	6	U	U	ug/kg	SW846 8260
Trichloroethene	79-01-6	6	6	U	U	ug/kg	SW846 8260
Trichlorofluoromethane	75-69-4	6	6	U	U	ug/kg	SW846 8260
Vinyl Chloride	75-01-4	6	6	U	U	ug/kg	SW846 8260

Location: SW103
 Sample ID: 61SW103 Depth: NA
 COE Sample ID: FH061-SW103/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	2.5	2.5	U	U	ug/l	SW846 6010
Barium	7440-39-3	39	0.30			ug/l	SW846 6010
Cadmium	7440-43-9	0.5	0.50	U	U	ug/l	SW846 6010
Chromium	7440-47-3	0.8	0.80	U	U	ug/l	SW846 6010
Lead	7439-92-1	1.7	1.7	U	U	ug/l	SW846 6010
Mercury	7439-97-6	0.11	0.10	BN	UJ	ug/l	SW846 7470
Selenium	7782-49-2	2.8	2.8	U	U	ug/l	SW846 6010
Silver	7440-22-4	1.2	1.2	U	U	ug/l	SW846 6010
SEMIVOLATILE ORGANICS							
1,2,4,5-Tetrachlorobenzene	95-94-3	10	10	U		ug/l	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	10	10	U		ug/l	SW846 8270
1,2-Dichlorobenzene	95-50-1	10	10	U		ug/l	SW846 8270
1,3-Dichlorobenzene	541-73-1	10	10	U		ug/l	SW846 8270
1,4-Dichlorobenzene	106-46-7	10	10	U		ug/l	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	10	10	U		ug/l	SW846 8270

Location: SW103
 Sample ID: 61SW103 Depth: NA
 COE Sample ID: FH061-SW103/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
2,4,5-Trichlorophenol	95-95-4	50	50	U		ug/l	SW846 8270
2,4,6-Trichlorophenol	88-06-2	10	10	U		ug/l	SW846 8270
2,4-Dichlorophenol	120-83-2	10	10	U		ug/l	SW846 8270
2,4-Dimethylphenol	105-67-9	10	10	U		ug/l	SW846 8270
2,4-Dinitrophenol	51-28-5	50	50	U		ug/l	SW846 8270
2,4-Dinitrotoluene	121-14-2	10	10	U		ug/l	SW846 8270
2,6-Dinitrotoluene	606-20-2	10	10	U		ug/l	SW846 8270
2-Chloronaphthalene	91-58-7	10	10	U		ug/l	SW846 8270
2-Chlorophenol	95-57-8	10	10	U		ug/l	SW846 8270
2-Methylnaphthalene	91-57-6	10	10	U		ug/l	SW846 8270
2-Methylphenol	95-48-7	10	10	U		ug/l	SW846 8270
2-Nitroaniline	88-74-4	50	50	U		ug/l	SW846 8270
2-Nitrophenol	88-75-5	10	10	U		ug/l	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	20	20	U		ug/l	SW846 8270
3-Nitroaniline	99-09-2	50	50	U		ug/l	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	50	50	U		ug/l	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	10	10	U		ug/l	SW846 8270
4-chloro-3-methylphenol	59-50-7	10	10	U		ug/l	SW846 8270
4-Chloroaniline	106-47-8	10	10	U		ug/l	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	10	10	U		ug/l	SW846 8270
4-Methylphenol	106-44-5	10	10	U		ug/l	SW846 8270
4-Nitroaniline	100-01-6	50	50	U		ug/l	SW846 8270
4-Nitrophenol	100-02-7	50	50	U		ug/l	SW846 8270
Acenaphthene	83-32-9	10	10	U		ug/l	SW846 8270
Acenaphthylene	208-96-8	10	10	U		ug/l	SW846 8270
Anthracene	120-12-7	10	10	U		ug/l	SW846 8270
Benzo(a)anthracene	56-55-3	10	10	U		ug/l	SW846 8270
Benzo(a)pyrene	50-32-8	10	10	U		ug/l	SW846 8270
Benzo(b)fluoranthene	205-99-2	10	10	U		ug/l	SW846 8270
Benzo(g,h,i)perylene	191-24-2	10	10	U		ug/l	SW846 8270
Benzo(k)fluoranthene	207-08-9	10	10	U		ug/l	SW846 8270
Benzoic Acid	65-85-0	50	50	U		ug/l	SW846 8270
Benzyl Alcohol	100-51-6	10	10	U		ug/l	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	10	10	U		ug/l	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	10	10	U		ug/l	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	10	10	U		ug/l	SW846 8270
Butyl Benzyl Phthalate	85-68-7	10	10	U		ug/l	SW846 8270
Chrysene	218-01-9	10	10	U		ug/l	SW846 8270
Di-n-butyl Phthalate	84-74-2	10	10	U		ug/l	SW846 8270
Di-n-octyl Phthalate	117-84-0	10	10	U		ug/l	SW846 8270
Dibenz(a,h)anthracene	53-70-3	10	10	U		ug/l	SW846 8270
Dibenzofuran	132-64-9	10	10	U		ug/l	SW846 8270
Diethyl Phthalate	84-66-2	10	10	U		ug/l	SW846 8270
Dimethyl Phthalate	131-11-3	10	10	U		ug/l	SW846 8270
Fluoranthene	206-44-0	10	10	U		ug/l	SW846 8270
Fluorene	86-73-7	10	10	U		ug/l	SW846 8270
Hexachlorobenzene	118-74-1	10	10	U		ug/l	SW846 8270
Hexachlorobutadiene	87-68-3	10	10	U		ug/l	SW846 8270
Hexachlorocyclopentadiene	77-47-4	10	10	U		ug/l	SW846 8270
Hexachloroethane	67-72-1	10	10	U		ug/l	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	10	10	U		ug/l	SW846 8270
Isophorone	78-59-1	10	10	U		ug/l	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	10	10	U		ug/l	SW846 8270
N-Nitrosodiphenylamine	86-30-6	10	10	U		ug/l	SW846 8270
Naphthalene	91-20-3	10	10	U		ug/l	SW846 8270
Nitrobenzene	98-95-3	10	10	U		ug/l	SW846 8270
Pentachlorophenol	87-86-5	50	50	U		ug/l	SW846 8270
Phenanthrene	85-01-8	10	10	U		ug/l	SW846 8270
Phenol	108-95-2	10	10	U		ug/l	SW846 8270
Pyrene	129-00-0	10	10	U		ug/l	SW846 8270
Pyridine	110-86-1	50	50	U		ug/l	SW846 8270

VOLATILE ORGANICS

1,1,1,2-Tetrachloroethane	630-20-6	5	5	U		ug/l	SW846 8240
1,1,1-Trichloroethane	71-55-6	5	5	U		ug/l	SW846 8240

Location: SW103
 Sample ID: 61SW103 Depth: NA
 COE Sample ID: FH061-SW103/11-15-96
 Date Collected: 11/15/96

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U		ug/l	SW846 8240
1,1,2-Trichloroethane	79-00-5	5	5	U		ug/l	SW846 8240
1,1-Dichloroethane	75-34-3	5	5	U		ug/l	SW846 8240
1,1-Dichloroethene	75-35-4	5	5	U		ug/l	SW846 8240
1,1-Dichloropropene	563-58-6	5	5	U		ug/l	SW846 8240
1,2,3-Trichlorobenzene	87-61-6	5	5	U		ug/l	SW846 8240
1,2,3-Trichloropropane	96-18-4	5	5	U		ug/l	SW846 8240
1,2,4-Trichlorobenzene	120-82-1	5	5	U		ug/l	SW846 8240
1,2,4-trimethylbenzene	95-63-6	5	5	U		ug/l	SW846 8240
1,2-cis-Dichloroethene	156-59-2	5	5	U		ug/l	SW846 8240
1,2-dibromo-3-chloropropane	96-12-8	5	5	U		ug/l	SW846 8240
1,2-Dibromoethane	106-93-4	5	5	U		ug/l	SW846 8240
1,2-Dichlorobenzene	95-50-1	5	5	U		ug/l	SW846 8240
1,2-Dichloroethane	107-06-2	5	5	U		ug/l	SW846 8240
1,2-Dichloropropane	78-87-5	5	5	U		ug/l	SW846 8240
1,2-trans-Dichloroethene	156-60-5	5	5	U		ug/l	SW846 8240
1,3,5-trimethylbenzene	108-67-8	5	5	U		ug/l	SW846 8240
1,3-Dichlorobenzene	541-73-1	5	5	U		ug/l	SW846 8240
1,3-Dichloropropane	142-28-9	5	5	U		ug/l	SW846 8240
1,4-Dichlorobenzene	106-46-7	5	5	U		ug/l	SW846 8240
2,2-Dichloropropane	594-20-7	5	5	U		ug/l	SW846 8240
2-Butanone	78-93-3	5	5	U		ug/l	SW846 8240
2-Chlorotoluene	95-49-8	5	5	U		ug/l	SW846 8240
2-Hexanone	591-78-6	5	5	U		ug/l	SW846 8240
4-Chlorotoluene	106-43-4	5	5	U		ug/l	SW846 8240
4-Methyl-2-pentanone	108-10-1	5	5	U		ug/l	SW846 8240
Acetone	67-64-1	5	5	U		ug/l	SW846 8240
Benzene	71-43-2	5	5	U		ug/l	SW846 8240
Bromobenzene	108-86-1	5	5	U		ug/l	SW846 8240
Bromochloromethane	74-97-5	5	5	U		ug/l	SW846 8240
Bromodichloromethane	75-27-4	5	5	U		ug/l	SW846 8240
Bromoform	75-25-2	5	5	U		ug/l	SW846 8240
Bromomethane	74-83-9	5	5	U		ug/l	SW846 8240
Carbon Tetrachloride	56-23-5	5	5	U		ug/l	SW846 8240
Chlorobenzene	108-90-7	5	5	U		ug/l	SW846 8240
Chloroethane	75-00-3	5	5	U		ug/l	SW846 8240
Chloroform	67-66-3	5	5	U		ug/l	SW846 8240
Chloromethane	74-87-3	5	5	U		ug/l	SW846 8240
Dibromochloromethane	124-48-1	5	5	U		ug/l	SW846 8240
Dibromomethane	74-95-3	5	5	U		ug/l	SW846 8240
Dichlorodifluoromethane	75-71-8	5	5	U		ug/l	SW846 8240
Ethylbenzene	100-41-4	5	5	U		ug/l	SW846 8240
Hexachlorobutadiene	87-68-3	5	5	U		ug/l	SW846 8240
Isopropyl Benzene	98-82-8	5	5	U		ug/l	SW846 8240
m,p-Xylene	13-302-07	5	5	U		ug/l	SW846 8240
Methylene Chloride	75-09-2	5	5	U		ug/l	SW846 8240
n-Butylbenzene	104-51-8	5	5	U		ug/l	SW846 8240
n-propylbenzene	103-65-1	5	5	U		ug/l	SW846 8240
Naphthalene	91-20-3	5	5	U		ug/l	SW846 8240
o-Xylene	95-47-6	5	5	U		ug/l	SW846 8240
p-Isopropyltoluene	99-87-6	5	5	U		ug/l	SW846 8240
sec-Butylbenzene	135-98-8	5	5	U		ug/l	SW846 8240
Styrene	100-42-5	5	5	U		ug/l	SW846 8240
tert-Butylbenzene	98-06-6	5	5	U		ug/l	SW846 8240
Tetrachloroethene	127-18-4	5	5	U		ug/l	SW846 8240
Toluene	108-88-3	5	5	U		ug/l	SW846 8240
Trichloroethene	79-01-6	5	5	U		ug/l	SW846 8240
Trichlorofluoromethane	75-69-4	5	5	U		ug/l	SW846 8240
Vinyl Chloride	75-01-4	5	5	U		ug/l	SW846 8240

Location: SW104
Sample ID: 61SD104 Depth: NA
COE Sample ID: FH061-SD104/09-11-97
Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	7	0.58			mg/kg	SW846 6010
Barium	7440-39-3	70	0.11			mg/kg	SW846 6010
Cadmium	7440-43-9	0.66	0.093	B		mg/kg	SW846 6010
Chromium	7440-47-3	13.5	0.13			mg/kg	SW846 6010
Lead	7439-92-1	12.4	0.34			mg/kg	SW846 6010
Mercury	7439-97-6	0.06	0.06	U		mg/kg	SW846 7471
Selenium	7782-49-2	2	2.0	U		mg/kg	SW846 6010
Silver	7440-22-4	0.32	0.32	U		mg/kg	SW846 6010
SEMIVOLATILE ORGANICS							
1,2,4,5-Tetrachlorobenzene	95-94-3	620	620	U	U	ug/kg	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	620	620	U	U	ug/kg	SW846 8270
1,2-Dichlorobenzene	95-50-1	620	620	U	U	ug/kg	SW846 8270
1,3-Dichlorobenzene	541-73-1	620	620	U	U	ug/kg	SW846 8270
1,4-Dichlorobenzene	106-46-7	620	620	U	U	ug/kg	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	620	620	U	U	ug/kg	SW846 8270
2,4,5-Trichlorophenol	95-95-4	3000	3000	U	U	ug/kg	SW846 8270
2,4,6-Trichlorophenol	88-06-2	620	620	U	U	ug/kg	SW846 8270
2,4-Dichlorophenol	120-83-2	620	620	U	U	ug/kg	SW846 8270
2,4-Dimethylphenol	105-67-9	620	620	U	U	ug/kg	SW846 8270
2,4-Dinitrophenol	51-28-5	3000	3000	U	U	ug/kg	SW846 8270
2,4-Dinitrotoluene	121-14-2	620	620	U	U	ug/kg	SW846 8270
2,6-Dinitrotoluene	606-20-2	620	620	U	U	ug/kg	SW846 8270
2-Chloronaphthalene	91-58-7	620	620	U	U	ug/kg	SW846 8270
2-Chlorophenol	95-57-8	620	620	U	U	ug/kg	SW846 8270
2-Methylnaphthalene	91-57-6	620	620	U	U	ug/kg	SW846 8270
2-Methylphenol	95-48-7	620	620	U	U	ug/kg	SW846 8270
2-Nitroaniline	88-74-4	3000	3000	U	U	ug/kg	SW846 8270
2-Nitrophenol	88-75-5	620	620	U	U	ug/kg	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	1200	1200	U	U	ug/kg	SW846 8270
3-Nitroaniline	99-09-2	3000	3000	U	U	ug/kg	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	3000	3000	U	U	ug/kg	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	620	620	U	U	ug/kg	SW846 8270
4-chloro-3-methylphenol	59-50-7	620	620	U	U	ug/kg	SW846 8270
4-Chloroaniline	106-47-8	620	620	U	U	ug/kg	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	620	620	U	U	ug/kg	SW846 8270
4-Methylphenol	106-44-5	620	620	U	U	ug/kg	SW846 8270
4-Nitroaniline	100-01-6	3000	3000	U	U	ug/kg	SW846 8270
4-Nitrophenol	100-02-7	3000	3000	U	U	ug/kg	SW846 8270
Acenaphthene	83-32-9	620	620	U	U	ug/kg	SW846 8270
Acenaphthylene	208-96-8	620	620	U	U	ug/kg	SW846 8270
Anthracene	120-12-7	620	620	U	U	ug/kg	SW846 8270
Benzo(a)anthracene	56-55-3	620	620	U	U	ug/kg	SW846 8270
Benzo(a)pyrene	50-32-8	620	620	U	U	ug/kg	SW846 8270
Benzo(b)fluoranthene	205-99-2	620	620	U	U	ug/kg	SW846 8270
Benzo(g,h,i)perylene	191-24-2	620	620	U	U	ug/kg	SW846 8270
Benzo(k)fluoranthene	207-08-9	620	620	U	U	ug/kg	SW846 8270
Benzoic Acid	65-85-0	340	3000	J	J	ug/kg	SW846 8270
Benzyl Alcohol	100-51-6	620	620	U	U	ug/kg	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	620	620	U	U	ug/kg	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	620	620	U	U	ug/kg	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	740	620	B	U	ug/kg	SW846 8270
Butyl Benzyl Phthalate	85-68-7	620	620	U	U	ug/kg	SW846 8270
Chrysene	218-01-9	620	620	U	U	ug/kg	SW846 8270
Di-n-butyl Phthalate	84-74-2	620	620	U	U	ug/kg	SW846 8270
Di-n-octyl Phthalate	117-84-0	620	620	U	U	ug/kg	SW846 8270
Dibenz(a,h)anthracene	53-70-3	620	620	U	U	ug/kg	SW846 8270
Dibenzofuran	132-64-9	620	620	U	U	ug/kg	SW846 8270
Diethyl Phthalate	84-66-2	620	620	U	U	ug/kg	SW846 8270
Dimethyl Phthalate	131-11-3	620	620	U	U	ug/kg	SW846 8270
Fluoranthene	206-44-0	620	620	U	U	ug/kg	SW846 8270
Fluorene	86-73-7	620	620	U	U	ug/kg	SW846 8270
Hexachlorobenzene	118-74-1	620	620	U	U	ug/kg	SW846 8270

Location: SW104
 Sample ID: 61SD104 Depth: NA
 COE Sample ID: FH061-SD104/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Hexachlorobutadiene	87-68-3	620	620	U	U	ug/kg	SW846 8270
Hexachlorocyclopentadiene	77-47-4	620	620	U	U	ug/kg	SW846 8270
Hexachloroethane	67-72-1	620	620	U	U	ug/kg	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	620	620	U	U	ug/kg	SW846 8270
Isophorone	78-59-1	620	620	U	U	ug/kg	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	620	620	U	U	ug/kg	SW846 8270
N-Nitrosodiphenylamine	86-30-6	620	620	U	U	ug/kg	SW846 8270
Naphthalene	91-20-3	620	620	U	U	ug/kg	SW846 8270
Nitrobenzene	98-95-3	620	620	U	U	ug/kg	SW846 8270
Pentachlorophenol	87-86-5	3000	3000	U	U	ug/kg	SW846 8270
Phenanthrene	85-01-8	620	620	U	U	ug/kg	SW846 8270
Phenol	108-95-2	620	620	U	U	ug/kg	SW846 8270
Pyrene	129-00-0	620	620	U	U	ug/kg	SW846 8270
Pyridine	110-86-1	620	620	U	U	ug/kg	SW846 8270
<u>VOLATILE ORGANICS</u>							
1,1,1,2-Tetrachloroethane	630-20-6	10	10	U	U	ug/kg	SW846 8260
1,1,1-Trichloroethane	71-55-6	10	10	U	U	ug/kg	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	10	10	U	U	ug/kg	SW846 8260
1,1,2-Trichloroethane	79-00-5	10	10	U	U	ug/kg	SW846 8260
1,1-Dichloroethane	75-34-3	10	10	U	U	ug/kg	SW846 8260
1,1-Dichloroethene	75-35-4	10	10	U	U	ug/kg	SW846 8260
1,1-Dichloropropene	563-58-6	10	10	U	U	ug/kg	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	10	10	U	U	ug/kg	SW846 8260
1,2,3-Trichloropropane	96-18-4	10	10	U	U	ug/kg	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	10	10	U	U	ug/kg	SW846 8260
1,2,4-trimethylbenzene	95-63-6	10	10	U	U	ug/kg	SW846 8260
1,2-cis-Dichloroethene	156-59-2	10	10	U	U	ug/kg	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	10	10	U	U	ug/kg	SW846 8260
1,2-Dibromoethane	106-93-4	10	10	U	U	ug/kg	SW846 8260
1,2-Dichlorobenzene	95-50-1	10	10	U	U	ug/kg	SW846 8260
1,2-Dichloroethane	107-06-2	10	10	U	U	ug/kg	SW846 8260
1,2-Dichloropropane	78-87-5	10	10	U	U	ug/kg	SW846 8260
1,2-trans-Dichloroethene	156-60-5	10	10	U	U	ug/kg	SW846 8260
1,3,5-trimethylbenzene	108-67-8	10	10	U	U	ug/kg	SW846 8260
1,3-Dichlorobenzene	541-73-1	10	10	U	U	ug/kg	SW846 8260
1,3-Dichloropropane	142-28-9	10	10	U	U	ug/kg	SW846 8260
1,4-Dichlorobenzene	106-46-7	10	10	U	U	ug/kg	SW846 8260
2,2-Dichloropropane	594-20-7	10	10	U	U	ug/kg	SW846 8260
2-Butanone	78-93-3	10	10	U	U	ug/kg	SW846 8260
2-Chlorotoluene	95-49-8	10	10	U	U	ug/kg	SW846 8260
2-Hexanone	591-78-6	10	10	U	U	ug/kg	SW846 8260
4-Chlorotoluene	106-43-4	10	10	U	U	ug/kg	SW846 8260
4-Methyl-2-pentanone	108-10-1	10	10	U	U	ug/kg	SW846 8260
Acetone	67-64-1	47	10	B	U	ug/kg	SW846 8260
Benzene	71-43-2	10	10	U	U	ug/kg	SW846 8260
Bromobenzene	108-86-1	10	10	U	U	ug/kg	SW846 8260
Bromochloromethane	74-97-5	10	10	U	U	ug/kg	SW846 8260
Bromodichloromethane	75-27-4	10	10	U	U	ug/kg	SW846 8260
Bromoform	75-25-2	10	10	U	U	ug/kg	SW846 8260
Bromomethane	74-83-9	10	10	U	U	ug/kg	SW846 8260
Carbon Tetrachloride	56-23-5	10	10	U	U	ug/kg	SW846 8260
Chlorobenzene	108-90-7	10	10	U	U	ug/kg	SW846 8260
Chloroethane	75-00-3	10	10	U	U	ug/kg	SW846 8260
Chloroform	67-66-3	10	10	U	U	ug/kg	SW846 8260
Chloromethane	74-87-3	10	10	U	U	ug/kg	SW846 8260
Dibromochloromethane	124-48-1	10	10	U	U	ug/kg	SW846 8260
Dibromomethane	74-95-3	10	10	U	U	ug/kg	SW846 8260
Dichlorodifluoromethane	75-71-8	10	10	U	U	ug/kg	SW846 8260
Ethylbenzene	100-41-4	10	10	U	U	ug/kg	SW846 8260
Hexachlorobutadiene	87-68-3	10	10	U	U	ug/kg	SW846 8260
Isopropyl Benzene	98-82-8	10	10	U	U	ug/kg	SW846 8260
m,p-Xylene	13-302-07	10	10	U	U	ug/kg	SW846 8260
Methylene Chloride	75-09-2	5	10	JB	U	ug/kg	SW846 8260
n-Butylbenzene	104-51-8	10	10	U	U	ug/kg	SW846 8260

Location: SW104
 Sample ID: 61SD104 Depth: NA
 COE Sample ID: FH061-SD104/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
n-propylbenzene	103-65-1	10	10	U	U	ug/kg	SW846 8260
Naphthalene	91-20-3	3	10	JB	U	ug/kg	SW846 8260
o-Xylene	95-47-6	10	10	U	U	ug/kg	SW846 8260
p-Isopropyltoluene	99-87-6	10	10	U	U	ug/kg	SW846 8260
sec-Butylbenzene	135-98-8	10	10	U	U	ug/kg	SW846 8260
Styrene	100-42-5	10	10	U	U	ug/kg	SW846 8260
tert-Butylbenzene	98-06-6	10	10	U	U	ug/kg	SW846 8260
Tetrachloroethene	127-18-4	10	10	U	U	ug/kg	SW846 8260
Toluene	108-88-3	2	10	J	J	ug/kg	SW846 8260
Trichloroethene	79-01-6	10	10	U	U	ug/kg	SW846 8260
Trichlorofluoromethane	75-69-4	10	10	U	U	ug/kg	SW846 8260
Vinyl Chloride	75-01-4	10	10	U	U	ug/kg	SW846 8260

Location: SW104
 Sample ID: 61SW104 Depth: NA
 COE Sample ID: FH061-SW104/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	2.1	2.1	U		ug/l	SW846 6010
Arsenic	7440-38-2	2.2	2.1	B		ug/l	SW846 6010
Barium	7440-39-3	21.7	0.3			ug/l	SW846 6010
Barium	7440-39-3	23.5	0.3			ug/l	SW846 6010
Cadmium	7440-43-9	0.3	0.3	U		ug/l	SW846 6010
Cadmium	7440-43-9	0.3	0.3	U		ug/l	SW846 6010
Chromium	7440-47-3	1	1.0	U		ug/l	SW846 6010
Chromium	7440-47-3	1	1.0	U		ug/l	SW846 6010
Lead	7439-92-1	0.9	0.9	U		ug/l	SW846 6010
Lead	7439-92-1	0.9	0.9	U		ug/l	SW846 6010
Mercury	7439-97-6	0.1	0.1	U		ug/l	SW846 7470
Mercury	7439-97-6	0.19	0.1	B		ug/l	SW846 7470
Selenium	7782-49-2	2.2	2.2	U		ug/l	SW846 6010
Selenium	7782-49-2	2.8	2.2	B		ug/l	SW846 6010
Silver	7440-22-4	1	1.0	U		ug/l	SW846 6010
Silver	7440-22-4	1	1.0	U		ug/l	SW846 6010

SEMIVOLATILE ORGANICS

1,2,4,5-Tetrachlorobenzene	95-94-3	10	10	U		ug/l	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	10	10	U		ug/l	SW846 8270
1,2-Dichlorobenzene	95-50-1	10	10	U		ug/l	SW846 8270
1,3-Dichlorobenzene	541-73-1	10	10	U		ug/l	SW846 8270
1,4-Dichlorobenzene	106-46-7	10	10	U		ug/l	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	10	10	U		ug/l	SW846 8270
2,4,5-Trichlorophenol	95-95-4	50	50	U		ug/l	SW846 8270
2,4,6-Trichlorophenol	88-06-2	10	10	U		ug/l	SW846 8270
2,4-Dichlorophenol	120-83-2	10	10	U		ug/l	SW846 8270
2,4-Dimethylphenol	105-67-9	10	10	U		ug/l	SW846 8270
2,4-Dinitrophenol	51-28-5	50	50	U		ug/l	SW846 8270
2,4-Dinitrotoluene	121-14-2	10	10	U		ug/l	SW846 8270
2,6-Dinitrotoluene	606-20-2	10	10	U		ug/l	SW846 8270
2-Chloronaphthalene	91-58-7	10	10	U		ug/l	SW846 8270
2-Chlorophenol	95-57-8	10	10	U		ug/l	SW846 8270
2-Methylnaphthalene	91-57-6	10	10	U		ug/l	SW846 8270
2-Methylphenol	95-48-7	10	10	U		ug/l	SW846 8270
2-Nitroaniline	88-74-4	50	50	U		ug/l	SW846 8270
2-Nitrophenol	88-75-5	10	10	U		ug/l	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	20	20	U		ug/l	SW846 8270
3-Nitroaniline	99-09-2	50	50	U		ug/l	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	50	50	U		ug/l	SW846 8270

Location: SW104
 Sample ID: 61SW104 Depth: NA
 COE Sample ID: FH061-SW104/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
4-Bromophenyl-phenyl Ether	101-55-3	10	10	U		ug/l	SW846 8270
4-chloro-3-methylphenol	59-50-7	10	10	U		ug/l	SW846 8270
4-Chloroaniline	106-47-8	10	10	U		ug/l	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	10	10	U		ug/l	SW846 8270
4-Methylphenol	106-44-5	10	10	U		ug/l	SW846 8270
4-Nitroaniline	100-01-6	50	50	U		ug/l	SW846 8270
4-Nitrophenol	100-02-7	50	50	U		ug/l	SW846 8270
Acenaphthene	83-32-9	10	10	U		ug/l	SW846 8270
Acenaphthylene	208-96-8	10	10	U		ug/l	SW846 8270
Anthracene	120-12-7	10	10	U		ug/l	SW846 8270
Benzo(a)anthracene	56-55-3	10	10	U		ug/l	SW846 8270
Benzo(a)pyrene	50-32-8	10	10	U		ug/l	SW846 8270
Benzo(b)fluoranthene	205-99-2	10	10	U		ug/l	SW846 8270
Benzo(g,h,i)perylene	191-24-2	10	10	U		ug/l	SW846 8270
Benzo(k)fluoranthene	207-08-9	10	10	U		ug/l	SW846 8270
Benzoic Acid	65-85-0	6	50	J		ug/l	SW846 8270
Benzyl Alcohol	100-51-6	10	10	U		ug/l	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	10	10	U		ug/l	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	10	10	U		ug/l	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	10	10	U		ug/l	SW846 8270
Butyl Benzyl Phthalate	85-68-7	10	10	U		ug/l	SW846 8270
Chrysene	218-01-9	10	10	U		ug/l	SW846 8270
Di-n-butyl Phthalate	84-74-2	10	10	U		ug/l	SW846 8270
Di-n-octyl Phthalate	117-84-0	10	10	U		ug/l	SW846 8270
Dibenz(a,h)anthracene	53-70-3	10	10	U		ug/l	SW846 8270
Dibenzofuran	132-64-9	10	10	U		ug/l	SW846 8270
Diethyl Phthalate	84-66-2	10	10	U		ug/l	SW846 8270
Dimethyl Phthalate	131-11-3	10	10	U		ug/l	SW846 8270
Fluoranthene	206-44-0	10	10	U		ug/l	SW846 8270
Fluorene	86-73-7	10	10	U		ug/l	SW846 8270
Hexachlorobenzene	118-74-1	10	10	U		ug/l	SW846 8270
Hexachlorobutadiene	87-68-3	10	10	U		ug/l	SW846 8270
Hexachlorocyclopentadiene	77-47-4	10	10	U		ug/l	SW846 8270
Hexachloroethane	67-72-1	10	10	U		ug/l	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	10	10	U		ug/l	SW846 8270
Isophorone	78-59-1	10	10	U		ug/l	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	10	10	U		ug/l	SW846 8270
N-Nitrosodiphenylamine	86-30-6	10	10	U		ug/l	SW846 8270
Naphthalene	91-20-3	10	10	U		ug/l	SW846 8270
Nitrobenzene	98-95-3	10	10	U		ug/l	SW846 8270
Pentachlorophenol	87-86-5	50	50	U		ug/l	SW846 8270
Phenanthrene	85-01-8	10	10	U		ug/l	SW846 8270
Phenol	108-95-2	10	10	U		ug/l	SW846 8270
Pyrene	129-00-0	10	10	U		ug/l	SW846 8270
Pyridine	110-86-1	50	50	U		ug/l	SW846 8270

VOLATILE ORGANICS

1,1,1,2-Tetrachloroethane	630-20-6	5	5	U	U	ug/l	SW846 8260
1,1,1-Trichloroethane	71-55-6	5	5	U	U	ug/l	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U	U	ug/l	SW846 8260
1,1,2-Trichloroethane	79-00-5	5	5	U	U	ug/l	SW846 8260
1,1-Dichloroethane	75-34-3	5	5	U	U	ug/l	SW846 8260
1,1-Dichloroethene	75-35-4	5	5	U	U	ug/l	SW846 8260
1,1-Dichloropropene	563-58-6	5	5	U	U	ug/l	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	5	5	U	U	ug/l	SW846 8260
1,2,3-Trichloropropane	96-18-4	5	5	U	U	ug/l	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	5	5	U	U	ug/l	SW846 8260
1,2,4-trimethylbenzene	95-63-6	5	5	U	U	ug/l	SW846 8260
1,2-cis-Dichloroethene	156-59-2	5	5	U	U	ug/l	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	5	5	U	U	ug/l	SW846 8260
1,2-Dibromoethane	106-93-4	5	5	U	U	ug/l	SW846 8260
1,2-Dichlorobenzene	95-50-1	5	5	U	U	ug/l	SW846 8260
1,2-Dichloroethane	107-06-2	5	5	U	U	ug/l	SW846 8260
1,2-Dichloropropane	78-87-5	5	5	U	U	ug/l	SW846 8260
1,2-trans-Dichloroethene	156-60-5	5	5	U	U	ug/l	SW846 8260

Location: SW104
 Sample ID: 61SW104 Depth: NA
 COE Sample ID: FH061-SW104/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
1,3,5-trimethylbenzene	108-67-8	5	5	U	U	ug/l	SW846 8260
1,3-Dichlorobenzene	541-73-1	5	5	U	U	ug/l	SW846 8260
1,3-Dichloropropane	142-28-9	5	5	U	U	ug/l	SW846 8260
1,4-Dichlorobenzene	106-46-7	5	5	U	U	ug/l	SW846 8260
2,2-Dichloropropane	594-20-7	5	5	U	U	ug/l	SW846 8260
2-Butanone	78-93-3	5	5	U	U	ug/l	SW846 8260
2-Chlorotoluene	95-49-8	5	5	U	U	ug/l	SW846 8260
2-Hexanone	591-78-6	5	5	U	U	ug/l	SW846 8260
4-Chlorotoluene	106-43-4	5	5	U	U	ug/l	SW846 8260
4-Methyl-2-pentanone	108-10-1	5	5	U	U	ug/l	SW846 8260
Acetone	67-64-1	5	5	U	U	ug/l	SW846 8260
Benzene	71-43-2	5	5	U	U	ug/l	SW846 8260
Bromobenzene	108-86-1	5	5	U	U	ug/l	SW846 8260
Bromochloromethane	74-97-5	5	5	U	U	ug/l	SW846 8260
Bromodichloromethane	75-27-4	5	5	U	U	ug/l	SW846 8260
Bromoform	75-25-2	5	5	U	U	ug/l	SW846 8260
Bromomethane	74-83-9	5	5	U	U	ug/l	SW846 8260
Carbon Tetrachloride	56-23-5	5	5	U	U	ug/l	SW846 8260
Chlorobenzene	108-90-7	5	5	U	U	ug/l	SW846 8260
Chloroethane	75-00-3	5	5	U	U	ug/l	SW846 8260
Chloroform	67-66-3	5	5	U	U	ug/l	SW846 8260
Chloromethane	74-87-3	5	5	U	U	ug/l	SW846 8260
Dibromochloromethane	124-48-1	5	5	U	U	ug/l	SW846 8260
Dibromomethane	74-95-3	5	5	U	U	ug/l	SW846 8260
Dichlorodifluoromethane	75-71-8	5	5	U	U	ug/l	SW846 8260
Ethylbenzene	100-41-4	5	5	U	U	ug/l	SW846 8260
Hexachlorobutadiene	87-68-3	5	5	U	U	ug/l	SW846 8260
Isopropyl Benzene	98-82-8	5	5	U	U	ug/l	SW846 8260
m,p-Xylene	13-302-07	5	5	U	U	ug/l	SW846 8260
Methylene Chloride	75-09-2	20	5	B	U	ug/l	SW846 8260
n-Butylbenzene	104-51-8	5	5	U	U	ug/l	SW846 8260
n-propylbenzene	103-65-1	5	5	U	U	ug/l	SW846 8260
Naphthalene	91-20-3	2	5	J	J	ug/l	SW846 8260
o-Xylene	95-47-6	5	5	U	U	ug/l	SW846 8260
p-Isopropyltoluene	99-87-6	5	5	U	U	ug/l	SW846 8260
sec-Butylbenzene	135-98-8	5	5	U	U	ug/l	SW846 8260
Styrene	100-42-5	5	5	U	U	ug/l	SW846 8260
tert-Butylbenzene	98-06-6	5	5	U	U	ug/l	SW846 8260
Tetrachloroethene	127-18-4	5	5	U	U	ug/l	SW846 8260
Toluene	108-88-3	5	5	U	U	ug/l	SW846 8260
Trichloroethene	79-01-6	5	5	U	U	ug/l	SW846 8260
Trichlorofluoromethane	75-69-4	5	5	U	U	ug/l	SW846 8260
Vinyl Chloride	75-01-4	5	5	U	U	ug/l	SW846 8260

Location: SW105
 Sample ID: 61SD105 Depth: NA
 COE Sample ID: FH061-SD105/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
INORGANICS							
Arsenic	7440-38-2	6.4	0.55			mg/kg	SW846 6010
Barium	7440-39-3	63.6	0.11			mg/kg	SW846 6010
Cadmium	7440-43-9	0.94	0.089			mg/kg	SW846 6010
Chromium	7440-47-3	10.8	0.12			mg/kg	SW846 6010
Lead	7439-92-1	13.7	0.32			mg/kg	SW846 6010
Mercury	7439-97-6	0.06	0.06	U		mg/kg	SW846 7471
Selenium	7782-49-2	3.1	1.9	B		mg/kg	SW846 6010
Silver	7440-22-4	0.3	0.3	U		mg/kg	SW846 6010

Location: SW105
 Sample ID: 61SD105 Depth: NA
 COE Sample ID: FH061-SD105/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
SEMIVOLATILE ORGANICS							
1,2,4,5-Tetrachlorobenzene	95-94-3	600	600	U	U	ug/kg	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	600	600	U	U	ug/kg	SW846 8270
1,2-Dichlorobenzene	95-50-1	600	600	U	U	ug/kg	SW846 8270
1,3-Dichlorobenzene	541-73-1	600	600	U	U	ug/kg	SW846 8270
1,4-Dichlorobenzene	106-46-7	600	600	U	U	ug/kg	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	600	600	U	U	ug/kg	SW846 8270
2,4,5-Trichlorophenol	95-95-4	2900	2900	U	U	ug/kg	SW846 8270
2,4,6-Trichlorophenol	88-06-2	600	600	U	U	ug/kg	SW846 8270
2,4-Dichlorophenol	120-83-2	600	600	U	U	ug/kg	SW846 8270
2,4-Dimethylphenol	105-67-9	600	600	U	U	ug/kg	SW846 8270
2,4-Dinitrophenol	51-28-5	2900	2900	U	U	ug/kg	SW846 8270
2,4-Dinitrotoluene	121-14-2	600	600	U	U	ug/kg	SW846 8270
2,6-Dinitrotoluene	606-20-2	600	600	U	U	ug/kg	SW846 8270
2-Chloronaphthalene	91-58-7	600	600	U	U	ug/kg	SW846 8270
2-Chlorophenol	95-57-8	600	600	U	U	ug/kg	SW846 8270
2-Methylnaphthalene	91-57-6	600	600	U	U	ug/kg	SW846 8270
2-Methylphenol	95-48-7	600	600	U	U	ug/kg	SW846 8270
2-Nitroaniline	88-74-4	2900	2900	U	U	ug/kg	SW846 8270
2-Nitrophenol	88-75-5	600	600	U	U	ug/kg	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	1200	1200	U	U	ug/kg	SW846 8270
3-Nitroaniline	99-09-2	2900	2900	U	U	ug/kg	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	2900	2900	U	U	ug/kg	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	600	600	U	U	ug/kg	SW846 8270
4-chloro-3-methylphenol	59-50-7	600	600	U	U	ug/kg	SW846 8270
4-Chloroaniline	106-47-8	600	600	U	U	ug/kg	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	600	600	U	U	ug/kg	SW846 8270
4-Methylphenol	106-44-5	600	600	U	U	ug/kg	SW846 8270
4-Nitroaniline	100-01-6	2900	2900	U	U	ug/kg	SW846 8270
4-Nitrophenol	100-02-7	2900	2900	U	U	ug/kg	SW846 8270
Acenaphthene	83-32-9	600	600	U	U	ug/kg	SW846 8270
Acenaphthylene	208-96-8	600	600	U	U	ug/kg	SW846 8270
Anthracene	120-12-7	600	600	U	U	ug/kg	SW846 8270
Benzo(a)anthracene	56-55-3	600	600	U	U	ug/kg	SW846 8270
Benzo(a)pyrene	50-32-8	600	600	U	U	ug/kg	SW846 8270
Benzo(b)fluoranthene	205-99-2	600	600	U	U	ug/kg	SW846 8270
Benzo(g,h,i)perylene	191-24-2	600	600	U	U	ug/kg	SW846 8270
Benzo(k)fluoranthene	207-08-9	600	600	U	U	ug/kg	SW846 8270
Benzoic Acid	65-85-0	320	2900	J	J	ug/kg	SW846 8270
Benzyl Alcohol	100-51-6	600	600	U	U	ug/kg	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	600	600	U	U	ug/kg	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	600	600	U	U	ug/kg	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	1100	600	B	U	ug/kg	SW846 8270
Butyl Benzyl Phthalate	85-68-7	600	600	U	U	ug/kg	SW846 8270
Chrysene	218-01-9	600	600	U	U	ug/kg	SW846 8270
Di-n-butyl Phthalate	84-74-2	600	600	U	U	ug/kg	SW846 8270
Di-n-octyl Phthalate	117-84-0	600	600	U	U	ug/kg	SW846 8270
Dibenz(a,h)anthracene	53-70-3	600	600	U	U	ug/kg	SW846 8270
Dibenzofuran	132-64-9	600	600	U	U	ug/kg	SW846 8270
Diethyl Phthalate	84-66-2	600	600	U	U	ug/kg	SW846 8270
Dimethyl Phthalate	131-11-3	600	600	U	U	ug/kg	SW846 8270
Fluoranthene	206-44-0	600	600	U	U	ug/kg	SW846 8270
Fluorene	86-73-7	600	600	U	U	ug/kg	SW846 8270
Hexachlorobenzene	118-74-1	600	600	U	U	ug/kg	SW846 8270
Hexachlorobutadiene	87-68-3	600	600	U	U	ug/kg	SW846 8270
Hexachlorocyclopentadiene	77-47-4	600	600	U	U	ug/kg	SW846 8270
Hexachloroethane	67-72-1	600	600	U	U	ug/kg	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	600	600	U	U	ug/kg	SW846 8270
Isophorone	78-59-1	600	600	U	U	ug/kg	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	600	600	U	U	ug/kg	SW846 8270
N-Nitrosodiphenylamine	86-30-6	600	600	U	U	ug/kg	SW846 8270
Naphthalene	91-20-3	600	600	U	U	ug/kg	SW846 8270
Nitrobenzene	98-95-3	600	600	U	U	ug/kg	SW846 8270
Pentachlorophenol	87-86-5	2900	2900	U	U	ug/kg	SW846 8270
Phenanthrene	85-01-8	600	600	U	U	ug/kg	SW846 8270

Location: SW105
 Sample ID: 61SD105 Depth: NA
 COE Sample ID: FH061-SD105/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Phenol	108-95-2	600	600	U	U	ug/kg	SW846 8270
Pyrene	129-00-0	600	600	U	U	ug/kg	SW846 8270
Pyridine	110-86-1	600	600	U	U	ug/kg	SW846 8270
VOLATILE ORGANICS							
1,1,1,2-Tetrachloroethane	630-20-6	9	9	U		ug/kg	SW846 8260
1,1,1-Trichloroethane	71-55-6	9	9	U		ug/kg	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	9	9	U		ug/kg	SW846 8260
1,1,2-Trichloroethane	79-00-5	9	9	U		ug/kg	SW846 8260
1,1-Dichloroethane	75-34-3	9	9	U		ug/kg	SW846 8260
1,1-Dichloroethene	75-35-4	9	9	U		ug/kg	SW846 8260
1,1-Dichloropropene	563-58-6	9	9	U		ug/kg	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	9	9	U		ug/kg	SW846 8260
1,2,3-Trichloropropane	96-18-4	9	9	U		ug/kg	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	9	9	U		ug/kg	SW846 8260
1,2,4-trimethylbenzene	95-63-6	9	9	U		ug/kg	SW846 8260
1,2-cis-Dichloroethene	156-59-2	9	9	U		ug/kg	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	9	9	U		ug/kg	SW846 8260
1,2-Dibromoethane	106-93-4	9	9	U		ug/kg	SW846 8260
1,2-Dichlorobenzene	95-50-1	9	9	U		ug/kg	SW846 8260
1,2-Dichloroethane	107-06-2	9	9	U		ug/kg	SW846 8260
1,2-Dichloropropane	78-87-5	9	9	U		ug/kg	SW846 8260
1,2-trans-Dichloroethene	156-60-5	9	9	U		ug/kg	SW846 8260
1,3,5-trimethylbenzene	108-67-8	9	9	U		ug/kg	SW846 8260
1,3-Dichlorobenzene	541-73-1	9	9	U		ug/kg	SW846 8260
1,3-Dichloropropane	142-28-9	9	9	U		ug/kg	SW846 8260
1,4-Dichlorobenzene	106-46-7	9	9	U		ug/kg	SW846 8260
2,2-Dichloropropane	594-20-7	9	9	U		ug/kg	SW846 8260
2-Butanone	78-93-3	9	9	U		ug/kg	SW846 8260
2-Chlorotoluene	95-49-8	9	9	U		ug/kg	SW846 8260
2-Hexanone	591-78-6	9	9	U		ug/kg	SW846 8260
4-Chlorotoluene	106-43-4	9	9	U		ug/kg	SW846 8260
4-Methyl-2-pentanone	108-10-1	9	9	U		ug/kg	SW846 8260
Acetone	67-64-1	20	9	B	U	ug/kg	SW846 8260
Benzene	71-43-2	9	9	U		ug/kg	SW846 8260
Bromobenzene	108-86-1	9	9	U		ug/kg	SW846 8260
Bromochloromethane	74-97-5	9	9	U		ug/kg	SW846 8260
Bromodichloromethane	75-27-4	9	9	U		ug/kg	SW846 8260
Bromoform	75-25-2	9	9	U		ug/kg	SW846 8260
Bromomethane	74-83-9	9	9	U		ug/kg	SW846 8260
Carbon Tetrachloride	56-23-5	9	9	U		ug/kg	SW846 8260
Chlorobenzene	108-90-7	9	9	U		ug/kg	SW846 8260
Chloroethane	75-00-3	9	9	U		ug/kg	SW846 8260
Chloroform	67-66-3	9	9	U		ug/kg	SW846 8260
Chloromethane	74-87-3	9	9	U		ug/kg	SW846 8260
Dibromochloromethane	124-48-1	9	9	U		ug/kg	SW846 8260
Dibromomethane	74-95-3	9	9	U		ug/kg	SW846 8260
Dichlorodifluoromethane	75-71-8	9	9	U		ug/kg	SW846 8260
Ethylbenzene	100-41-4	9	9	U		ug/kg	SW846 8260
Hexachlorobutadiene	87-68-3	9	9	U		ug/kg	SW846 8260
Isopropyl Benzene	98-82-8	9	9	U		ug/kg	SW846 8260
m,p-Xylene	13-302-07	9	9	U		ug/kg	SW846 8260
Methylene Chloride	75-09-2	5	9	JB	U	ug/kg	SW846 8260
n-Butylbenzene	104-51-8	9	9	U		ug/kg	SW846 8260
n-propylbenzene	103-65-1	9	9	U		ug/kg	SW846 8260
Naphthalene	91-20-3	2	9	JB		ug/kg	SW846 8260
o-Xylene	95-47-6	9	9	U		ug/kg	SW846 8260
p-Isopropyltoluene	99-87-6	9	9	U		ug/kg	SW846 8260
sec-Butylbenzene	135-98-8	9	9	U		ug/kg	SW846 8260
Styrene	100-42-5	9	9	U		ug/kg	SW846 8260
tert-Butylbenzene	98-06-6	9	9	U		ug/kg	SW846 8260
Tetrachloroethene	127-18-4	9	9	U		ug/kg	SW846 8260
Toluene	108-88-3	9	9	U		ug/kg	SW846 8260
Trichloroethene	79-01-6	9	9	U		ug/kg	SW846 8260
Trichlorofluoromethane	75-69-4	9	9	U		ug/kg	SW846 8260

Location: SW105
 Sample ID: 61SD105 Depth: NA
 COE Sample ID: FH061-SD105/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Vinyl Chloride	75-01-4	9	9	U		ug/kg	SW846 8260

Location: SW105
 Sample ID: 61SW105 Depth: NA
 COE Sample ID: FH061-SW105/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
<u>INORGANICS</u>							
Arsenic	7440-38-2	3.9	2.1	B		ug/l	SW846 6010
Barium	7440-39-3	27.9	0.3			ug/l	SW846 6010
Cadmium	7440-43-9	0.3	0.3	U	U	ug/l	SW846 6010
Chromium	7440-47-3	1	1.0	U	U	ug/l	SW846 6010
Lead	7439-92-1	0.9	0.9	U	U	ug/l	SW846 6010
Mercury	7439-97-6	0.1	0.1	U	U	ug/l	SW846 7470
Selenium	7782-49-2	2.2	2.2	WU	UJ	ug/l	SW846 6010
Silver	7440-22-4	1	1.0	U	U	ug/l	SW846 6010

SEMIVOLATILE ORGANICS

1,2,4,5-Tetrachlorobenzene	95-94-3	10	10	U		ug/l	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	10	10	U		ug/l	SW846 8270
1,2-Dichlorobenzene	95-50-1	10	10	U		ug/l	SW846 8270
1,3-Dichlorobenzene	541-73-1	10	10	U		ug/l	SW846 8270
1,4-Dichlorobenzene	106-46-7	10	10	U		ug/l	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	10	10	U		ug/l	SW846 8270
2,4,5-Trichlorophenol	95-95-4	50	50	U		ug/l	SW846 8270
2,4,6-Trichlorophenol	88-06-2	10	10	U		ug/l	SW846 8270
2,4-Dichlorophenol	120-83-2	10	10	U		ug/l	SW846 8270
2,4-Dimethylphenol	105-67-9	10	10	U		ug/l	SW846 8270
2,4-Dinitrophenol	51-28-5	50	50	U		ug/l	SW846 8270
2,4-Dinitrotoluene	121-14-2	10	10	U		ug/l	SW846 8270
2,6-Dinitrotoluene	606-20-2	10	10	U		ug/l	SW846 8270
2-Chloronaphthalene	91-58-7	10	10	U		ug/l	SW846 8270
2-Chlorophenol	95-57-8	10	10	U		ug/l	SW846 8270
2-Methylnaphthalene	91-57-6	10	10	U		ug/l	SW846 8270
2-Methylphenol	95-48-7	10	10	U		ug/l	SW846 8270
2-Nitroaniline	88-74-4	50	50	U		ug/l	SW846 8270
2-Nitrophenol	88-75-5	10	10	U		ug/l	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	20	20	U		ug/l	SW846 8270
3-Nitroaniline	99-09-2	50	50	U		ug/l	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	50	50	U		ug/l	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	10	10	U		ug/l	SW846 8270
4-chloro-3-methylphenol	59-50-7	10	10	U		ug/l	SW846 8270
4-Chloroaniline	106-47-8	10	10	U		ug/l	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	10	10	U		ug/l	SW846 8270
4-Methylphenol	106-44-5	10	10	U		ug/l	SW846 8270
4-Nitroaniline	100-01-6	50	50	U		ug/l	SW846 8270
4-Nitrophenol	100-02-7	50	50	U		ug/l	SW846 8270
Acenaphthene	83-32-9	10	10	U		ug/l	SW846 8270
Acenaphthylene	208-96-8	10	10	U		ug/l	SW846 8270
Anthracene	120-12-7	10	10	U		ug/l	SW846 8270
Benzo(a)anthracene	56-55-3	10	10	U		ug/l	SW846 8270
Benzo(a)pyrene	50-32-8	10	10	U		ug/l	SW846 8270
Benzo(b)fluoranthene	205-99-2	10	10	U		ug/l	SW846 8270
Benzo(g,h,i)perylene	191-24-2	10	10	U		ug/l	SW846 8270
Benzo(k)fluoranthene	207-08-9	10	10	U		ug/l	SW846 8270
Benzoic Acid	65-85-0	6	50	J		ug/l	SW846 8270
Benzyl Alcohol	100-51-6	10	10	U		ug/l	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	10	10	U		ug/l	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	10	10	U		ug/l	SW846 8270

Location: SW105
Sample ID: 61SW105 Depth: NA
COE Sample ID: FH061-SW105/09-11-97
Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Bis(2-ethylhexyl)phthalate	117-81-7	10	10	U		ug/l	SW846 8270
Butyl Benzyl Phthalate	85-68-7	10	10	U		ug/l	SW846 8270
Chrysene	218-01-9	10	10	U		ug/l	SW846 8270
Di-n-butyl Phthalate	84-74-2	10	10	U		ug/l	SW846 8270
Di-n-octyl Phthalate	117-84-0	10	10	U		ug/l	SW846 8270
Dibenz(a,h)anthracene	53-70-3	10	10	U		ug/l	SW846 8270
Dibenzofuran	132-64-9	10	10	U		ug/l	SW846 8270
Diethyl Phthalate	84-66-2	10	10	U		ug/l	SW846 8270
Dimethyl Phthalate	131-11-3	10	10	U		ug/l	SW846 8270
Fluoranthene	206-44-0	10	10	U		ug/l	SW846 8270
Fluorene	86-73-7	10	10	U		ug/l	SW846 8270
Hexachlorobenzene	118-74-1	10	10	U		ug/l	SW846 8270
Hexachlorobutadiene	87-68-3	10	10	U		ug/l	SW846 8270
Hexachlorocyclopentadiene	77-47-4	10	10	U		ug/l	SW846 8270
Hexachloroethane	67-72-1	10	10	U		ug/l	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	10	10	U		ug/l	SW846 8270
Isophorone	78-59-1	10	10	U		ug/l	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	10	10	U		ug/l	SW846 8270
N-Nitrosodiphenylamine	86-30-6	10	10	U		ug/l	SW846 8270
Naphthalene	91-20-3	10	10	U		ug/l	SW846 8270
Nitrobenzene	98-95-3	10	10	U		ug/l	SW846 8270
Pentachlorophenol	87-86-5	50	50	U		ug/l	SW846 8270
Phenanthrene	85-01-8	10	10	U		ug/l	SW846 8270
Phenol	108-95-2	10	10	U		ug/l	SW846 8270
Pyrene	129-00-0	10	10	U		ug/l	SW846 8270
Pyridine	110-86-1	50	50	U		ug/l	SW846 8270

VOLATILE ORGANICS

1,1,1,2-Tetrachloroethane	630-20-6	5	5	U	U	ug/l	SW846 8260
1,1,1-Trichloroethane	71-55-6	5	5	U	U	ug/l	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U	U	ug/l	SW846 8260
1,1,2-Trichloroethane	79-00-5	5	5	U	U	ug/l	SW846 8260
1,1-Dichloroethane	75-34-3	5	5	U	U	ug/l	SW846 8260
1,1-Dichloroethene	75-35-4	5	5	U	U	ug/l	SW846 8260
1,1-Dichloropropene	563-58-6	5	5	U	U	ug/l	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	5	5	U	U	ug/l	SW846 8260
1,2,3-Trichloropropane	96-18-4	5	5	U	U	ug/l	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	5	5	U	U	ug/l	SW846 8260
1,2,4-trimethylbenzene	95-63-6	5	5	U	U	ug/l	SW846 8260
1,2-cis-Dichloroethene	156-59-2	5	5	U	U	ug/l	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	5	5	U	U	ug/l	SW846 8260
1,2-Dibromoethane	106-93-4	5	5	U	U	ug/l	SW846 8260
1,2-Dichlorobenzene	95-50-1	5	5	U	U	ug/l	SW846 8260
1,2-Dichloroethane	107-06-2	5	5	U	U	ug/l	SW846 8260
1,2-Dichloropropane	78-87-5	5	5	U	U	ug/l	SW846 8260
1,2-trans-Dichloroethene	156-60-5	5	5	U	U	ug/l	SW846 8260
1,3,5-trimethylbenzene	108-67-8	5	5	U	U	ug/l	SW846 8260
1,3-Dichlorobenzene	541-73-1	5	5	U	U	ug/l	SW846 8260
1,3-Dichloropropane	142-28-9	5	5	U	U	ug/l	SW846 8260
1,4-Dichlorobenzene	106-46-7	5	5	U	U	ug/l	SW846 8260
2,2-Dichloropropane	594-20-7	5	5	U	U	ug/l	SW846 8260
2-Butanone	78-93-3	5	5	U	U	ug/l	SW846 8260
2-Chlorotoluene	95-49-8	5	5	U	U	ug/l	SW846 8260
2-Hexanone	591-78-6	5	5	U	U	ug/l	SW846 8260
4-Chlorotoluene	106-43-4	5	5	U	U	ug/l	SW846 8260
4-Methyl-2-pentanone	108-10-1	5	5	U	U	ug/l	SW846 8260
Acetone	67-64-1	5	5	J	U	ug/l	SW846 8260
Benzene	71-43-2	5	5	U	U	ug/l	SW846 8260
Bromobenzene	108-86-1	5	5	U	U	ug/l	SW846 8260
Bromochloromethane	74-97-5	5	5	U	U	ug/l	SW846 8260
Bromodichloromethane	75-27-4	5	5	U	U	ug/l	SW846 8260
Bromoform	75-25-2	5	5	U	U	ug/l	SW846 8260
Bromomethane	74-83-9	5	5	U	U	ug/l	SW846 8260
Carbon Tetrachloride	56-23-5	5	5	U	U	ug/l	SW846 8260
Chlorobenzene	108-90-7	5	5	U	U	ug/l	SW846 8260

Location: SW105
 Sample ID: 61SW105 Depth: NA
 COE Sample ID: FH061-SW105/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
Chloroethane	75-00-3	5	5	U	U	ug/l	SW846 8260
Chloroform	67-66-3	5	5	U	U	ug/l	SW846 8260
Chloromethane	74-87-3	5	5	U	U	ug/l	SW846 8260
Dibromochloromethane	124-48-1	5	5	U	U	ug/l	SW846 8260
Dibromomethane	74-95-3	5	5	U	U	ug/l	SW846 8260
Dichlorodifluoromethane	75-71-8	5	5	U	U	ug/l	SW846 8260
Ethylbenzene	100-41-4	5	5	U	U	ug/l	SW846 8260
Hexachlorobutadiene	87-68-3	5	5	U	U	ug/l	SW846 8260
Isopropyl Benzene	98-82-8	5	5	U	U	ug/l	SW846 8260
m,p-Xylene	13-302-07	5	5	U	U	ug/l	SW846 8260
Methylene Chloride	75-09-2	20	5	B	U	ug/l	SW846 8260
n-Butylbenzene	104-51-8	5	5	U	U	ug/l	SW846 8260
n-propylbenzene	103-65-1	5	5	U	U	ug/l	SW846 8260
Naphthalene	91-20-3	5	5	U	U	ug/l	SW846 8260
o-Xylene	95-47-6	5	5	U	U	ug/l	SW846 8260
p-Isopropyltoluene	99-87-6	5	5	U	U	ug/l	SW846 8260
sec-Butylbenzene	135-98-8	5	5	U	U	ug/l	SW846 8260
Styrene	100-42-5	5	5	U	U	ug/l	SW846 8260
tert-Butylbenzene	98-06-6	5	5	U	U	ug/l	SW846 8260
Tetrachloroethene	127-18-4	5	5	U	U	ug/l	SW846 8260
Toluene	108-88-3	5	5	U	U	ug/l	SW846 8260
Trichloroethene	79-01-6	5	5	U	U	ug/l	SW846 8260
Trichlorofluoromethane	75-69-4	5	5	U	U	ug/l	SW846 8260
Vinyl Chloride	75-01-4	5	5	U	U	ug/l	SW846 8260

Location: NA
 Sample ID: ER076 Depth: NA
 COE Sample ID: FH061-ER076/09-09-97
 Date Collected: 9/9/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
<u>INORGANICS</u>							
Arsenic	7440-38-2	2.5	2.5	U		ug/l	SW846 6010
Barium	7440-39-3	0.73	0.3	B		ug/l	SW846 6010
Cadmium	7440-43-9	0.5	0.5	U		ug/l	SW846 6010
Chromium	7440-47-3	0.8	0.8	U		ug/l	SW846 6010
Lead	7439-92-1	1.7	1.7	U		ug/l	SW846 6010
Mercury	7439-97-6	0.1	0.1	U		ug/l	SW846 7470
Selenium	7782-49-2	2.2	2.2	U		ug/l	SW846 6010
Silver	7440-22-4	1.2	1.2	U		ug/l	SW846 6010
<u>SEMIVOLATILE ORGANICS</u>							
1,2,4,5-Tetrachlorobenzene	95-94-3	10	10	U		ug/l	SW846 8270
1,2,4-Trichlorobenzene	120-82-1	10	10	U		ug/l	SW846 8270
1,2-Dichlorobenzene	95-50-1	10	10	U		ug/l	SW846 8270
1,3-Dichlorobenzene	541-73-1	10	10	U		ug/l	SW846 8270
1,4-Dichlorobenzene	106-46-7	10	10	U		ug/l	SW846 8270
2,2'-oxybis(1-chloropropane)	108-60-1	10	10	U		ug/l	SW846 8270
2,4,5-Trichlorophenol	95-95-4	50	50	U		ug/l	SW846 8270
2,4,6-Trichlorophenol	88-06-2	10	10	U		ug/l	SW846 8270
2,4-Dichlorophenol	120-83-2	10	10	U		ug/l	SW846 8270
2,4-Dimethylphenol	105-67-9	10	10	U		ug/l	SW846 8270
2,4-Dinitrophenol	51-28-5	50	50	U		ug/l	SW846 8270
2,4-Dinitrotoluene	121-14-2	10	10	U		ug/l	SW846 8270
2,6-Dinitrotoluene	606-20-2	10	10	U		ug/l	SW846 8270
2-Chloronaphthalene	91-58-7	10	10	U		ug/l	SW846 8270
2-Chlorophenol	95-57-8	10	10	U		ug/l	SW846 8270
2-Methylnaphthalene	91-57-6	10	10	U		ug/l	SW846 8270
2-Methylphenol	95-48-7	10	10	U		ug/l	SW846 8270

Location: NA
Sample ID: ER076 Depth: NA
COE Sample ID: FH061-ER076/09-09-97
Date Collected: 9/9/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
2-Nitroaniline	88-74-4	50	50	U		ug/l	SW846 8270
2-Nitrophenol	88-75-5	10	10	U		ug/l	SW846 8270
3,3'-Dichlorobenzidine	91-94-1	20	20	U		ug/l	SW846 8270
3-Nitroaniline	99-09-2	50	50	U		ug/l	SW846 8270
4,6-Dinitro-o-Cresol	534-52-1	50	50	U		ug/l	SW846 8270
4-Bromophenyl-phenyl Ether	101-55-3	10	10	U		ug/l	SW846 8270
4-chloro-3-methylphenol	59-50-7	10	10	U		ug/l	SW846 8270
4-Chloroaniline	106-47-8	10	10	U		ug/l	SW846 8270
4-Chlorophenyl-phenylether	7005-72-3	10	10	U		ug/l	SW846 8270
4-Methylphenol	106-44-5	10	10	U		ug/l	SW846 8270
4-Nitroaniline	100-01-6	50	50	U		ug/l	SW846 8270
4-Nitrophenol	100-02-7	50	50	U		ug/l	SW846 8270
Acenaphthene	83-32-9	10	10	U		ug/l	SW846 8270
Acenaphthylene	208-96-8	10	10	U		ug/l	SW846 8270
Anthracene	120-12-7	10	10	U		ug/l	SW846 8270
Benzo(a)anthracene	56-55-3	10	10	U		ug/l	SW846 8270
Benzo(a)pyrene	50-32-8	10	10	U		ug/l	SW846 8270
Benzo(b)fluoranthene	205-99-2	10	10	U		ug/l	SW846 8270
Benzo(g,h,i)perylene	191-24-2	10	10	U		ug/l	SW846 8270
Benzo(k)fluoranthene	207-08-9	10	10	U		ug/l	SW846 8270
Benzoic Acid	65-85-0	16	50	J		ug/l	SW846 8270
Benzyl Alcohol	100-51-6	4	10	J		ug/l	SW846 8270
Bis(2-chloroethoxy)methane	111-91-1	10	10	U		ug/l	SW846 8270
Bis(2-chloroethyl)ether	111-44-4	10	10	U		ug/l	SW846 8270
Bis(2-ethylhexyl)phthalate	117-81-7	10	10	U		ug/l	SW846 8270
Butyl Benzyl Phthalate	85-68-7	10	10	U		ug/l	SW846 8270
Chrysene	218-01-9	10	10	U		ug/l	SW846 8270
Di-n-butyl Phthalate	84-74-2	1	10	J		ug/l	SW846 8270
Di-n-octyl Phthalate	117-84-0	10	10	U		ug/l	SW846 8270
Dibenz(a,h)anthracene	53-70-3	10	10	U		ug/l	SW846 8270
Dibenzofuran	132-64-9	10	10	U		ug/l	SW846 8270
Diethyl Phthalate	84-66-2	4	10	J		ug/l	SW846 8270
Dimethyl Phthalate	131-11-3	10	10	U		ug/l	SW846 8270
Fluoranthene	206-44-0	10	10	U		ug/l	SW846 8270
Fluorene	86-73-7	10	10	U		ug/l	SW846 8270
Hexachlorobenzene	118-74-1	10	10	U		ug/l	SW846 8270
Hexachlorobutadiene	87-68-3	10	10	U		ug/l	SW846 8270
Hexachlorocyclopentadiene	77-47-4	10	10	U		ug/l	SW846 8270
Hexachloroethane	67-72-1	10	10	U		ug/l	SW846 8270
Indeno(1,2,3-cd)pyrene	193-39-5	10	10	U		ug/l	SW846 8270
Isophorone	78-59-1	1	10	J		ug/l	SW846 8270
N-Nitroso-di-n-propylamine	621-64-7	10	10	U		ug/l	SW846 8270
N-Nitrosodiphenylamine	86-30-6	10	10	U		ug/l	SW846 8270
Naphthalene	91-20-3	10	10	U		ug/l	SW846 8270
Nitrobenzene	98-95-3	10	10	U		ug/l	SW846 8270
Pentachlorophenol	87-86-5	50	50	U		ug/l	SW846 8270
Phenanthrene	85-01-8	10	10	U		ug/l	SW846 8270
Phenol	108-95-2	21	10			ug/l	SW846 8270
Pyrene	129-00-0	10	10	U		ug/l	SW846 8270
Pyridine	110-86-1	50	50	U		ug/l	SW846 8270
<u>VOLATILE ORGANICS</u>							
1,1,1,2-Tetrachloroethane	630-20-6	5	5	U		ug/l	SW846 8260
1,1,1-Trichloroethane	71-55-6	5	5	U		ug/l	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U		ug/l	SW846 8260
1,1,2-Trichloroethane	79-00-5	5	5	U		ug/l	SW846 8260
1,1-Dichloroethane	75-34-3	5	5	U		ug/l	SW846 8260
1,1-Dichloroethene	75-35-4	5	5	U		ug/l	SW846 8260
1,1-Dichloropropene	563-58-6	5	5	U		ug/l	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	5	5	U		ug/l	SW846 8260
1,2,3-Trichloropropane	96-18-4	5	5	U		ug/l	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	5	5	U		ug/l	SW846 8260
1,2,4-trimethylbenzene	95-63-6	5	5	U		ug/l	SW846 8260
1,2-cis-Dichloroethene	156-59-2	5	5	U		ug/l	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	5	5	U		ug/l	SW846 8260

Location: NA
 Sample ID: ER076 Depth: NA
 COE Sample ID: FH061-ER076/09-09-97
 Date Collected: 9/9/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
1,2-Dibromoethane	106-93-4	5	5	U		ug/l	SW846 8260
1,2-Dichlorobenzene	95-50-1	5	5	U		ug/l	SW846 8260
1,2-Dichloroethane	107-06-2	5	5	U		ug/l	SW846 8260
1,2-Dichloropropane	78-87-5	5	5	U		ug/l	SW846 8260
1,2-trans-Dichloroethene	156-60-5	5	5	U		ug/l	SW846 8260
1,3,5-trimethylbenzene	108-67-8	5	5	U		ug/l	SW846 8260
1,3-Dichlorobenzene	541-73-1	5	5	U		ug/l	SW846 8260
1,3-Dichloropropane	142-28-9	5	5	U		ug/l	SW846 8260
1,4-Dichlorobenzene	106-46-7	5	5	U		ug/l	SW846 8260
2,2-Dichloropropane	594-20-7	5	5	U		ug/l	SW846 8260
2-Butanone	78-93-3	5	5	U		ug/l	SW846 8260
2-Chlorotoluene	95-49-8	5	5	U		ug/l	SW846 8260
2-Hexanone	591-78-6	5	5	U		ug/l	SW846 8260
4-Chlorotoluene	106-43-4	5	5	U		ug/l	SW846 8260
4-Methyl-2-pentanone	108-10-1	5	5	U		ug/l	SW846 8260
Acetone	67-64-1	46	5			ug/l	SW846 8260
Benzene	71-43-2	5	5	U		ug/l	SW846 8260
Bromobenzene	108-86-1	5	5	U		ug/l	SW846 8260
Bromochloromethane	74-97-5	5	5	U		ug/l	SW846 8260
Bromodichloromethane	75-27-4	5	5	U		ug/l	SW846 8260
Bromoform	75-25-2	5	5	U		ug/l	SW846 8260
Bromomethane	74-83-9	5	5	U		ug/l	SW846 8260
Carbon Tetrachloride	56-23-5	5	5	U		ug/l	SW846 8260
Chlorobenzene	108-90-7	5	5	U		ug/l	SW846 8260
Chloroethane	75-00-3	5	5	U		ug/l	SW846 8260
Chloroform	67-66-3	5	5	U		ug/l	SW846 8260
Chloromethane	74-87-3	5	5	U		ug/l	SW846 8260
Dibromochloromethane	124-48-1	5	5	U		ug/l	SW846 8260
Dibromomethane	74-95-3	5	5	U		ug/l	SW846 8260
Dichlorodifluoromethane	75-71-8	5	5	U		ug/l	SW846 8260
Ethylbenzene	100-41-4	5	5	U		ug/l	SW846 8260
Hexachlorobutadiene	87-68-3	5	5	U		ug/l	SW846 8260
Isopropyl Benzene	98-82-8	5	5	U		ug/l	SW846 8260
m,p-Xylene	13-302-07	5	5	U		ug/l	SW846 8260
Methylene Chloride	75-09-2	6	5	B		ug/l	SW846 8260
n-Butylbenzene	104-51-8	5	5	U		ug/l	SW846 8260
n-propylbenzene	103-65-1	5	5	U		ug/l	SW846 8260
Naphthalene	91-20-3	5	5	U		ug/l	SW846 8260
o-Xylene	95-47-6	5	5	U		ug/l	SW846 8260
p-Isopropyltoluene	99-87-6	5	5	U		ug/l	SW846 8260
sec-Butylbenzene	135-98-8	5	5	U		ug/l	SW846 8260
Styrene	100-42-5	5	5	U		ug/l	SW846 8260
tert-Butylbenzene	98-06-6	5	5	U		ug/l	SW846 8260
Tetrachloroethene	127-18-4	5	5	U		ug/l	SW846 8260
Toluene	108-88-3	5	5	U		ug/l	SW846 8260
Trichloroethene	79-01-6	5	5	U		ug/l	SW846 8260
Trichlorofluoromethane	75-69-4	5	5	U		ug/l	SW846 8260
Vinyl Chloride	75-01-4	5	5	U		ug/l	SW846 8260

Location: NA
 Sample ID: TB113 Depth: NA
 COE Sample ID: FH061-TB110/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
VOLATILE ORGANICS							
1,1,1,2-Tetrachloroethane	630-20-6	5	5	U		ug/l	SW846 8260
1,1,1-Trichloroethane	71-55-6	5	5	U		ug/l	SW846 8260
1,1,2,2-Tetrachloroethane	79-34-5	5	5	U		ug/l	SW846 8260
1,1,2-Trichloroethane	79-00-5	5	5	U		ug/l	SW846 8260

Location: NA
 Sample ID: TB113 Depth: NA
 COE Sample ID: FH061-TB110/09-11-97
 Date Collected: 9/11/97

Parameter	CAS Number	Result	Detection Limit	Lab Qual	Data Qual	Units	Method
1,1-Dichloroethane	75-34-3	5	5	U		ug/l	SW846 8260
1,1-Dichloroethene	75-35-4	5	5	U		ug/l	SW846 8260
1,1-Dichloropropene	563-58-6	5	5	U		ug/l	SW846 8260
1,2,3-Trichlorobenzene	87-61-6	5	5	U		ug/l	SW846 8260
1,2,3-Trichloropropane	96-18-4	5	5	U		ug/l	SW846 8260
1,2,4-Trichlorobenzene	120-82-1	5	5	U		ug/l	SW846 8260
1,2,4-trimethylbenzene	95-63-6	5	5	U		ug/l	SW846 8260
1,2-cis-Dichloroethene	156-59-2	5	5	U		ug/l	SW846 8260
1,2-dibromo-3-chloropropane	96-12-8	5	5	U		ug/l	SW846 8260
1,2-Dibromoethane	106-93-4	5	5	U		ug/l	SW846 8260
1,2-Dichlorobenzene	95-50-1	5	5	U		ug/l	SW846 8260
1,2-Dichloroethane	107-06-2	5	5	U		ug/l	SW846 8260
1,2-Dichloropropane	78-87-5	5	5	U		ug/l	SW846 8260
1,2-trans-Dichloroethene	156-60-5	5	5	U		ug/l	SW846 8260
1,3,5-trimethylbenzene	108-67-8	5	5	U		ug/l	SW846 8260
1,3-Dichlorobenzene	541-73-1	5	5	U		ug/l	SW846 8260
1,3-Dichloropropane	142-28-9	5	5	U		ug/l	SW846 8260
1,4-Dichlorobenzene	106-46-7	5	5	U		ug/l	SW846 8260
2,2-Dichloropropane	594-20-7	5	5	U		ug/l	SW846 8260
2-Butanone	78-93-3	5	5	U		ug/l	SW846 8260
2-Chlorotoluene	95-49-8	5	5	U		ug/l	SW846 8260
2-Hexanone	591-78-6	5	5	U		ug/l	SW846 8260
4-Chlorotoluene	106-43-4	5	5	U		ug/l	SW846 8260
4-Methyl-2-pentanone	108-10-1	5	5	U		ug/l	SW846 8260
Acetone	67-64-1	33	5			ug/l	SW846 8260
Benzene	71-43-2	5	5	U		ug/l	SW846 8260
Bromobenzene	108-86-1	5	5	U		ug/l	SW846 8260
Bromochloromethane	74-97-5	5	5	U		ug/l	SW846 8260
Bromodichloromethane	75-27-4	5	5	U		ug/l	SW846 8260
Bromoform	75-25-2	5	5	U		ug/l	SW846 8260
Bromomethane	74-83-9	5	5	U		ug/l	SW846 8260
Carbon Tetrachloride	56-23-5	5	5	U		ug/l	SW846 8260
Chlorobenzene	108-90-7	5	5	U		ug/l	SW846 8260
Chloroethane	75-00-3	5	5	U		ug/l	SW846 8260
Chloroform	67-66-3	5	5	U		ug/l	SW846 8260
Chloromethane	74-87-3	5	5	U		ug/l	SW846 8260
Dibromochloromethane	124-48-1	5	5	U		ug/l	SW846 8260
Dibromomethane	74-95-3	5	5	U		ug/l	SW846 8260
Dichlorodifluoromethane	75-71-8	5	5	U		ug/l	SW846 8260
Ethylbenzene	100-41-4	5	5	U		ug/l	SW846 8260
Hexachlorobutadiene	87-68-3	5	5	U		ug/l	SW846 8260
Isopropyl Benzene	98-82-8	5	5	U		ug/l	SW846 8260
m,p-Xylene	13-302-07	5	5	U		ug/l	SW846 8260
Methylene Chloride	75-09-2	33	5	B		ug/l	SW846 8260
n-Butylbenzene	104-51-8	5	5	U		ug/l	SW846 8260
n-propylbenzene	103-65-1	5	5	U		ug/l	SW846 8260
Naphthalene	91-20-3	5	5	U		ug/l	SW846 8260
o-Xylene	95-47-6	5	5	U		ug/l	SW846 8260
p-Isopropyltoluene	99-87-6	5	5	U		ug/l	SW846 8260
sec-Butylbenzene	135-98-8	5	5	U		ug/l	SW846 8260
Styrene	100-42-5	5	5	U		ug/l	SW846 8260
tert-Butylbenzene	98-06-6	5	5	U		ug/l	SW846 8260
Tetrachloroethene	127-18-4	5	5	U		ug/l	SW846 8260
Toluene	108-88-3	5	5	U		ug/l	SW846 8260
Trichloroethene	79-01-6	5	5	U		ug/l	SW846 8260
Trichlorofluoromethane	75-69-4	5	5	U		ug/l	SW846 8260
Vinyl Chloride	75-01-4	5	5	U		ug/l	SW846 8260

• Laboratory Qualifiers

INORGANIC LABORATORY QUALIFIER FLAGS	
U	The analyte was analyzed for but not detected.
B	The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
E	The reported value is estimated because of the presence of interference.
M	Duplicate injection precision not met.
N	Spike sample recovery not within control limits.
S	The reported value was determined by the Method of Standard Additions (MSA).
W	Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
•	Duplicate analysis not within control limits.
-	Correlation coefficient for the MSA is less than 0.995.

ORGANIC LABORATORY QUALIFIER FLAGS	
U	<p>Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor the sample quantitation limit for phenol (330 U) would be corrected to:</p> $\frac{(330U)}{D} \times df \text{ where } D = \frac{100 - \% \text{moisture}}{100}$ <p>And df = dilution factor</p> <p>at 24% moisture $D = \frac{100-24}{100} = 0.76$</p> $\frac{(330U)}{.76} \times 10 = 4300$ <p>U rounded to the appropriate number of significant figures</p>
J	Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/Kg and a sample quantitation limit of 430 ug/Kg, report the concentration as 300J.
N	Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds where the identification is based on a mass spectral library search. It is applied to all TIC results. For generic characterization of a TIC, such as chlorinated hydrocarbon, the N code is not used.
P	This flag is used for a pesticide/Aroclor target analyte when there is greater than 25% difference for detected concentrations between the two GC columns. The lower of the two values is reported and flagged with a "P".
C	This flag applies to pesticide results where the identification has been confirmed GC/MS. Single component pesticides greater than or equal to 10 ngul in the final extract shall be confirmed by GC/MS.
B	This flag is used when the analyte is found in the associated blank as well in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

ORGANIC LABORATORY QUALIFIER FLAGS	
E	This flag identifies compounds whose concentrations exceed the calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than full scale the sample or extract must be diluted and reanalyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I.
D	This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is reanalyzed at a higher dilution factor, as in the "E" flag above all concentration values reported on that Form I are flagged with the "D" flag.
A	This flag indicates that a TIC is a suspected adol-condensation product
N	Over specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such descriptions attached to the Sample Data Summary Package and the Case Narrative. If more than one is required use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result use the "X" flag to combine several flags, as needed. For instance the "X" flag might combine the "A", "B", and "D" flags for some sample.

** Data Qualifiers

DATA VALIDATION QUALIFIER FLAGS	
L	The analyte was analyzed for but not detected.
J	The reported value is estimated because of the presence of interference.
R	The reported value is rejected.

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW101

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) WATER

Lab Sample ID: 27668.28

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: UL369.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. _____

Date Analyzed: 11/20/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
74-87-3	CHLOROMETHANE	5	U
74-83-9	BROMOMETHANE	5	U
75-01-4	VINYL CHLORIDE	5	U
75-00-3	CHLOROETHANE	5	U
75-09-2	METHYLENE CHLORIDE	5	U
67-64-1	ACETONE	23	U
75-35-4	1 1-DICHLOROETHENE	5	U
75-34-3	1 1-DICHLOROETHANE	5	U
67-66-3	CHLOROFORM	5	U
107-06-2	1 2-DICHLOROETHANE	5	U
78-93-3	2-BUTANONE	11	U
71-55-6	1 1 1-TRICHLOROETHANE	5	U
56-23-5	CARBON TETRACHLORIDE	5	U
75-27-4	BROMODICHLOROMETHANE	5	U
78-87-5	1 2-DICHLOROPROPANE	5	U
79-01-6	TRICHLOROETHENE	5	U
124-48-1	DIBROMOCHLOROMETHANE	5	U
79-00-5	1 1 2-TRICHLOROETHANE	5	U
71-43-2	BENZENE	5	U
75-25-2	BROMOFORM	5	U
108-10-1	4-METHYL-2-PENTANONE	5	U
591-78-6	2-HEXANONE	5	U
127-18-4	TETRACHLOROETHENE	5	U
108-88-3	TOLUENE	5	U
79-34-5	1 1 2 2-TETRACHLOROETHANE	5	U
108-90-7	CHLOROBENZENE	5	U
100-41-4	ETHYL BENZENE	5	U
100-42-5	STYRENE	5	U
156-59-2	cis-1 2-DICHLOROETHENE	5	U
156-60-5	trans-1 2-DICHLOROETHENE	5	U
13-302-07	m,p-XYLENES	5	U
95-47-6	o-XYLENE	5	U
106-93-4	1 2-DIBROMOETHANE	5	U
630-20-6	1 1 1 2-TETRACHLOROETHANE	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW102

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) WATER

Lab Sample ID: 27668.29

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: UL370.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. _____

Date Analyzed: 11/20/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
96-18-4-----1 2 3-	TRICHLOROPROPANE	5	U
75-71-8-----	DICHLORODIFLUOROMETHANE	5	U
75-69-4-----	TRICHLOROFLUOROMETHANE	5	U
74-95-3-----	DIBROMOMETHANE	5	U
96-12-8-----1 2-	DIBROMO-3-CHLOROPROPANE	5	U
108-86-1-----	BROMOBENZENE	5	U
104-51-8-----n-	BUTYLBENZENE	5	U
98-06-6-----tert-	BUTYLBENZENE	5	U
135-98-8-----sec-	BUTYLBENZENE	5	U
95-49-8-----2-	CHLOROTOLUENE	5	U
106-43-4-----4-	CHLOROTOLUENE	5	U
95-50-1-----1 2-	DICHLOROBENZENE	5	U
541-73-1-----1 3-	DICHLOROBENZENE	5	U
106-46-7-----1 4-	DICHLOROBENZENE	5	U
142-28-9-----1 3-	DICHLOROPROPANE	5	U
594-20-7-----2 2-	DICHLOROPROPANE	5	U
563-58-6-----1 1-	DICHLOROPROPENE	5	U
87-68-3-----	HEXACHLOROBUTADIENE	5	U
98-82-8-----	ISOPROPYLBENZENE	5	U
99-87-6-----p-	ISOPROPYLTOLUENE	5	U
91-20-3-----	NAPHTHALENE	5	U
103-65-1-----n-	PROPYLBENZENE	5	U
87-61-6-----1 2 3-	TRICHLOROBENZENE	5	U
120-82-1-----1 2 4-	TRICHLOROBENZENE	5	U
95-63-6-----1 2 4-	TRIMETHYLBENZENE	5	U
108-67-8-----1 3 5-	TRIMETHYLBENZENE	5	U
74-97-5-----	BROMOCHLOROMETHANE	5	U

110

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW103

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) WATER

Lab Sample ID: 27668.30

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: UL371.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. _____

Date Analyzed: 11/20/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
74-87-3	CHLOROMETHANE	5	U
74-83-9	BROMOMETHANE	5	U
75-01-4	VINYL CHLORIDE	5	U
75-00-3	CHLOROETHANE	5	U
75-09-2	METHYLENE CHLORIDE	5	U
67-64-1	ACETONE	5	U
75-35-4	1 1-DICHLOROETHENE	5	U
75-34-3	1 1-DICHLOROETHANE	5	U
67-66-3	CHLOROFORM	5	U
107-06-2	1 2-DICHLOROETHANE	5	U
78-93-3	2-BUTANONE	5	U
71-55-6	1 1 1-TRICHLOROETHANE	5	U
56-23-5	CARBON TETRACHLORIDE	5	U
75-27-4	BROMODICHLOROMETHANE	5	U
78-87-5	1 2-DICHLOROPROPANE	5	U
79-01-6	TRICHLOROETHENE	5	U
124-48-1	DIBROMOCHLOROMETHANE	5	U
79-00-5	1 1 2-TRICHLOROETHANE	5	U
71-43-2	BENZENE	5	U
75-25-2	BROMOFORM	5	U
108-10-1	4-METHYL-2-PENTANONE	5	U
591-78-6	2-HEXANONE	5	U
127-18-4	TETRACHLOROETHENE	5	U
108-88-3	TOLUENE	5	U
79-34-5	1 1 2 2-TETRACHLOROETHANE	5	U
108-90-7	CHLOROBENZENE	5	U
100-41-4	ETHYL BENZENE	5	U
100-42-5	STYRENE	5	U
156-59-2	cis-1 2-DICHLOROETHENE	5	U
156-60-5	trans-1 2-DICHLOROETHENE	5	U
13-302-07	m,p-XYLENES	5	U
95-47-6	o-XYLENE	5	U
106-93-4	1 2-DIBROMOETHANE	5	U
630-20-6	1 1 1 2-TETRACHLOROETHANE	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW104

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) WATER

Lab Sample ID: 31005.10

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: I25287.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. _____

Date Analyzed: 09/19/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.

COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	CHLOROMETHANE	5	U
74-83-9	BROMOMETHANE	5	U
75-01-4	VINYL CHLORIDE	5	U
75-00-3	CHLOROETHANE	5	U
75-09-2	METHYLENE CHLORIDE	20	B
67-64-1	ACETONE	5	U
75-35-4	1 1-DICHLOROETHENE	5	U
75-34-3	1 1-DICHLOROETHANE	5	U
67-66-3	CHLOROFORM	5	U
107-06-2	1 2-DICHLOROETHANE	5	U
78-93-3	2-BUTANONE	5	U
71-55-6	1 1 1-TRICHLOROETHANE	5	U
56-23-5	CARBON TETRACHLORIDE	5	U
75-27-4	BROMODICHLOROMETHANE	5	U
78-87-5	1 2-DICHLOROPROPANE	5	U
79-01-6	TRICHLOROETHENE	5	U
124-48-1	DIBROMOCHLOROMETHANE	5	U
79-00-5	1 1 2-TRICHLOROETHANE	5	U
71-43-2	BENZENE	5	U
75-25-2	BROMOFORM	5	U
108-10-1	4-METHYL-2-PENTANONE	5	U
591-78-6	2-HEXANONE	5	U
127-18-4	TETRACHLOROETHENE	5	U
108-88-3	TOLUENE	5	U
79-34-5	1 1 2 2-TETRACHLOROETHANE	5	U
108-90-7	CHLOROBENZENE	5	U
100-41-4	ETHYL BENZENE	5	U
100-42-5	STYRENE	5	U
156-59-2	cis-1 2-DICHLOROETHENE	5	U
156-60-5	trans-1 2-DICHLOROETHENE	5	U
13-302-07	m,p-XYLENES	5	U
95-47-6	o-XYLENE	5	U
106-93-4	1 2-DIBROMOETHANE	5	U
630-20-6	1 1 1 2-TETRACHLOROETHANE	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW104

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) WATER

Lab Sample ID: 31005.10

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: I25287.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. _____

Date Analyzed: 09/19/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
96-18-4-----1 2 3-	TRICHLOROPROPANE	5	U
75-71-8-----	DICHLORODIFLUOROMETHANE	5	U
75-69-4-----	TRICHLOROFUOROMETHANE	5	U
74-95-3-----	DIBROMOMETHANE	5	U
96-12-8-----1 2-	DIBROMO-3-CHLOROPROPANE	5	U
108-86-1-----	BROMOBENZENE	5	U
104-51-8-----	n-BUTYLBENZENE	5	U
98-06-6-----	tert-BUTYLBENZENE	5	U
135-98-8-----	sec-BUTYLBENZENE	5	U
95-49-8-----2-	CHLOROTOLUENE	5	U
106-43-4-----4-	CHLOROTOLUENE	5	U
95-50-1-----1 2-	DICHLOROBENZENE	5	U
541-73-1-----1 3-	DICHLOROBENZENE	5	U
106-46-7-----1 4-	DICHLOROBENZENE	5	U
142-28-9-----1 3-	DICHLOROPROPANE	5	U
594-20-7-----2 2-	DICHLOROPROPANE	5	U
563-58-6-----1 1-	DICHLOROPROPENE	5	U
87-68-3-----	HEXACHLOROBUTADIENE	5	U
98-82-8-----	ISOPROPYLBENZENE	5	U
99-87-6-----p-	ISOPROPYLTOLUENE	5	U
91-20-3-----	NAPHTHALENE	2	J
103-65-1-----n-	PROPYLBENZENE	5	U
87-61-6-----1 2 3-	TRICHLOROBENZENE	5	U
120-82-1-----1 2 4-	TRICHLOROBENZENE	5	U
95-63-6-----1 2 4-	TRIMETHYLBENZENE	5	U
108-67-8-----1 3 5-	TRIMETHYLBENZENE	5	U
74-97-5-----	BROMOCHLOROMETHANE	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW105

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) WATER

Lab Sample ID: 31005.14

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: I25288.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. _____

Date Analyzed: 09/19/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.

COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	CHLOROMETHANE	5	U
74-83-9	BROMOMETHANE	5	U
75-01-4	VINYL CHLORIDE	5	U
75-00-3	CHLOROETHANE	5	U
75-09-2	METHYLENE CHLORIDE	20	B
67-64-1	ACETONE	5	J
75-35-4	1 1-DICHLOROETHENE	5	J
75-34-3	1 1-DICHLOROETHANE	5	U
67-66-3	CHLOROFORM	5	U
107-06-2	1 2-DICHLOROETHANE	5	U
78-93-3	2-BUTANONE	5	U
71-55-6	1 1 1-TRICHLOROETHANE	5	U
56-23-5	CARBON TETRACHLORIDE	5	U
75-27-4	BROMODICHLOROMETHANE	5	U
78-87-5	1 2-DICHLOROPROPANE	5	U
79-01-6	TRICHLOROETHENE	5	U
124-48-1	DIBROMOCHLOROMETHANE	5	U
79-00-5	1 1 2-TRICHLOROETHANE	5	U
71-43-2	BENZENE	5	U
75-25-2	BROMOFORM	5	U
108-10-1	4-METHYL-2-PENTANONE	5	U
591-78-6	2-HEXANONE	5	U
127-18-4	TETRACHLOROETHENE	5	U
108-88-3	TOLUENE	5	U
79-34-5	1 1 2 2-TETRACHLOROETHANE	5	U
108-90-7	CHLOROBENZENE	5	U
100-41-4	ETHYL BENZENE	5	U
100-42-5	STYRENE	5	U
156-59-2	cis-1 2-DICHLOROETHENE	5	U
156-60-5	trans-1 2-DICHLOROETHENE	5	U
13-302-07	m,p-XYLENES	5	U
95-47-6	o-XYLENE	5	U
106-93-4	1 2-DIBROMOETHANE	5	U
630-20-6	1 1 1 2-TETRACHLOROETHANE	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW105

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) WATER

Lab Sample ID: 31005.14

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: I25288.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. _____

Date Analyzed: 09/19/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	UG/L	Q
96-18-4-----1 2 3-	TRICHLOROPROPANE	5	U
75-71-8-----	DICHLORODIFLUOROMETHANE	5	U
75-69-4-----	TRICHLOROFLUOROMETHANE	5	U
74-95-3-----	DIBROMOMETHANE	5	U
96-12-8-----1 2-	DIBROMO-3-CHLOROPROPANE	5	U
108-86-1-----	BROMOBENZENE	5	U
104-51-8-----	n-BUTYLBENZENE	5	U
98-06-6-----	tert-BUTYLBENZENE	5	U
135-98-8-----	sec-BUTYLBENZENE	5	U
95-49-8-----	2-CHLOROTOLUENE	5	U
106-43-4-----	4-CHLOROTOLUENE	5	U
95-50-1-----1 2-	DICHLOROBENZENE	5	U
541-73-1-----1 3-	DICHLOROBENZENE	5	U
106-46-7-----1 4-	DICHLOROBENZENE	5	U
142-28-9-----1 3-	DICHLOROPROPANE	5	U
594-20-7-----2 2-	DICHLOROPROPANE	5	U
563-58-6-----1 1-	DICHLOROPROPENE	5	U
87-68-3-----	HEXACHLOROBUTADIENE	5	U
98-82-8-----	ISOPROPYLBENZENE	5	U
99-87-6-----	p-ISOPROPYLTOLUENE	5	U
91-20-3-----	NAPHTHALENE	5	U
103-65-1-----	n-PROPYLBENZENE	5	U
87-61-6-----1 2 3-	TRICHLOROBENZENE	5	U
120-82-1-----1 2 4-	TRICHLOROBENZENE	5	U
95-63-6-----1 2 4-	TRIMETHYLBENZENE	5	U
108-67-8-----1 3 5-	TRIMETHYLBENZENE	5	U
74-97-5-----	BROMOCHLOROMETHANE	5	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW101

b Name: SWL-TULSA

Contract: SAIC

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) WATER

Lab Sample ID: 27668.28

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: M3598.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 0 dec.

Date Extracted: 11/19/96

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 12/08/96

Concentrated Extract Volume: 1000(uL)

GPC Cleanup: (Y/N) N

pH: 7.8

Dilution Factor: 1.0

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

108-95-2-----Phenol	10	U
111-44-4-----bis(2-Chloroethyl)ether	10	U
95-57-8-----2-Chlorophenol	10	U
541-73-1-----1,3-Dichlorobenzene	10	U
106-46-7-----1,4-Dichlorobenzene	10	U
100-51-6-----Benzyl alcohol	10	U
95-50-1-----1,2-Dichlorobenzene	10	U
95-48-7-----2-Methylphenol	10	U
108-60-1-----bis(2-Chloroisopropyl)ether	10	U
106-44-5-----4-Methylphenol	10	U
621-64-7-----N-Nitroso-di-n-propylamine	10	U
67-72-1-----Hexachloroethane	10	U
98-95-3-----Nitrobenzene	10	U
78-59-1-----Isophorone	10	U
88-75-5-----2-Nitrophenol	10	U
105-67-9-----2,4-Dimethylphenol	10	U
65-85-0-----Benzoic Acid	50	U
111-91-1-----bis(2-Chloroethoxy)methane	10	U
120-83-2-----2,4-Dichlorophenol	10	U
120-82-1-----1,2,4-Trichlorobenzene	10	U
91-20-3-----Naphthalene	10	U
106-47-8-----4-Chloroaniline	10	U
87-68-3-----Hexachlorobutadiene	10	U
59-50-7-----4-Chloro-3-methylphenol	10	U
91-57-6-----2-Methylnaphthalene	10	U
77-47-4-----Hexachlorocyclopentadiene	10	U
88-06-2-----2,4,6-Trichlorophenol	10	U
95-95-4-----2,4,5-Trichlorophenol	50	U
91-58-7-----2-Chloronaphthalene	10	U
88-74-4-----2-Nitroaniline	50	U
131-11-3-----Dimethylphthalate	10	U
208-96-8-----Acenaphthylene	10	U
606-20-2-----2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW103

Lab Name: SWL-TULSA

Contract: SAIC

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) WATER

Lab Sample ID: 27668.30

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: M3600.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 0 dec.

Date Extracted: 11/19/96

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 12/08/96

Concentrated Extract Volume: 1000(uL)

GPC Cleanup: (Y/N) N

pH: 7.2

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NO.

COMPOUND

Q

99-09-2-----	3-Nitroaniline	50	U
83-32-9-----	Acenaphthene	10	U
121-14-2-----	2,4-Dinitrotoluene	10	U
51-28-5-----	2,4-Dinitrophenol	50	U
100-02-7-----	4-Nitrophenol	50	U
132-64-9-----	Dibenzofuran	10	U
84-66-2-----	Diethylphthalate	10	U
7005-72-3-----	4-Chlorophenyl-phenylether	10	U
86-73-7-----	Fluorene	10	U
100-01-6-----	4-Nitroaniline	50	U
534-52-1-----	4,6-Dinitro-2-methylphenol	50	U
86-30-6-----	N-Nitrosodiphenylamine (1)	10	U
101-55-3-----	4-Bromophenylphenylether	10	U
118-74-1-----	Hexachlorobenzene	10	U
87-86-5-----	Pentachlorophenol	50	U
85-01-8-----	Phenanthrene	10	U
120-12-7-----	Anthracene	10	U
84-74-2-----	Di-n-butylphthalate	10	U
206-44-0-----	Fluoranthene	10	U
129-00-0-----	Pyrene	10	U
85-68-7-----	Butylbenzylphthalate	10	U
91-94-1-----	3,3'-Dichlorobenzidine	20	U
56-55-3-----	Benzo(a)anthracene	10	U
218-01-9-----	Chrysene	10	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	10	U
117-84-0-----	Di-n-octylphthalate	10	U
205-99-2-----	Benzo(b)fluoranthene	10	U
207-08-9-----	Benzo(k)fluoranthene	10	U
50-32-8-----	Benzo(a)pyrene	10	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	10	U
53-70-3-----	Dibenz(a,h)anthracene	10	U
191-24-2-----	Benzo(g,h,i)perylene	10	U
110-86-1-----	Pyridine	50	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW104

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) WATER

Lab Sample ID: 31005.10

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: T23452.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. 0 dec.

Date Extracted: 09/16/97

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/01/97

Concentrated Extract Volume: 1000(uL)

GPC Cleanup: (Y/N) N

pH: 8.1

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-94-3-----	1,2,4,5-Tetrachlorobenzene	10	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW105

ab Name: SWL-TULSA Contract: FT. HOOD
 Lab Code: SWOK Case No.: SAIC SAS No.: SDG No.: 31005
 Matrix: (soil/water) WATER Lab Sample ID: 31005.14
 Sample wt/vol: 1000 (g/mL) ML Lab File ID: T23448.D
 Level: (low/med) LOW Date Received: 09/13/97
 % Moisture: not dec. 0 dec. Date Extracted: 09/16/97
 Extraction: (SepF/Cont/Sonc) CONT Date Analyzed: 10/01/97
 Concentrated Extract Volume: 1000(uL)
 GPC Cleanup: (Y/N) N pH: 8.1 Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
108-95-2-----	Phenol	10	U
111-44-4-----	bis(2-Chloroethyl)ether	10	U
95-57-8-----	2-Chlorophenol	10	U
541-73-1-----	1,3-Dichlorobenzene	10	U
106-46-7-----	1,4-Dichlorobenzene	10	U
100-51-6-----	Benzyl alcohol	10	U
95-50-1-----	1,2-Dichlorobenzene	10	U
95-48-7-----	2-Methylphenol	10	U
108-60-1-----	bis(2-Chloroisopropyl)ether	10	U
106-44-5-----	4-Methylphenol	10	U
621-64-7-----	N-Nitroso-di-n-propylamine	10	U
67-72-1-----	Hexachloroethane	10	U
98-95-3-----	Nitrobenzene	10	U
78-59-1-----	Isophorone	10	U
88-75-5-----	2-Nitrophenol	10	U
105-67-9-----	2,4-Dimethylphenol	10	U
65-85-0-----	Benzoic Acid	6	J
111-91-1-----	bis(2-Chloroethoxy)methane	10	U
120-83-2-----	2,4-Dichlorophenol	10	U
120-82-1-----	1,2,4-Trichlorobenzene	10	U
91-20-3-----	Naphthalene	10	U
106-47-8-----	4-Chloroaniline	10	U
87-68-3-----	Hexachlorobutadiene	10	U
59-50-7-----	4-Chloro-3-methylphenol	10	U
91-57-6-----	2-Methylnaphthalene	10	U
77-47-4-----	Hexachlorocyclopentadiene	10	U
88-06-2-----	2,4,6-Trichlorophenol	10	U
95-95-4-----	2,4,5-Trichlorophenol	50	U
91-58-7-----	2-Chloronaphthalene	10	U
88-74-4-----	2-Nitroaniline	50	U
131-11-3-----	Dimethylphthalate	10	U
208-96-8-----	Acenaphthylene	10	U
606-20-2-----	2,6-Dinitrotoluene	10	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SW105

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) WATER

Lab Sample ID: 31005.14

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: T23448.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. 0 dec.

Date Extracted: 09/16/97

Extraction: (SepF/Cont/Sonc) CONT

Date Analyzed: 10/01/97

Concentrated Extract Volume: 1000(uL)

GPC Cleanup: (Y/N) N

pH: 8.1

Dilution Factor: 1.0

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
95-94-3-----	1,2,4,5-Tetrachlorobenzene__	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD101

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) SOIL

Lab Sample ID: 27668.25

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: I22338.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 19

Date Analyzed: 11/20/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	UG/KG	Q
74-87-3	CHLOROMETHANE	6	U
74-83-9	BROMOMETHANE	6	U
75-01-4	VINYL CHLORIDE	6	U
75-00-3	CHLOROETHANE	6	U
75-09-2	METHYLENE CHLORIDE	6	U
67-64-1	ACETONE	23	B
75-35-4	1 1-DICHLOROETHENE	6	U
75-34-3	1 1-DICHLOROETHANE	6	U
67-66-3	CHLOROFORM	6	U
107-06-2	1 2-DICHLOROETHANE	6	U
78-93-3	2-BUTANONE	6	U
71-55-6	1 1 1-TRICHLOROETHANE	6	U
56-23-5	CARBON TETRACHLORIDE	6	U
75-27-4	BROMODICHLOROMETHANE	6	U
78-87-5	1 2-DICHLOROPROPANE	6	U
79-01-6	TRICHLOROETHENE	6	U
124-48-1	DIBROMOCHLOROMETHANE	6	U
79-00-5	1 1 2-TRICHLOROETHANE	6	U
71-43-2	BENZENE	6	U
75-25-2	BROMOFORM	6	U
108-10-1	4-METHYL-2-PENTANONE	6	U
591-78-6	2-HEXANONE	6	U
127-18-4	TETRACHLOROETHENE	6	U
108-88-3	TOLUENE	8	U
79-34-5	1 1 2 2-TETRACHLOROETHANE	6	U
108-90-7	CHLOROBENZENE	6	U
100-41-4	ETHYL BENZENE	6	U
100-42-5	STYRENE	6	U
156-59-2	cis-1 2-DICHLOROETHENE	6	U
156-60-5	trans-1 2-DICHLOROETHENE	6	U
13-302-07	m,p-XYLENES	6	U
95-47-6	o-XYLENE	6	U
106-93-4	1 2-DIBROMOETHANE	6	U
630-20-6	1 1 1 2-TETRACHLOROETHANE	6	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD102

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) SOIL

Lab Sample ID: 27668.26

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: I22339.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 13

Date Analyzed: 11/20/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	UG/KG	Q
96-18-4-----1 2 3-	TRICHLOROPROPANE	6	U
75-71-8-----	DICHLORODIFLUOROMETHANE	6	U
75-69-4-----	TRICHLOROFLUOROMETHANE	6	U
74-95-3-----	DIBROMOMETHANE	6	U
96-12-8-----1 2-	DIBROMO-3-CHLOROPROPANE	6	U
108-86-1-----	BROMOBENZENE	6	U
104-51-8-----	n-BUTYLBENZENE	6	U
98-06-6-----	tert-BUTYLBENZENE	6	U
135-98-8-----	sec-BUTYLBENZENE	6	U
95-49-8-----2-	CHLOROTOLUENE	6	U
106-43-4-----4-	CHLOROTOLUENE	6	U
95-50-1-----1 2-	DICHLOROBENZENE	6	U
541-73-1-----1 3-	DICHLOROBENZENE	6	U
106-46-7-----1 4-	DICHLOROBENZENE	6	U
142-28-9-----1 3-	DICHLOROPROPANE	6	U
594-20-7-----2 2-	DICHLOROPROPANE	6	U
563-58-6-----1 1-	DICHLOROPROPENE	6	U
87-68-3-----	HEXACHLOROBUTADIENE	6	U
98-82-8-----	ISOPROPYLBENZENE	6	U
99-87-6-----p-	ISOPROPYLTOLUENE	6	U
91-20-3-----	NAPHTHALENE	6	U
103-65-1-----n-	PROPYLBENZENE	6	U
87-61-6-----1 2 3-	TRICHLOROBENZENE	6	U
120-82-1-----1 2 4-	TRICHLOROBENZENE	6	U
95-63-6-----1 2 4-	TRIMETHYLBENZENE	6	U
108-67-8-----1 3 5-	TRIMETHYLBENZENE	6	U
74-97-5-----	BROMOCHLOROMETHANE	6	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD102

b Name: SWL-TULSA	Contract: SAIC	
Lab Code: SWOK	Case No.: SAIC	SAS No.:
		SDG No.: 27668
Matrix: (soil/water) SOIL		Lab Sample ID: 27668.26
Sample wt/vol: 30.0 (g/mL) G		Lab File ID: M3610.D
Level: (low/med) LOW		Date Received: 11/18/96
% Moisture: not dec. 13 dec.		Date Extracted: 11/19/96
Extraction: (SepF/Cont/Sonc) SONC		Date Analyzed: 12/09/96
Concentrated Extract Volume: 1000(uL)		
GPC Cleanup: (Y/N) N	pH: 9.0	Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
95-94-3-----	1,2,4,5-Tetrachlorobenzene	380	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD103

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) SOIL

Lab Sample ID: 27668.27

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: I22340.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 19

Date Analyzed: 11/20/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	UG/KG	Q
96-18-4-----1 2 3-	TRICHLOROPROPANE	6	U
75-71-8-----	DICHLORODIFLUOROMETHANE	6	U
75-69-4-----	TRICHLOROFUOROMETHANE	6	U
74-95-3-----	DIBROMOMETHANE	6	U
96-12-8-----1 2-	DIBROMO-3-CHLOROPROPANE	6	U
108-86-1-----	BROMOBENZENE	6	U
104-51-8-----n-	BUTYLBENZENE	6	U
98-06-6-----tert-	BUTYLBENZENE	6	U
135-98-8-----sec-	BUTYLBENZENE	6	U
95-49-8-----2-	CHLOROTOLUENE	6	U
106-43-4-----4-	CHLOROTOLUENE	6	U
95-50-1-----1 2-	DICHLOROBEZENE	6	U
541-73-1-----1 3-	DICHLOROBEZENE	6	U
106-46-7-----1 4-	DICHLOROBEZENE	6	U
142-28-9-----1 3-	DICHLOROPROPANE	6	U
594-20-7-----2 2-	DICHLOROPROPANE	6	U
563-58-6-----1 1-	DICHLOROPROPENE	6	U
87-68-3-----	HEXACHLOROBUTADIENE	6	U
98-82-8-----	ISOPROPYLBENZENE	6	U
99-87-6-----p-	ISOPROPYLTOLUENE	6	U
91-20-3-----	NAPHTHALENE	6	U
103-65-1-----n-	PROPYLBENZENE	6	U
87-61-6-----1 2 3-	TRICHLOROBEZENE	6	U
120-82-1-----1 2 4-	TRICHLOROBEZENE	6	U
95-63-6-----1 2 4-	TRIMETHYLBENZENE	6	U
108-67-8-----1 3 5-	TRIMETHYLBENZENE	6	U
74-97-5-----	BROMOCHLOROMETHANE	6	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD103RE

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) SOIL

Lab Sample ID: 27668.27RA

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: I22364.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 19

Date Analyzed: 11/22/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	UG/KG	Q
74-87-3	-----CHLOROMETHANE	6	U
74-83-9	-----BROMOMETHANE	6	U
75-01-4	-----VINYL CHLORIDE	6	U
75-00-3	-----CHLOROETHANE	6	U
75-09-2	-----METHYLENE CHLORIDE	11	B
67-64-1	-----ACETONE	8	B
75-35-4	-----1 1-DICHLOROETHENE	6	U
75-34-3	-----1 1-DICHLOROETHANE	6	U
67-66-3	-----CHLOROFORM	6	U
107-06-2	-----1 2-DICHLOROETHANE	6	U
78-93-3	-----2-BUTANONE	6	U
71-55-6	-----1 1 1-TRICHLOROETHANE	6	U
56-23-5	-----CARBON TETRACHLORIDE	6	U
75-27-4	-----BROMODICHLOROMETHANE	6	U
78-87-5	-----1 2-DICHLOROPROPANE	6	U
79-01-6	-----TRICHLOROETHENE	6	U
124-48-1	-----DIBROMOCHLOROMETHANE	6	U
79-00-5	-----1 1 2-TRICHLOROETHANE	6	U
71-43-2	-----BENZENE	6	U
75-25-2	-----BROMOFORM	6	U
108-10-1	-----4-METHYL-2-PENTANONE	6	U
591-78-6	-----2-HEXANONE	6	U
127-18-4	-----TETRACHLOROETHENE	6	U
108-88-3	-----TOLUENE	6	U
79-34-5	-----1 1 2 2-TETRACHLOROETHANE	6	U
108-90-7	-----CHLOROBENZENE	6	U
100-41-4	-----ETHYL BENZENE	6	U
100-42-5	-----STYRENE	6	U
156-59-2	-----cis-1 2-DICHLOROETHENE	6	U
156-60-5	-----trans-1 2-DICHLOROETHENE	6	U
13-302-07	-----m,p-XYLENES	6	U
95-47-6	-----o-XYLENE	6	U
106-93-4	-----1 2-DIBROMOETHANE	6	U
630-20-6	-----1 1 1 2-TETRACHLOROETHANE	6	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD103RE

Lab Name: SWL-TULSA

Contract: FT HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) SOIL

Lab Sample ID: 27668.27RA

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: I22364.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 19

Date Analyzed: 11/22/96

Column: (pack/cap) CAP

Dilution Factor: 1.0

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

96-18-4-----1 2 3-TRICHLOROPROPANE	6	U
75-71-8-----DICHLORODIFLUOROMETHANE	6	UU
75-69-4-----TRICHLOROFUOROMETHANE	6	UUU
74-95-3-----DIBROMOMETHANE	6	UUUU
96-12-8-----1 2-DIBROMO-3-CHLOROPROPANE	6	UUUUU
108-86-1-----BROMOBENZENE	6	UUUUUU
104-51-8-----n-BUTYLBENZENE	6	UUUUUUU
98-06-6-----tert-BUTYLBENZENE	6	UUUUUUU
135-98-8-----sec-BUTYLBENZENE	6	UUUUUUU
95-49-8-----2-CHLOROTOLUENE	6	UUUUUUU
106-43-4-----4-CHLOROTOLUENE	6	UUUUUUU
95-50-1-----1 2-DICHLOROBENZENE	6	UUUUUUU
541-73-1-----1 3-DICHLOROBENZENE	6	UUUUUUU
106-46-7-----1 4-DICHLOROBENZENE	6	UUUUUUU
142-28-9-----1 3-DICHLOROPROPANE	6	UUUUUUU
594-20-7-----2 2-DICHLOROPROPANE	6	UUUUUUU
563-58-6-----1 1-DICHLOROPROPANE	6	UUUUUUU
87-68-3-----HEXACHLOROBUTADIENE	6	UUUUUUU
98-82-8-----ISOPROPYLBENZENE	6	UUUUUUU
99-87-6-----p-ISOPROPYLTOLUENE	6	UUUUUUU
91-20-3-----NAPHTHALENE	6	UUUUUUU
103-65-1-----n-PROPYLBENZENE	6	UUUUUUU
87-61-6-----1 2 3-TRICHLOROBENZENE	6	UUUUUUU
120-82-1-----1 2 4-TRICHLOROBENZENE	6	UUUUUUU
95-63-6-----1 2 4-TRIMETHYLBENZENE	6	UUUUUUU
108-67-8-----1 3 5-TRIMETHYLBENZENE	6	UUUUUUU
74-97-5-----BROMOCHLOROMETHANE	6	UUUUUUU

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD104

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) SOIL

Lab Sample ID: 31005.08

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: R28145.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. 48

Date Analyzed: 09/18/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG Q	Q
74-87-3	CHLOROMETHANE	10	U
74-83-9	BROMOMETHANE	10	U
75-01-4	VINYL CHLORIDE	10	U
75-00-3	CHLOROETHANE	10	U
75-09-2	METHYLENE CHLORIDE	5	JB
67-64-1	ACETONE	47	B
75-35-4	1 1-DICHLOROETHENE	10	U
75-34-3	1 1-DICHLOROETHANE	10	U
67-66-3	CHLOROFORM	10	U
107-06-2	1 2-DICHLOROETHANE	10	U
78-93-3	2-BUTANONE	10	U
71-55-6	1 1 1-TRICHLOROETHANE	10	U
56-23-5	CARBON TETRACHLORIDE	10	U
75-27-4	BROMODICHLOROMETHANE	10	U
78-87-5	1 2-DICHLOROPROPANE	10	U
79-01-6	TRICHLOROETHENE	10	U
124-48-1	DIBROMOCHLOROMETHANE	10	U
79-00-5	1 1 2-TRICHLOROETHANE	10	U
71-43-2	BENZENE	10	U
75-25-2	BROMOFORM	10	U
108-10-1	4-METHYL-2-PENTANONE	10	U
591-78-6	2-HEXANONE	10	U
127-18-4	TETRACHLOROETHENE	10	U
108-88-3	TOLUENE	2	J
79-34-5	1 1 2 2-TETRACHLOROETHANE	10	U
108-90-7	CHLOROBENZENE	10	U
100-41-4	ETHYL BENZENE	10	U
100-42-5	STYRENE	10	U
156-59-2	cis-1 2-DICHLOROETHENE	10	U
156-60-5	trans-1 2-DICHLOROETHENE	10	U
13-302-07	m,p-XYLENES	10	U
95-47-6	o-XYLENE	10	U
106-93-4	1 2-DIBROMOETHANE	10	U
630-20-6	1 1 1 2-TETRACHLOROETHANE	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD104

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) SOIL

Lab Sample ID: 31005.08

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: R28145.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. 48

Date Analyzed: 09/18/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.

COMPOUND

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG Q	
96-18-4-----1	2 3-TRICHLOROPROPANE	10	U
75-71-8-----	DICHLORODIFLUOROMETHANE	10	U
75-69-4-----	TRICHLOROFLUOROMETHANE	10	U
74-95-3-----	DIBROMOMETHANE	10	U
96-12-8-----1	2-DIBROMO-3-CHLOROPROPANE	10	U
108-86-1-----	BROMOBENZENE	10	U
104-51-8-----	n-BUTYLBENZENE	10	U
98-06-6-----	tert-BUTYLBENZENE	10	U
135-98-8-----	sec-BUTYLBENZENE	10	U
95-49-8-----	2-CHLOROTOLUENE	10	U
106-43-4-----	4-CHLOROTOLUENE	10	U
95-50-1-----1	2-DICHLOROBEZENE	10	U
541-73-1-----1	3-DICHLOROBEZENE	10	U
106-46-7-----1	4-DICHLOROBEZENE	10	U
142-28-9-----1	3-DICHLOROPROPANE	10	U
594-20-7-----2	2-DICHLOROPROPANE	10	U
563-58-6-----1	1-DICHLOROPROPENE	10	U
87-68-3-----	HEXACHLOROBUTADIENE	10	U
98-82-8-----	ISOPROPYLBENZENE	10	U
99-87-6-----	p-ISOPROPYLTOLUENE	10	U
91-20-3-----	NAPHTHALENE	3	JB
103-65-1-----	n-PROPYLBENZENE	10	U
87-61-6-----1	2 3-TRICHLOROBEZENE	10	U
120-82-1-----1	2 4-TRICHLOROBEZENE	10	U
95-63-6-----1	2 4-TRIMETHYLBENZENE	10	U
108-67-8-----1	3 5-TRIMETHYLBENZENE	10	U
74-97-5-----	BROMOCHLOROMETHANE	10	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD105

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) SOIL

Lab Sample ID: 31005.09

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: R28146.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. 45

Date Analyzed: 09/18/97

Column: (pack/cap) CAP

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	UG/KG	Q
96-18-4-----1 2 3-	TRICHLOROPROPANE	9	U
75-71-8-----	DICHLORODIFLUOROMETHANE	9	U
75-69-4-----	TRICHLOROFUOROMETHANE	9	U
74-95-3-----	DIBROMOMETHANE	9	U
96-12-8-----1 2-	DIBROMO-3-CHLOROPROPANE	9	U
108-86-1-----	BROMOBENZENE	9	U
104-51-8-----	n-BUTYLBENZENE	9	U
98-06-6-----	tert-BUTYLBENZENE	9	U
135-98-8-----	sec-BUTYLBENZENE	9	U
95-49-8-----2-	CHLOROTOLUENE	9	U
106-43-4-----4-	CHLOROTOLUENE	9	U
95-50-1-----1 2-	DICHLOROBENZENE	9	U
541-73-1-----1 3-	DICHLOROBENZENE	9	U
106-46-7-----1 4-	DICHLOROBENZENE	9	U
142-28-9-----1 3-	DICHLOROPROPANE	9	U
594-20-7-----2 2-	DICHLOROPROPANE	9	U
563-58-6-----1 1-	DICHLOROPROPENE	9	U
87-68-3-----	HEXACHLOROBUTADIENE	9	U
98-82-8-----	ISOPROPYLBENZENE	9	U
99-87-6-----p-	ISOPROPYLTOLUENE	9	U
91-20-3-----	NAPHTHALENE	2	JB
103-65-1-----n-	PROPYLBENZENE	9	U
87-61-6-----1 2 3-	TRICHLOROBENZENE	9	U
120-82-1-----1 2 4-	TRICHLOROBENZENE	9	U
95-63-6-----1 2 4-	TRIMETHYLBENZENE	9	U
108-67-8-----1 3 5-	TRIMETHYLBENZENE	9	U
74-97-5-----	BROMOCHLOROMETHANE	9	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD102

Lab Name: SWL-TULSA

Contract: SAIC

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 27668

Matrix: (soil/water) SOIL

Lab Sample ID: 27668.26

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: M3610.D

Level: (low/med) LOW

Date Received: 11/18/96

% Moisture: not dec. 13 dec.

Date Extracted: 11/19/96

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 12/09/96

Concentrated Extract Volume: 1000(uL)

GPC Cleanup: (Y/N) N

pH: 9.0

Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
95-94-3-----	1,2,4,5-Tetrachlorobenzene	380	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD103

b Name: SWL-TULSA	Contract: SAIC	
Lab Code: SWOK	Case No.: SAIC	SAS No.:
		SDG No.: 27668
Matrix: (soil/water) SOIL		Lab Sample ID: 27668.27
Sample wt/vol: 30.0 (g/mL) G		Lab File ID: M3611.D
Level: (low/med) LOW		Date Received: 11/18/96
% Moisture: not dec. 19 dec.		Date Extracted: 11/19/96
Extraction: (SepF/Cont/Sonc) SONC		Date Analyzed: 12/09/96
Concentrated Extract Volume: 1000(uL)		
GPC Cleanup: (Y/N) N	pH: 8.6	Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
95-94-3-----	1,2,4,5-Tetrachlorobenzene	410	U

1B
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD105

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) SOIL

Lab Sample ID: 31005.09

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: T23451.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. 45 dec.

Date Extracted: 09/16/97

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 10/01/97

Concentrated Extract Volume: 1000(uL)

GPC Cleanup: (Y/N) N

pH: 8.7

Dilution Factor: 1.0

CONCENTRATION UNITS:

CAS NO.

COMPOUND

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

Q

108-95-2-----	Phenol	600	U
111-44-4-----	bis(2-Chloroethyl) ether	600	U
95-57-8-----	2-Chlorophenol	600	U
541-73-1-----	1,3-Dichlorobenzene	600	U
106-46-7-----	1,4-Dichlorobenzene	600	U
100-51-6-----	Benzyl alcohol	600	U
95-50-1-----	1,2-Dichlorobenzene	600	U
95-48-7-----	2-Methylphenol	600	U
108-60-1-----	bis(2-Chloroisopropyl) ether	600	U
106-44-5-----	4-Methylphenol	600	U
621-64-7-----	N-Nitroso-di-n-propylamine	600	U
67-72-1-----	Hexachloroethane	600	U
98-95-3-----	Nitrobenzene	600	U
78-59-1-----	Isophorone	600	U
88-75-5-----	2-Nitrophenol	600	U
105-67-9-----	2,4-Dimethylphenol	600	U
65-85-0-----	Benzoic Acid	320	J
111-91-1-----	bis(2-Chloroethoxy) methane	600	U
120-83-2-----	2,4-Dichlorophenol	600	U
120-82-1-----	1,2,4-Trichlorobenzene	600	U
91-20-3-----	Naphthalene	600	U
106-47-8-----	4-Chloroaniline	600	U
87-68-3-----	Hexachlorobutadiene	600	U
59-50-7-----	4-Chloro-3-methylphenol	600	U
91-57-6-----	2-Methylnaphthalene	600	U
77-47-4-----	Hexachlorocyclopentadiene	600	U
88-06-2-----	2,4,6-Trichlorophenol	600	U
95-95-4-----	2,4,5-Trichlorophenol	2900	U
91-58-7-----	2-Chloronaphthalene	600	U
88-74-4-----	2-Nitroaniline	2900	U
131-11-3-----	Dimethylphthalate	600	U
208-96-8-----	Acenaphthylene	600	U
606-20-2-----	2,6-Dinitrotoluene	600	U

1C
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

61SD105

Lab Name: SWL-TULSA

Contract: FT. HOOD

Lab Code: SWOK

Case No.: SAIC

SAS No.:

SDG No.: 31005

Matrix: (soil/water) SOIL

Lab Sample ID: 31005.09

Sample wt/vol: 30.2 (g/mL) G

Lab File ID: T23451.D

Level: (low/med) LOW

Date Received: 09/13/97

% Moisture: not dec. 45 dec.

Date Extracted: 09/16/97

Extraction: (SepF/Cont/Sonc) SONC

Date Analyzed: 10/01/97

Concentrated Extract Volume: 1000(uL)

GPC Cleanup: (Y/N) N

pH: 8.7

Dilution Factor: 1.0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.

COMPOUND

Q

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
99-09-2-----	3-Nitroaniline	2900	U
83-32-9-----	Acenaphthene	600	U
121-14-2-----	2,4-Dinitrotoluene	600	U
51-28-5-----	2,4-Dinitrophenol	2900	U
100-02-7-----	4-Nitrophenol	2900	U
132-64-9-----	Dibenzofuran	600	U
84-66-2-----	Diethylphthalate	600	U
7005-72-3-----	4-Chlorophenyl-phenylether	600	U
86-73-7-----	Fluorene	600	U
100-01-6-----	4-Nitroaniline	2900	U
534-52-1-----	4,6-Dinitro-2-methylphenol	2900	U
86-30-6-----	N-Nitrosodiphenylamine (1)	600	U
101-55-3-----	4-Bromophenylphenylether	600	U
118-74-1-----	Hexachlorobenzene	600	U
87-86-5-----	Pentachlorophenol	2900	U
85-01-8-----	Phenanthrene	600	U
120-12-7-----	Anthracene	600	U
84-74-2-----	Di-n-butylphthalate	600	U
206-44-0-----	Fluoranthene	600	U
129-00-0-----	Pyrene	600	U
85-68-7-----	Butylbenzylphthalate	600	U
91-94-1-----	3,3'-Dichlorobenzidine	1200	U
56-55-3-----	Benzo(a)anthracene	600	U
218-01-9-----	Chrysene	600	U
117-81-7-----	bis(2-Ethylhexyl)phthalate	1100	B
117-84-0-----	Di-n-octylphthalate	600	U
205-99-2-----	Benzo(b)fluoranthene	600	U
207-08-9-----	Benzo(k)fluoranthene	600	U
50-32-8-----	Benzo(a)pyrene	600	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	600	U
53-70-3-----	Dibenz(a,h)anthracene	600	U
191-24-2-----	Benzo(g,h,i)perylene	600	U
110-86-1-----	Pyridine	600	U

APPENDIX B

Fort Hood RFI Background Soils Data

Ft. Hood RCRA Facility Investigation
FH-BKG Fort Hood Background
Analytical Results

Station: SB101 Background Soil Boring SB101

Sample ID: FH000-SB10112-10-96/2.0-2.5 (BKSB101)

Sample Depth: 2.0-2.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/10/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3	0.41	MG/KG		
Barium	21.3	0.10	MG/KG	*	J
Cadmium	0.12	0.05	MG/KG	B	
Chromium	5.1	0.10	MG/KG	E*	J
Lead	6	0.17	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.37	0.37	MG/KG	U	U
Silver	0.24	0.24	MG/KG	U	U

Sample ID: FH000-SB10212-10-96/4.0-4.7 (BKSB102)

Sample Depth: 4.0-4.7 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/10/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	2	0.39	MG/KG		
Barium	8	0.10	MG/KG	*	J
Cadmium	0.05	0.05	MG/KG	B	
Chromium	10.3	0.10	MG/KG	E*	J
Lead	5	0.17	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.36	0.36	MG/KG	U	U
Silver	0.23	0.23	MG/KG	U	U

Sample ID: FH000-SB10312-10-96/10.5-11.0 (BKSB103)

Sample Depth: 10.5-11.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/10/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	9.1	0.42	MG/KG		
Barium	14.7	0.10	MG/KG	*	J
Cadmium	0.05	0.05	MG/KG	U	U
Chromium	10.1	0.10	MG/KG	E*	J
Lead	9.5	0.18	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.38	0.38	MG/KG	U	U
Silver	0.24	0.24	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Station: SB102 Background Soil Boring SB102
 Sample ID: FH000-SB12112-12-96/0.0-1.5 (BKSB121) Sample Depth: 0.0-1.5 FT
 Matrix: Soil Field Sample Type: Grab Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.1	0.38	MG/KG		
Barium	24	0.09	MG/KG		
Cadmium	0.18	0.05	MG/KG	B	
Chromium	6.3	0.09	MG/KG		
Lead	10.2	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.22	0.22	MG/KG	U	U

Sample ID: FH000-SB12212-12-96/14.0-14.5 (BKSB122) Sample Depth: 14.0-14.5 FT
 Matrix: Soil Field Sample Type: Grab Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.2	0.36	MG/KG		
Barium	6.1	0.09	MG/KG		
Cadmium	0.06	0.04	MG/KG	B	
Chromium	4.9	0.09	MG/KG		
Lead	4.1	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB12312-12-96/19.0-19.5 (BKSB123) Sample Depth: 19.0-19.5 FT
 Matrix: Soil Field Sample Type: Grab Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.8	0.36	MG/KG		
Barium	5.5	0.09	MG/KG		
Cadmium	0.08	0.04	MG/KG	B	
Chromium	4.3	0.09	MG/KG		
Lead	3.8	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB20212-12-96/0.0-1.5 (BKSB202) Sample Depth: 0.0-1.5 FT
 Matrix: Soil Field Sample Type: Field Duplicate Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.2	0.37	MG/KG		
Barium	18.2	0.09	MG/KG		
Cadmium	0.12	0.04	MG/KG	B	
Chromium	5.9	0.09	MG/KG		
Lead	4.5	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Ft. Hood RCRA Facility Investigation
FH-BKG Fort Hood Background
Analytical Results

Station: SB103 Background Soil Boring SB103

Sample ID: FH000-SB10412-10-96/0.0-1.5 (BKSB104)

Sample Depth: 0.0-1.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/10/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	6.2	0.35	MG/KG		
Barium	28.2	0.08	MG/KG	*	J
Cadmium	0.15	0.04	MG/KG	B	
Chromium	3.1	0.08	MG/KG	E*	J
Lead	5.3	0.15	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.32	0.32	MG/KG	U	U
Silver	0.2	0.20	MG/KG	U	U

Sample ID: FH000-SB10512-10-96/4.0-6.0 (BKSB105)

Sample Depth: 4.0-6.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/10/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.3	0.36	MG/KG		
Barium	23.4	0.09	MG/KG	*	J
Cadmium	0.11	0.04	MG/KG	B	
Chromium	4	0.09	MG/KG	E*	J
Lead	3.9	0.15	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB10612-10-96/9.0-9.4 (BKSB106)

Sample Depth: 9.0-9.4 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/10/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.4	0.37	MG/KG		
Barium	43.7	0.09	MG/KG	*	J
Cadmium	0.16	0.04	MG/KG	B	
Chromium	7.6	0.09	MG/KG	E*	J
Lead	5	0.16	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB10712-10-96/14.0-15.0 (BKSB107)

Sample Depth: 14.0-15.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/10/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	53	0.39	MG/KG		
Barium	1350	0.09	MG/KG	*	J
Cadmium	0.35	0.05	MG/KG	B	
Chromium	5.1	0.09	MG/KG	E*	J
Lead	6.1	0.17	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.36	0.36	MG/KG	U	U
Silver	0.23	0.23	MG/KG	U	U

Ft. Hood RCRA Facility Investigation
FH-BKG Fort Hood Background
Analytical Results

Station: SB104 Background Soil Boring SB104

Sample ID: FH000-SB10812-11-96/0.0-1.0 (BKSB108)

Sample Depth: 0.0-1.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/11/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	6	0.40	MG/KG		
Barium	72.4	0.10	MG/KG	*	J
Cadmium	0.2	0.05	MG/KG	B	
Chromium	12.9	0.10	MG/KG	E*	J
Lead	9.8	0.17	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.37	0.37	MG/KG	U	U
Silver	0.23	0.23	MG/KG	U	U

Sample ID: FH000-SB10912-11-96/4.0-5.0 (BKSB109)

Sample Depth: 4.0-5.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/11/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.5	0.38	MG/KG		
Barium	155	0.09	MG/KG	*	J
Cadmium	0.07	0.05	MG/KG	B	
Chromium	6.5	0.09	MG/KG	E*	J
Lead	3.2	0.16	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.22	0.22	MG/KG	U	U

Sample ID: FH000-SB11012-11-96/11.0-11.5 (BKSB110)

Sample Depth: 11.0-11.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/11/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.8	0.40	MG/KG		
Barium	24.1	0.10	MG/KG	*	J
Cadmium	0.06	0.05	MG/KG	B	
Chromium	16.6	0.10	MG/KG	E*	J
Lead	7.8	0.17	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.36	0.36	MG/KG	U	U
Silver	0.23	0.23	MG/KG	U	U

Sample ID: FH000-SB11112-11-96/18.0-18.5 (BKSB111)

Sample Depth: 18.0-18.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/11/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	5.2	0.38	MG/KG		
Barium	7.2	0.09	MG/KG	*	J
Cadmium	0.05	0.05	MG/KG	B	
Chromium	6.2	0.09	MG/KG	E*	J
Lead	5.3	0.16	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.35	0.35	MG/KG	U	U
Silver	0.22	0.22	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Station:	SB105	Background Soil Boring SB105			
Sample ID:	FH000-SB11212-11-96/1.0-1.5 (BKSB112)		Sample Depth:	1.0-1.5 FT	
Matrix:	Soil		Field Sample Type:	Grab	
			Collected: 12/11/96		
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	1.6	0.35	MG/KG		
Barium	6.6	0.09	MG/KG	•	J
Cadmium	0.04	0.04	MG/KG	U	U
Chromium	4	0.09	MG/KG	E*	J
Lead	1.5	0.15	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.32	0.32	MG/KG	U	U
Silver	0.2	0.20	MG/KG	U	U
Sample ID: FH000-SB11312-11-96/4.0-5.0 (BKSB113)			Sample Depth:	4.0-5.0 FT	
Matrix: Soil			Field Sample Type:	Grab	
			Collected: 12/11/96		
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	5.7	0.40	MG/KG		
Barium	20.5	0.10	MG/KG	•	J
Cadmium	0.07	0.05	MG/KG	B	
Chromium	8.9	0.10	MG/KG	E*	J
Lead	6	0.17	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.36	0.36	MG/KG	U	U
Silver	0.23	0.23	MG/KG	U	U
Sample ID: FH000-SB11412-11-96/11.0-12.0 (BKSB114)			Sample Depth:	11.0-12.0 FT	
Matrix: Soil			Field Sample Type:	Grab	
			Collected: 12/11/96		
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	5.2	0.42	MG/KG		
Barium	25.2	0.10	MG/KG	•	J
Cadmium	0.05	0.05	MG/KG	U	U
Chromium	20.3	0.10	MG/KG	E*	J
Lead	7.7	0.18	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.38	0.38	MG/KG	U	U
Silver	0.24	0.24	MG/KG	U	U
Sample ID: FH000-SB11512-11-96/15.0-15.5 (BKSB115)			Sample Depth:	15.0-15.5 FT	
Matrix: Soil			Field Sample Type:	Grab	
			Collected: 12/11/96		
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	5.3	0.36	MG/KG		
Barium	10.6	0.09	MG/KG	•	J
Cadmium	0.06	0.04	MG/KG	B	
Chromium	7.3	0.09	MG/KG	E*	J
Lead	5.1	0.15	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.32	0.32	MG/KG	U	U
Silver	0.2	0.20	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Sample ID: FH000-SB11612-11-96/22.0-22.5 (BKSB116)

Sample Depth: 22.0-22.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/11/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	11.6	0.37	MG/KG		
Barium	4.9	0.09	MG/KG	*	J
Cadmium	0.2	0.04	MG/KG	B	
Chromium	2.7	0.09	MG/KG	E*	J
Lead	5.6	0.16	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Ft. Hood RCRA Facility Investigation
FH-BKG Fort Hood Background
Analytical Results

Station: SB106 Background Soil Boring SB106

Sample ID: FH000-SB11712-12-96/0.0-1.0 (BKSB117)

Sample Depth: 0.0-1.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.4	0.37	MG/KG		
Barium	27.9	0.09	MG/KG	*	J
Cadmium	0.18	0.04	MG/KG	B	
Chromium	5.7	0.09	MG/KG	E*	J
Lead	8.3	0.16	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB11812-12-96/9.0-9.5 (BKSB118)

Sample Depth: 9.0-9.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	2.6	0.37	MG/KG		
Barium	4.4	0.09	MG/KG	*	J
Cadmium	0.19	0.04	MG/KG	B	
Chromium	2.2	0.09	MG/KG	E*	J
Lead	3.7	0.16	MG/KG	EN*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB11912-12-96/14.0-14.5 (BKSB119)

Sample Depth: 14.0-14.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	0.66	0.37	MG/KG	B	
Barium	3	0.09	MG/KG		
Cadmium	0.06	0.04	MG/KG	B	
Chromium	2.1	0.09	MG/KG		
Lead	1.3	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB12012-12-96/19.0-20.0 (BKSB120)

Sample Depth: 19.0-20.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	0.44	0.35	MG/KG	B	
Barium	2	0.08	MG/KG		
Cadmium	0.04	0.04	MG/KG	U	U
Chromium	0.93	0.08	MG/KG	B	
Lead	0.72	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.32	0.32	MG/KG	U	U
Silver	0.2	0.20	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Sample ID: FH000-SB20112-12-96/0.0-1.0

(BKSB201)

Sample Depth: 0.0-1.0 FT

Matrix: Soil

Field Sample Type: Field Duplicate

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.4	0.36	MG/KG		
Barium	17.9	0.09	MG/KG		
Cadmium	0.14	0.04	MG/KG	B	
Chromium	2.6	0.09	MG/KG		
Lead	5.9	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Ft. Hood RCRA Facility Investigation
FH-BKG Fort Hood Background
Analytical Results

Station: SB107 Background Soil Boring SB107

Sample ID: FH000-SB12412-12-96/0.0-1.0 (BKSB124)

Sample Depth: 0.0-1.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	6	0.37	MG/KG		
Barium	19.3	0.09	MG/KG		
Cadmium	0.11	0.04	MG/KG	B	
Chromium	7.2	0.09	MG/KG		
Lead	4.5	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB12512-12-96/4.0-4.5 (BKSB125)

Sample Depth: 4.0-4.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.2	0.35	MG/KG		
Barium	18.1	0.09	MG/KG		
Cadmium	0.11	0.04	MG/KG	B	
Chromium	5.1	0.09	MG/KG		
Lead	1.7	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.36	0.32	MG/KG	B	
Silver	0.2	0.20	MG/KG	U	U

Sample ID: FH000-SB12612-12-96/5.5-6.0 (BKSB126)

Sample Depth: 5.5-6.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	2.5	0.36	MG/KG		
Barium	5.4	0.09	MG/KG		
Cadmium	0.06	0.04	MG/KG	B	
Chromium	5.5	0.09	MG/KG		
Lead	1.5	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.44	0.33	MG/KG	B	
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB20312-12-96/0.0-1.0 (BKSB203)

Sample Depth: 0.0-1.0 FT

Matrix: Soil

Field Sample Type: Field Duplicate

Collected: 12/12/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	5.9	0.37	MG/KG		
Barium	39	0.09	MG/KG		
Cadmium	0.17	0.05	MG/KG	B	
Chromium	9.3	0.09	MG/KG		
Lead	6.6	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Station: SB108 Background Soil Boring SB108

Sample ID: FH000-SB135/01-14-97/0.0-1.0 (BKSB135)

Sample Depth: 0.0-1.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/14/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	2.7	0.36	MG/KG		
Barium	15.4	0.09	MG/KG	*	J
Cadmium	0.17	0.04	MG/KG	B*	J
Chromium	6.1	0.09	MG/KG		
Lead	2.5	0.15	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	1.5	1.5	MG/KG	UWN	R
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB136/01-14-97/5.0-5.5 (BKSB136)

Sample Depth: 5.0-5.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/14/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.3	0.38	MG/KG		
Barium	14.8	0.09	MG/KG	*	J
Cadmium	0.2	0.05	MG/KG	B*	J
Chromium	8.3	0.09	MG/KG		
Lead	3	0.16	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.32	0.32	MG/KG	UWN	R
Silver	0.22	0.22	MG/KG	U	U

Sample ID: FH000-SB137/01-14-97/9.0-9.5 (BKSB137)

Sample Depth: 9.0-9.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/14/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	8.2	0.36	MG/KG		
Barium	7.8	0.09	MG/KG	*	J
Cadmium	0.18	0.04	MG/KG	B*	J
Chromium	8.1	0.09	MG/KG		
Lead	2.3	0.15	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.31	0.31	MG/KG	UWN	R
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB138/01-14-97/14.0-14.5 (BKSB138)

Sample Depth: 14.0-14.5 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/14/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	9.2	0.38	MG/KG		
Barium	12.2	0.09	MG/KG	*	J
Cadmium	0.21	0.05	MG/KG	B*	J
Chromium	11.1	0.09	MG/KG		
Lead	4.1	0.16	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.32	0.32	MG/KG	UWN	R
Silver	0.22	0.22	MG/KG	U	U

Ft. Hood RCRA Facility Investigation
FH-BKG Fort Hood Background
Analytical Results

Sample ID: FH000-SB139/01-14-97/16.5-17.0 (BKSB139)
 Matrix: Soil

Sample Depth: 16.5-17.0 FT
 Field Sample Type: Grab

Collected: 01/14/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	7.6	0.37	MG/KG		
Barium	7.3	0.09	MG/KG	*	J
Cadmium	0.2	0.04	MG/KG	B*	J
Chromium	8.4	0.09	MG/KG		
Lead	3.6	0.16	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.31	0.31	MG/KG	UWN	R
Silver	0.21	0.21	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Station: SB109 Background Soil Boring SB109

Sample ID: FH000-SB140/01-15-97/0.0-1.0 (BKSB140)

Sample Depth: 0.0-1.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/15/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.8	0.41	MG/KG		
Barium	108	0.10	MG/KG	*	J
Cadmium	0.79	0.05	MG/KG	*	J
Chromium	16.1	0.10	MG/KG		
Lead	33.2	0.17	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.35	0.35	MG/KG	UWN	R
Silver	0.24	0.24	MG/KG	U	U

Sample ID: FH000-SB141/01-15-97/4.0-5.0 (BKSB141)

Sample Depth: 4.0-5.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/15/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	5.6	0.43	MG/KG		
Barium	127	0.10	MG/KG	*	J
Cadmium	0.45	0.05	MG/KG	B*	J
Chromium	23.6	0.10	MG/KG		
Lead	12.1	0.18	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	1.8	1.8	MG/KG	UN	R
Silver	0.25	0.25	MG/KG	U	U

Sample ID: FH000-SB142/01-15-97/9.0-10.0 (BKSB142)

Sample Depth: 9.0-10.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/15/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.8	0.44	MG/KG		
Barium	63	0.11	MG/KG	*	J
Cadmium	0.29	0.05	MG/KG	B*	J
Chromium	8.4	0.11	MG/KG		
Lead	5	0.19	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	1.9	1.9	MG/KG	UWN	R
Silver	0.25	0.25	MG/KG	U	U

Sample ID: FH000-SB143/01-15-97/14.5-15.0 (BKSB143)

Sample Depth: 14.5-15.0 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/15/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.8	0.41	MG/KG		
Barium	39.3	0.10	MG/KG	*	J
Cadmium	0.27	0.05	MG/KG	B*	J
Chromium	12.2	0.10	MG/KG		
Lead	6.6	0.17	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.35	0.35	MG/KG	UWN	R
Silver	0.24	0.24	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Sample ID: FH000-SB144/01-15-97/19.0-19.3 (BKS144)

Sample Depth: 19.0-19.3 FT

Matrix: Soil

Field Sample Type: Grab

Collected: 01/15/97

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.7	0.37	MG/KG		
Barium	36.1	0.09	MG/KG	*	J
Cadmium	0.2	0.04	MG/KG	B*	J
Chromium	6.5	0.09	MG/KG		
Lead	4	0.16	MG/KG	*	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.31	0.31	MG/KG	UWN	R
Silver	0.21	0.21	MG/KG	U	U

Ft. Hood RCRA Facility Investigation
FH-BKG Fort Hood Background
Analytical Results

Station: SB110	Background Soil Boring SB110				
Sample ID: FH000-SB12712-13-96/0.0-1.0	(BKSB127)	Sample Depth: 0.0-1.0 FT			
Matrix: Soil		Field Sample Type: Grab		Collected: 12/13/96	
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	1.9	0.36	MG/KG		
Barium	18.8	0.09	MG/KG		
Cadmium	0.04	0.04	MG/KG	U	U
Chromium	3.7	0.09	MG/KG		
Lead	3.8	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U
Sample ID: FH000-SB12812-13-96/4.0-6.0	(BKSB128)	Sample Depth: 4.0-6.0 FT			
Matrix: Soil		Field Sample Type: Grab		Collected: 12/13/96	
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.6	0.38	MG/KG		
Barium	36.3	0.09	MG/KG		
Cadmium	0.05	0.05	MG/KG	U	U
Chromium	8.5	0.09	MG/KG		
Lead	7.5	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG		
Selenium	0.35	0.35	MG/KG	U	U
Silver	0.22	0.22	MG/KG	U	U
Sample ID: FH000-SB12912-13-96/10.0-11.0	(BKSB129)	Sample Depth: 10.0-11.0 FT			
Matrix: Soil		Field Sample Type: Grab		Collected: 12/13/96	
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	2.6	0.36	MG/KG		
Barium	26.3	0.09	MG/KG		
Cadmium	0.04	0.04	MG/KG	U	U
Chromium	4.6	0.09	MG/KG		
Lead	4.1	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U
Sample ID: FH000-SB13012-13-96/15.0-16.0	(BKSB130)	Sample Depth: 15.0-16.0 FT			
Matrix: Soil		Field Sample Type: Grab		Collected: 12/13/96	
Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	1	0.35	MG/KG	B	
Barium	8.1	0.08	MG/KG		
Cadmium	0.07	0.04	MG/KG	B	
Chromium	1.8	0.08	MG/KG		
Lead	3.1	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.32	0.32	MG/KG	U	U
Silver	0.2	0.20	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Sample ID: FH000-SB13112-13-96/20.0-21.0 (BKSB131) Sample Depth: 20.0-21.0 FT
 Matrix: Soil Field Sample Type: Grab Collected: 12/13/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	5.3	0.38	MG/KG		
Barium	65.9	0.09	MG/KG		
Cadmium	0.15	0.05	MG/KG	B	
Chromium	7.7	0.09	MG/KG		
Lead	10.1	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.22	0.22	MG/KG	U	U

Sample ID: FH000-SB13212-13-96/25.0-26.0 (BKSB132) Sample Depth: 25.0-26.0 FT
 Matrix: Soil Field Sample Type: Grab Collected: 12/13/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	4.2	0.37	MG/KG		
Barium	41.7	0.09	MG/KG		
Cadmium	0.04	0.04	MG/KG	U	U
Chromium	5.9	0.09	MG/KG		
Lead	7.8	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.34	0.34	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Sample ID: FH000-SB13312-13-96/30.0-31.0 (BKSB133) Sample Depth: 30.0-31.0 FT
 Matrix: Soil Field Sample Type: Grab Collected: 12/13/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.2	0.39	MG/KG		
Barium	68.6	0.09	MG/KG		
Cadmium	0.11	0.05	MG/KG	B	
Chromium	4.9	0.09	MG/KG		
Lead	6.3	0.17	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.35	0.35	MG/KG	U	U
Silver	0.22	0.22	MG/KG	U	U

Sample ID: FH000-SB13412-13-96/34.0-34.5 (BKSB134) Sample Depth: 34.0-34.5 FT
 Matrix: Soil Field Sample Type: Grab Collected: 12/13/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	2.9	0.36	MG/KG		
Barium	20.1	0.09	MG/KG		
Cadmium	0.08	0.04	MG/KG	B	
Chromium	1.2	0.09	MG/KG		
Lead	2.3	0.15	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.33	0.33	MG/KG	U	U
Silver	0.21	0.21	MG/KG	U	U

Ft. Hood RCRA Facility Investigation

FH-BKG Fort Hood Background

Analytical Results

Sample ID: FH000-SB20412-13-96/4.0-6.0 (BKS204)

Sample Depth: 4.0-6.0 FT

Matrix: Soil

Field Sample Type: Field Duplicate

Collected: 12/13/96

Metals	Result	Detection Limit	Units	Qualifiers	
				Lab	Data
Arsenic	3.2	0.38	MG/KG		
Barium	31.9	0.09	MG/KG		
Cadmium	0.05	0.05	MG/KG	U	U
Chromium	6.5	0.09	MG/KG		
Lead	7.1	0.16	MG/KG	EN	J
Mercury	0.04	0.04	MG/KG	U	U
Selenium	0.35	0.35	MG/KG	U	U
Silver	0.22	0.22	MG/KG	U	U

APPENDIX C

Fort Hood RFI Background Soil Boring Logs



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB101

(Page 1 of 1)

FHBKG : Background
Start Date : 12/10/96
End Date : 12/10/96
Northing Coord. : 3446458.08 m
Easting Coord. : 61375.50 m UTM 14 North
Total Depth of Boring : 18.5 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 15.0 feet
Depth Drilled Into Rock: 3.5 feet
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. 887.80ft	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS		
0					Topsoil. 0.0-0.5' bgs.; weathered tan limestone.	No sample recovery.		
1	887	CL			CLAY; weathered limestone fragments; damp; soft; moderately plastic; 10YR5/4 yellowish brown.	Sample BKSB101 collected 2.0-2.5' bgs.		
2	886				Same as above; dry.			
3	885				Same as above; dry; more weathered limestone.	Description from soil cuttings.		
4	884							
5	883	CH			CLAY, fat; fewer fragments; damp; firm; highly plastic; mottled 10YR6/6 brownish yellow and 2.5Y7/1 light gray.	Sample BKSB102 collected 4.0-4.7' bgs.		
6	882				Same CLAY as above; more silty; interbedded with weathered limestone; dry.	Description from soil cuttings.		
7	881							
8	880							
9	879	CL						
10	878				Same as above; dry.			
11	877				Silty CLAY; dry; firm; non-plastic; 10YR6/6 brownish yellow.	Sample BKSB103 collected 10.5-11.0' bgs.		
12	876				Same as above; interbedded with tan weathered limestone; dry.			
13	875	LS						
14	874							
15	873				LIMESTONE, weathered; dry; blue-gray.	Description from soil cuttings.		
16	872							
17	871							
18	870					Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.		
19	869				Bottom of Boring @ 18.5' bgs.			
20	868							



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB102

(Page 1 of 1)

FHBKG : Background
Start Date : 12/12/96
End Date : 12/12/96
Northing Coord. : 3446503.40 m
Easting Coord. : 613980.64 m UTM 14 North
Total Depth of Boring : 19.5 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 16.0 feet
Depth Drilled Into Rock: 3.5 feet
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. 912.28ft	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0	912				Topsoil. 0.0-0.4' bgs.	Sample BKSB121, duplicate BKSB202, and split sample BKSB302 collected 0.0-0.5' bgs. Description from soil cuttings.
1	911	CL			Silty CLAY; weathered limestone fragments; dry; firm; non-plastic; mottled 10YR5/3 brown and 10YR8/2 very pale brown.	
2	910				Same as above; dry.	
3	909					
4	908	CL			LIMESTONE, weathered, tan; and Silty Clay interbeds; dry.	
5	907					
6	906	CL			Zones of limestone and highly indurated silty clay (weathered limestone?); shell fragments; roots; dry; very hard; 2.5Y8/2 pale yellow.	
7	905					
8	904					
9	903					
10	902					
11	901	CL			Same as above; dry.	
12	900					
13	899					
14	898					
15	897	LS			Same as above; dry.	
16	896				LIMESTONE, weathered; dry; blue-gray.	
17	895				Same as above; dry.	
18	894				Same as above; dry.	
19	893				Same as above; dry.	Sample BKSB123 collected 19.0-19.5' bgs.
20					Bottom of Boring @ 19.5' bgs.	Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB103

(Page 1 of 1)

FHBKG : Background
Start Date : 12/10/96
End Date : 12/10/96
Northing Coord. : 3447405.80 m
Easting Coord. : 606690.49 m UTM 14 North
Total Depth of Boring : 17.0 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 15.0 feet
Depth Drilled Into Rock: 2.0 feet
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. 795.26ft	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0	795				Topsoil. 0.0-0.2' bgs.; weathered tan limestone.	Sample BKSB104 collected 0.0-0.5' bgs.
1	794	CL			Interbedded Silty and pebbly CLAY; 40% coarse sand to pebble sized angular to subrounded fragments; dry; moderately plastic; thin layers of 10YR8/4 very pale brown and 10YR3/2 very dark grayish brown.	Description from soil cuttings.
2	793				Same as above; no pebbles; dry.	
3	792					
4	791	CL			Same as above; weathered, tan limestone fragments; dry.	Sample BKSB105 collected 4.0-4.5' bgs.
5	790					
6	789	CL			Same as above; interbeds of limestone; dry.	Sample BKSB106 collected 9.0-9.5' bgs.
7	788				Same as above; dry.	
8	787					
9	786					
10	785	CL			Same as above; except more medium to coarse sand; dry; soft; non-plastic.	Sample BKSB107 collected 14.0-15.0' bgs.
11	784					
12	783					
13	782	CL			Same as above; dry.	Description from soil cuttings.
14	781					
15	780	LS			Silty CLAY; weathered limestone fragments; damp; firm; moderately plastic; mottled 10YR8/2 very pale brown and 10YR6/4 light yellowish brown.	Sample BKSB107 collected 14.0-15.0' bgs.
16	779				LIMESTONE, weathered; dry; blue-gray.	
17	778				Bottom of Boring @ 17.0' bgs.	
18	777					
19	776					
20						

Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.

10-20-1999 t:\gov\coe\fhoo\borings\fbkg\sb103.BOR



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB104

(Page 1 of 1)

FHBKG : Background
Start Date : 12/11/96
End Date : 12/11/96
Northing Coord. : 3447780.16 m
Easting Coord. : 613523.75 m UTM 14 North
Total Depth of Boring : 24.0 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 24.0 feet
Depth Drilled Into Rock: NA
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. 896.29	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0	896				Topsoil. 0.0-1.0' bgs.; weathered tan limestone.	Sample BKSB108 collected 0.0-1.0' bgs.
1	895				Silty CLAY; trace organics; weathered limestone fragments; damp; soft; low plasticity; 2.5Y7/6 yellow.	
2	894				Same as above.	Description from soil cuttings.
3	893				Same as above; no organics; dry; 10YR7/8 yellow mottle.	Sample BKSB109 collected 4.0-5.0' bgs.
4	892				Same as above; slightly more silty; dry; hard; brittle.	Description from soil cuttings.
5	891	CL				Description from soil cuttings. Hard drilling.
6	890					
7	889					
8	888					
9	887				LIMESTONE, weathered; tan.	
10	886	LS			weathered limestone as above.	
11	885				Silty CLAY as above; dry.	Sample BKSB110 collected 11.0-11.5' bgs.
12	884	CL			Same as above; dry.	Geotechnical sample collected 12.0-13.0' bgs.
13	883				Silty CLAY and weathered LIMESTONE interbeds.	
14	882					Description from soil cuttings.
15	881	CL				
16	880					
17	879					
18	878	CL			Silty CLAY as above; dry.	Sample BKSB111 collected 18.0-18.5' bgs.
19	877				Silty CLAY and weathered LIMESTONE interbeds.	
20	876					Description from soil cuttings.
21	875	CL				
22	874					
23	873				Same as above; dry. Blue-gray weathered limestone fragments; dry.	
24	872	LS			Bottom of Boring at 24.0' bgs.	Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.
25						



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB105

(Page 1 of 1)

FHBKG : Background
Start Date : 12/11/96
End Date : 12/11/96
Northing Coord. : Not
Easting Coord. : Surveyed
Total Depth of Boring : 24.0 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 24.0 feet
Depth Drilled Into Rock: NA
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. NS	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0	0	GP			GRAVEL (graded area).	
1	-1	CL			Silty CLAY; weathered limestone fragments; dry; firm; non-plastic; 2.5Y6/4 light yellowish brown.	Sample BKSB112 collected 1.0-1.5' bgs.
2	-2				Same as above; dry.	Description from soil cuttings.
3	-3	CH			CLAY, fat; dry; firm; highly plastic; mottled 2.5Y6/4 light yellowish brown and 10YR6/6 brownish yellow.	Sample BKSB113 collected 4.0-5.0' bgs.
4	-4				Silty CLAY and LIMESTONE interbeds; dry; firm; 2.5Y6/4 light yellowish brown.	
5	-5	CL				Description from soil cuttings.
6	-6					
7	-7					
8	-8					
9	-9	CL			Same as above; dry.	
10	-10				Same as above; dry; moderately plastic.	Sample BKSB114 collected 11.0-12.0' bgs.
11	-11				Same as above; dry.	Description from soil cuttings.
12	-12	CL			Same as above; more silt; dry; hard; brittle; non-plastic.	Sample BKSB115 collected 15.0-15.5' bgs.
13	-13				Same as above with weathered limestone interbeds.	
14	-14	CL				Description from soil cuttings.
15	-15					
16	-16					
17	-17					
18	-18	CL			Same as above; dry.	Sample BKSB116 collected 22.0-22.5' bgs.
19	-19				Blue-gray weathered limestone; dry; hard drilling to 24.0'.	
20	-20	LS			Bottom of Boring at 24.0' bgs.	Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.
21	-21					
22	-22					
23	-23					
24	-24					
25	-25					



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB106

(Page 1 of 1)

FHBKG : Background
Start Date : 12/12/96
End Date : 12/12/96
Northing Coord. : Not
Easting Coord. : Surveyed
Total Depth of Boring : 25.5 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 25.5 feet
Depth Drilled Into Rock: NA
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. NS	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0	0	CL			Silty CLAY; weathered limestone fragments; dry; firm; non-plastic; mottled 2.5Y7/6 yellow and 10YR6/6 brownish yellow.	Sample BKS117 collected 0.0-1.0' bgs.
1	-1				Same as above; dry.	Geotechnical sample collected 3.0-4.0' bgs.
2	-2				Same as above with weathered limestone interbeds.	Description from soil cuttings.
3	-3				Same as above with trace sand; dry.	
4	-4	CL				
5	-5					
6	-6					
7	-7	SM			Silty SAND, fine; dry; non-plastic; carbonate (HCL fizz); 2.5Y8/4 pale yellow.	Sample BKS118 collected 9.0-9.5' bgs.
8	-8				Same as above; dry.	
9	-9				Same as above except color change to 19YR8/2 very pale brown.	
10	-10	SP			Same as above SAND, fine; except no silt.	Sample BKS119 collected 14.0-14.5' bgs.
11	-11				Same as above; dry.	Description from soil cuttings.
12	-12					
13	-13	SW			SAND, fine; dry; soft; non-carbonate; 2.5Y8/4 pale yellow.	Sample BKS120 collected 19.0-20.0' bgs.
14	-14				Same as above; dry.	Description from soil cuttings.
15	-15					
16	-16	LS			LIMESTONE, weathered; dry; tan.	Description from soil cuttings.
17	-17					
18	-18				Blue-gray weathered limestone; dry. Bottom of Boring at 25.5' bgs.	
19	-19					Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.
20	-20					
21	-21					
22	-22					
23	-23					
24	-24					
25	-25					
26	-26					
27	-27					
28	-28					
29	-29					
30	-30					



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB107

(Page 1 of 1)

FHBKG : Background
Start Date : 12/12/96
End Date : 12/12/96
Northing Coord. : 3438421.71 m
Easting Coord. : 612222.83 m UTM 14 North
Total Depth of Boring : 6.0 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 1.7 feet
Depth Drilled Into Rock: 4.3 feet
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. NS	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0	0				Silty CLAY; weathered limestone fragments; dry; hard; non-plastic; mottled 10YR6/8 brownish yellow and 10YR6/2 light brownish gray.	Sample BKSB124 collected 0.0-1.0' bgs.
1	-1	CL				
2	-2				LIMESTONE, weathered, fossiliferous; Blue-Gray; 2.5Y6/1 gray.	
3	-3					Description from soil cuttings.
4	-4	LS			Same as above	Sample BKSB125 collected 4.0-4.5' bgs.
5	-5					Description from soil cuttings.
6	-6				Same as above	Sample BKSB126 collected 5.5-6.0' bgs.
6	-6				Bottom of Boring at 6.0' bgs.	
7	-7					
8	-8					Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.
9	-9					
10						



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB108

(Page 1 of 1)

FHBKG : Background
Start Date : 01/14/97
End Date : 01/14/97
Northing Coord. : Not
Easting Coord. : Surveyed
Total Depth of Boring : 17.0 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : 15.0 feet
Depth Drilled Into Rock: 2.0 feet
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. NS	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0	0				Topsoil 0.0-0.4'	Sample BKSB135 collected 0.0-1.0' bgs.
1	-1				Silty CLAY; weathered limestone fragments; dry; firm; non-plastic; 10YR6/8 brownish yellow.	
2	-2					
3	-3				Same as above; dry.	Description from soil cuttings.
4	-4					
5	-5				Same as above; dry; mottled with 2.5Y7/3 pale yellow.	Sample BKSB136 collected 5.0-5.5' bgs.
6	-6					
7	-7				Same as above; dry.	Description from soil cuttings.
8	-8	CL				
9	-9				Same as above; dry.	Sample BKSB137 collected 9.0-9.5' bgs.
10	-10					
11	-11					
12	-12				Same as above; dry.	Description from soil cuttings.
13	-13					
14	-14				Same as above; less silty; dry. Same as above; dry.	Sample BKSB138 collected 14.0-14.5' bgs.
15	-15				LIMESTONE, weathered; blue-gray.	
16	-16	LS			Same as above; dry.	Sample BKSB139 collected 16.5-17.0' bgs.
17	-17				Bottom of Boring at 17.0' bgs.	
18	-18					Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.
19	-19					
20						



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB109

(Page 1 of 1)

FHBKG : Background
Start Date : 01/15/97
End Date : 01/15/97
Northing Coord. : 3471041.79 m
Easting Coord. : 626015.26 m UTM 14 North
Total Depth of Boring : 24.0 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : Not Encountered
Depth Drilled Into Rock: NA
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. 730.62ft	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS
0					Silty CLAY; trace roots; trace rock fragments <1cm, angular to subrounded; damp; highly plastic; 5YR2.5/1 black.	Sample BKSB140 collected 0.0-1.0' bgs.
1	730	CL			Same as above; damp.	Description from soil cuttings. Sample BKSB141 collected 4.0-5.0' bgs.
2	729				Same as above; damp.	
3	728				Same as above; damp.	
4	727				Same as above; damp.	
5	726				Same as above; damp.	
6	725				Same as above; damp.	
7	724	CL			Silty CLAY; trace weathered limestone fragments; dry; stiff; non-plastic; 7.5YR6/4 light brown.	Description from soil cuttings. Sample BKSB142 collected 9.0-10.0' bgs.
8	723				Some sand, fine, from 8-9' bgs.	
9	722				Same as above; dry.	
10	721				Same as above; dry.	
11	720				Same as above except rock fragments (mostly weathered limestone) up to 20% of total matrix.	
12	719				Same as above; dry.	
13	718				Same as above; dry.	
14	717				Same as above; dry.	
15	716				Same as above; with limestone fragments up to 40%; also 10% fine sand; dry.	
16	715				Same as above; dry.	
17	714				Same as above; dry.	
18	713				Same as above; dry.	
19	712	Same as above; dry.				
20	711	Same as above; dry.				
21	710	Same as above; dry.				
22	709	Same as above; dry.				
23	708	Same as above; dry.				
24	707	SM			Silty SAND, fine to medium; moist; soft; moderately plastic; 7.5Y6/8 reddish yellow and 7.5 YR7/1 light gray.	Water in hole, attempted sample, no recovery in gravel at 24'
25	706	GP			Bottom of boring at 24.0' bgs. GRAVEL, angular; saturated	Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.



RCRA
Facilities
Investigation
Fort Hood, Texas



U. S. Army Corp of Engineers
Fort Worth District
Fort Worth, Texas

Boring FHBKG-SB110

(Page 1 of 1)

FHBKG : Background
Start Date : 12/13/96
End Date : 12/13/96
Northing Coord. : 3472081.13 m
Easting Coord. : 626432.83 m UTM 14 North
Total Depth of Boring : 34.5 feet

Drilling Company : Terra-Mar
Driller : Bill Christopher
Designation of Drill : Mobile Drill B-59
Type of Drill Rig : Hollow Stem Auger
Geologist : Jeff DeVaughn
Depth to Bedrock : Not Encountered
Depth Drilled Into Rock: NA
Borehole Diameter : 8 inches
Sampling Equipment : 4.25" Augers
: CME Sampler 5' long

Depth in feet	Surf. Elev. 729.66ft	USCS	GRAPHIC	Water Levels	DESCRIPTION	REMARKS		
0	729	SM			SAND, fine to medium; some silt; damp; soft; non-plastic; 7.5YR5/6 strong brown.	Sample BKSB127 collected 0.0-1.0' bgs.		
1	728				2	727	Same as above; damp to moist.	
3	726	SC			Clayey SAND; damp; firm; moderately plastic; 2.5YR4/6 red.	Sample BKSB128 collected 4.0-6.0' bgs.		
4	725				5	724	Same as above; damp.	
6	723				7	722	Same as above; damp.	
8	721				9	720	Same as above; damp.	Geotechnical sample collected 8.0-9.0' bgs.
10	719				11	718	Same as above; slightly less clay; dry.	Sample BKSB129 collected 10.0-11.0' bgs.
12	717				13	716	Same as above; dry.	
14	715				15	714	Same as above; less clay; dry; color change 5YR5/6 yellowish red.	Sample BKSB130 collected 15.0-16.0' bgs.
16	713				17	712	Same as above; dry;	
18	711				19	710	Same as above; more clay; dry.	
20	709				CL			Silty CLAY; trace sand; trace tan weathered limestone fragments; dry; hard; 7.5YR6/6 reddish yellow.
21	708	22	707	Same as above; dry.				
23	706	24	705	Same as above; dry.				
25	704	26	703	Same as above; dry.				Sample BKSB132 collected 25.0-26.0' bgs.
27	702	28	701	Same as above; with more silt; moist; softer.				
29	700	30	699	Same as above; except very silty; damp; soft.				Sample BKSB133 collected 30.0-31.0' bgs.
31	698	32	697					
33	696	SM						
34	695	GW						
35	694							Silty SAND, fine; trace gravel and coarse sand at bottom; saturated; non-plastic; 7.5Y6/6 reddish yellow.
36	694				SAND, coarse, and GRAVEL, poorly sorted, angular to round; saturated; 1.5 water in hole.			
37	693				Bottom of boring at 34.5' bgs.			
38	692							
39	691							
40	690					Soil colors from Munsell Soil Color Chart, 1992 Revised Edition.		

APPENDIX D

Statistical Calculations

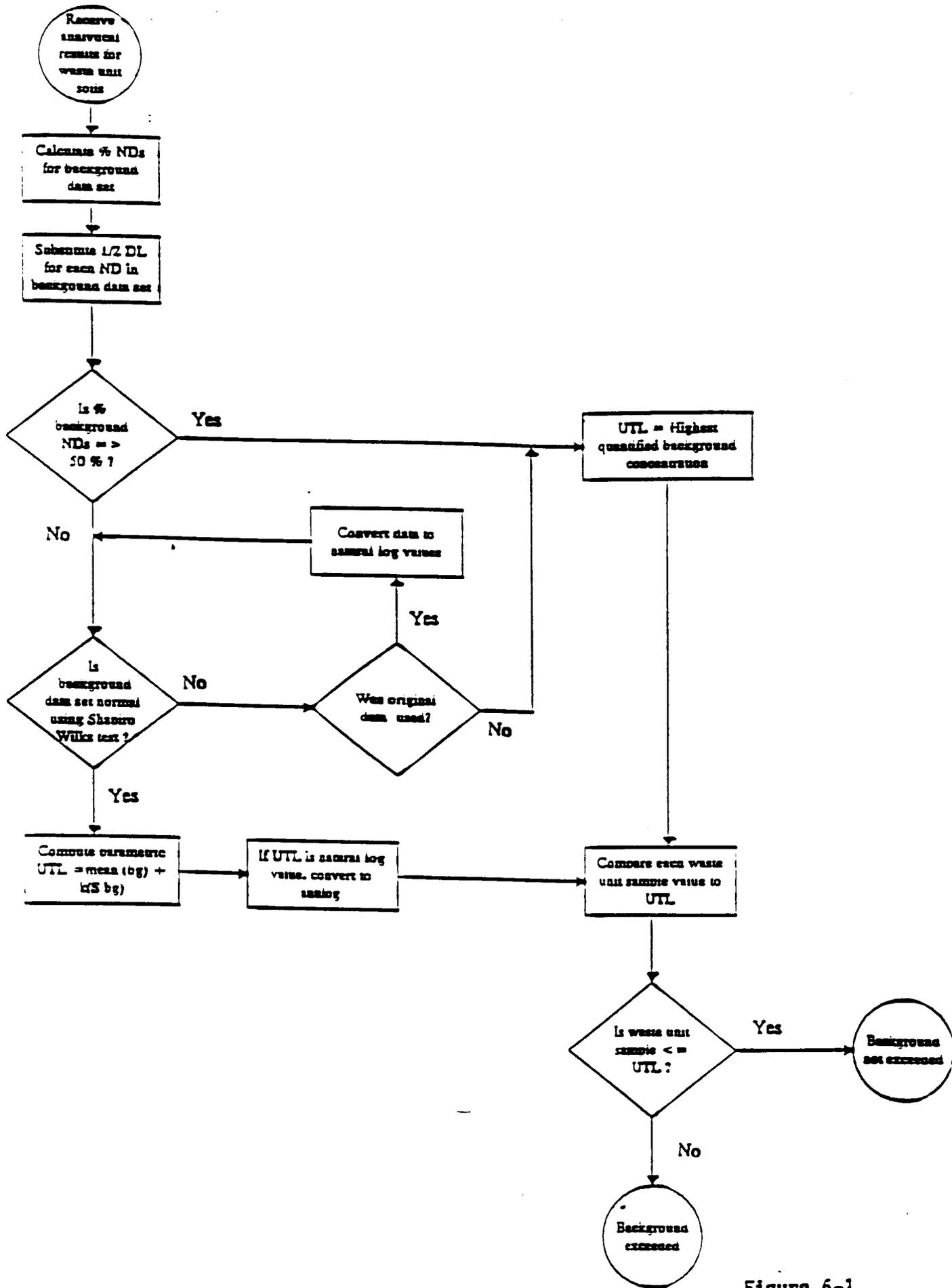


Figure 6-1
 95% Upper Tolerance Limit
 RFI Work Plan for 35 SW
 Fort Hood, Texas

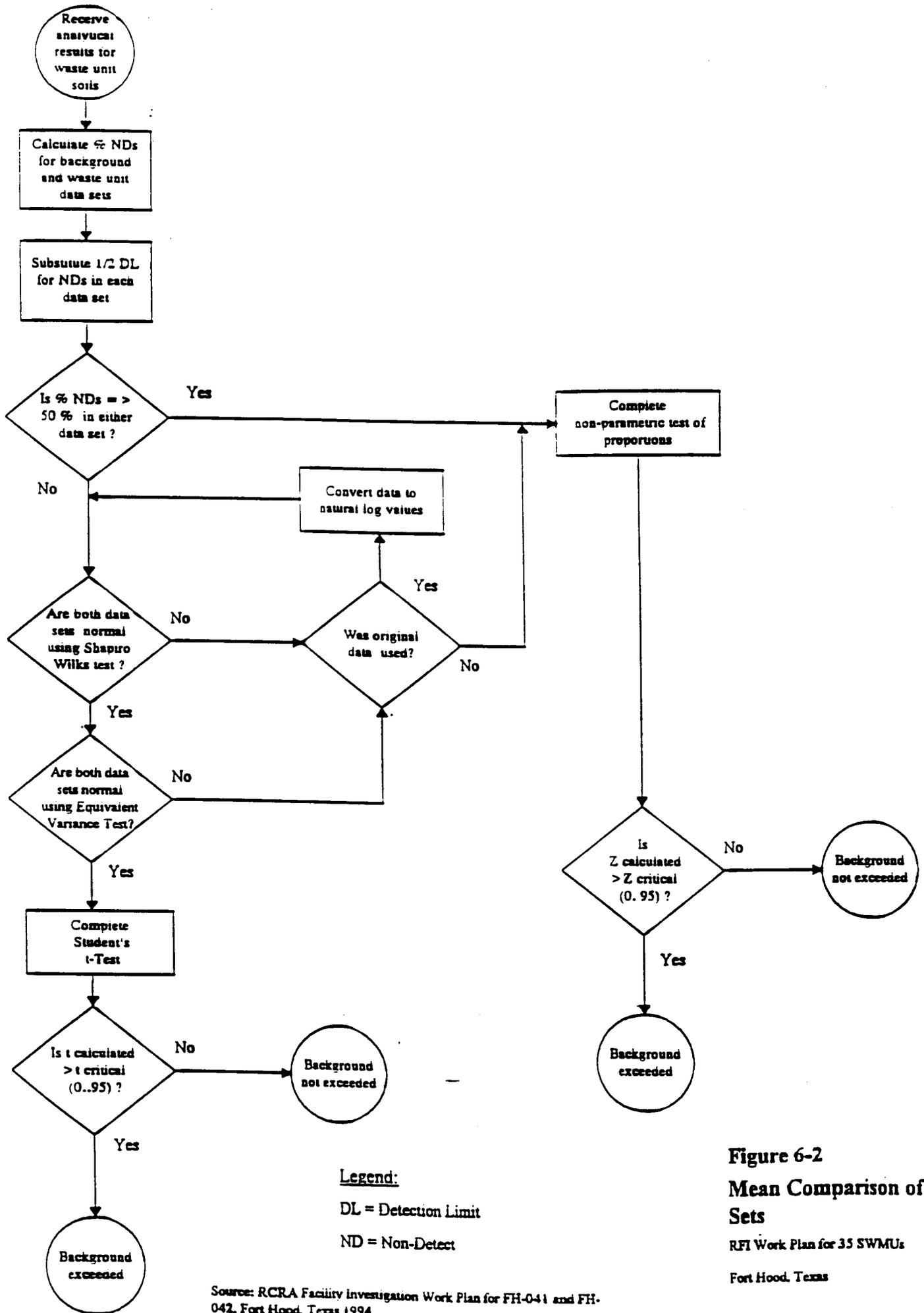


Figure 6-2
Mean Comparison of Sets
 RFI Work Plan for 35 SWMUs
 Fort Hood, Texas

Source: RCRA Facility Investigation Work Plan for FH-041 and FH-042, Fort Hood, Texas 1994.

95% UTLs

Soil Background 95% UTLs NO DUPLICATES						
smp_id	Mercury		Arsenic	Barium		
	Result (x)	Qual	Result (x)	Result	Qual	Ln(x)
BKSB101	0.04	U	3	21.3	J	3.05870707
BKSB102	0.04	U	2	8	J	2.07944154
BKSB103	0.04	U	9.1	14.7	J	2.68784749
BKSB105	0.04	U	4.3	23.4	J	3.15273602
BKSB106	0.04	U	4.4	43.7	J	3.7773481
BKSB107	0.04	U				
BKSB109	0.04	U	3.5	155	J	5.04342512
BKSB110	0.04	U	4.8	24.1	J	3.18221184
BKSB111	0.04	U	5.2	7.2	J	1.97408103
BKSB113	0.04	U	5.7	20.5	J	3.02042489
BKSB114	0.04	U	5.2	25.2	J	3.22684399
BKSB115	0.04	U	5.3	10.6	J	2.360854
BKSB116	0.04	U	11.6	4.9	J	1.58923521
BKSB118	0.04	U	2.6	4.4	J	1.48160454
BKSB119	0.04	U	0.66	3		1.09861229
BKSB120	0.04	U	0.44	2		0.69314718
BKSB122	0.04	U	3.2	6.1		1.80828877
BKSB123	0.04	U	3.8	5.5		1.70474809
BKSB125	0.04	U	3.2	18.1		2.89591194
BKSB126	0.04	U	2.5	5.4		1.68639895
BKSB128	0.04		3.6	36.3		3.59181774
BKSB129	0.04	U	2.6	26.3		3.26956894
BKSB130	0.04	U	1	8.1		2.09186406
BKSB131	0.04	U	5.3	65.9		4.18813844
BKSB132	0.04	U	4.2	41.7		3.73050113
BKSB133	0.04	U	3.2	68.6		4.22829253
BKSB134	0.04	U	2.9	20.1		3.00071982
BKSB136	0.04	U	4.3	14.8	J	2.69462718
BKSB137	0.04	U	8.2	7.8	J	2.05412373
BKSB138	0.04	U	9.2	12.2	J	2.50143595
BKSB139	0.04	U	7.6	7.3	J	1.98787435
BKSB141	0.04	U	5.6	127	J	4.84418709
BKSB142	0.04	U	3.8	63	J	4.14313473
BKSB143	0.04	U	3.8	39.3	J	3.67122452
BKSB144	0.04	U	3.7	36.1	J	3.58629287
BKSB104	0.04	U	6.2	28.2	J	3.33932198
BKSB108	0.04	U	6	72.4	J	4.2822063
BKSB112	0.04	U	1.6	6.6	J	1.88706965
BKSB117	0.04	U	4.4	27.9	J	3.32862669
BKSB121	0.04	U	4.1	24		3.17805383
BKSB124	0.04	U	6	19.3		2.9601051
BKSB127	0.04	U	1.9	18.8		2.93385687
BKSB135	0.04	U	2.7	15.4	J	2.73436751
BKSB140	0.04	U	4.8	108	J	4.68213123
%nondetects=	0.04	0.95744681			0	
Distribution	D		N			L
Mean	0.04		4.35348837	30.1906977		2.91700954
std dev	0		2.29920368	33.4734423		1.01859487
n	44		43	43		43
K	2.097		2.102	2.102		2.102
UTL	0.04		9.1864145	100.55187		5.058096
UTL(ln)=exp(mean + K(std d						157.29074

95% UTLs

Soil Background							
smp_id	Cadmium				Chromium		
	Result (x)	Qual	1/2 nondetects	Ln(x)	Result (x)	Qual	Ln(x)
BKSB101	0.12		0.12	-2.1202635	5.1	J	1.62924054
BKSB102	0.05		0.05	-2.9957323	10.3	J	2.3321439
BKSB103	0.05	U	0.025	-3.6888795	10.1	J	2.31253542
BKSB105	0.11		0.11	-2.2072749	4	J	1.38629436
BKSB106	0.16		0.16	-1.8325815	7.6	J	2.02814825
BKSB107	0.35		0.35	-1.0498221	5.1	J	1.62924054
BKSB109	0.07		0.07	-2.65926	6.5	J	1.87180218
BKSB110	0.06		0.06	-2.8134107	16.6	J	2.8094027
BKSB111	0.05		0.05	-2.9957323	6.2	J	1.82454929
BKSB113	0.07		0.07	-2.65926	8.9	J	2.18605128
BKSB114	0.05	U	0.025	-3.6888795	20.3	J	3.01062089
BKSB115	0.06		0.06	-2.8134107	7.3	J	1.98787435
BKSB116	0.2		0.2	-1.6094379	2.7	J	0.99325177
BKSB118	0.19		0.19	-1.6607312	2.2	J	0.78845736
BKSB119	0.06		0.06	-2.8134107	2.1		0.74193734
BKSB120	0.04	U	0.02	-3.912023	0.93		-0.0725707
BKSB122	0.06		0.06	-2.8134107	4.9		1.58923521
BKSB123	0.08		0.08	-2.5257286	4.3		1.45861502
BKSB125	0.11		0.11	-2.2072749	5.1		1.62924054
BKSB126	0.06		0.06	-2.8134107	5.5		1.70474809
BKSB128	0.05	U	0.025	-3.6888795	8.5		2.14006616
BKSB129	0.04	U	0.02	-3.912023	4.6		1.5260563
BKSB130	0.07		0.07	-2.65926	1.8		0.58778666
BKSB131	0.15		0.15	-1.89712	7.7		2.04122033
BKSB132	0.04	U	0.02	-3.912023	5.9		1.77495235
BKSB133	0.11		0.11	-2.2072749	4.9		1.58923521
BKSB134	0.08		0.08	-2.5257286	1.2		0.18232156
BKSB136	0.2	J	0.2	-1.6094379	8.3		2.11625551
BKSB137	0.18	J	0.18	-1.7147984	8.1		2.09186406
BKSB138	0.21	J	0.21	-1.5606477	11.1		2.40694511
BKSB139	0.2	J	0.2	-1.6094379	8.4		2.12823171
BKSB141	0.45	J	0.45	-0.7985077	23.6		3.16124671
BKSB142	0.29	J	0.29	-1.2378744	8.4		2.12823171
BKSB143	0.27	J	0.27	-1.3093333	12.2		2.50143595
BKSB144	0.2	J	0.2	-1.6094379	6.5		1.87180218
BKSB104	0.15		0.15	-1.89712	3.1	J	1.13140211
BKSB108	0.2		0.2	-1.6094379	12.9	J	2.55722731
BKSB112	0.04	U	0.02	-3.912023	4	J	1.38629436
BKSB117	0.18		0.18	-1.7147984	5.7	J	1.74046617
BKSB121	0.18		0.18	-1.7147984	6.3		1.84054963
BKSB124	0.11		0.11	-2.2072749	7.2		1.97408103
BKSB127	0.04	U	0.02	-3.912023	3.7		1.30833282
BKSB135	0.17	J	0.17	-1.7719568	6.1		1.80828877
BKSB140	0.79	J	0.79	-0.2357223	16.1		2.77881927
%nondetects=		0.19148936				0	
Distribution				L			L
Mean	0.14545455			-2.343338	7.31886364		1.78668026
std dev	0.13475999			0.92656476	4.7817999		0.68062712
n	44			44	44		44
K	2.097			2.097	2.097		2.097
UTL	0.4280462			-0.400332	17.346298		3.2139553
UTL(ln)=exp(me				0.6700977			24.87729

95% UTLs

Soil Background	Lead		Selenium		Silver		
smp_id	Result (x)	Qual	Ln(x)	Result (x)	Qual	Result (x)	Qual
BKSB101	6	J	1.79175947	0.37	U	0.24	U
BKSB102	5	J	1.60943791	0.36	U	0.23	U
BKSB103	9.5	J	2.2512918	0.38	U	0.24	U
BKSB105	3.9	J	1.36097655	0.33	U	0.21	U
BKSB106	5	J	1.60943791	0.33	U	0.21	U
BKSB107	6.1	J	1.80828877	0.36	U	0.23	U
BKSB109	3.2	J	1.16315081	0.34	U	0.22	U
BKSB110	7.8	J	2.05412373	0.36	U	0.23	U
BKSB111	5.3	J	1.66770682	0.35	U	0.22	U
BKSB113	6	J	1.79175947	0.36	U	0.23	U
BKSB114	7.7	J	2.04122033	0.38	U	0.24	U
BKSB115	5.1	J	1.62924054	0.32	U	0.2	U
BKSB116	5.6	J	1.7227666	0.33	U	0.21	U
BKSB118	3.7	J	1.30833282	0.34	U	0.21	U
BKSB119	1.3	J	0.26236426	0.33	U	0.21	U
BKSB120	0.72	J	-0.3285041	0.32	U	0.2	U
BKSB122	4.1	J	1.41098697	0.33	U	0.21	U
BKSB123	3.8	J	1.33500107	0.33	U	0.21	U
BKSB125	1.7	J	0.53062825	0.36		0.2	U
BKSB126	1.5	J	0.40546511	0.44		0.21	U
BKSB128	7.5	J	2.01490302	0.35	U	0.22	U
BKSB129	4.1	J	1.41098697	0.33	U	0.21	U
BKSB130	3.1	J	1.13140211	0.32	U	0.2	U
BKSB131	10.1	J	2.31253542	0.34	U	0.22	U
BKSB132	7.8	J	2.05412373	0.34	U	0.21	U
BKSB133	6.3	J	1.84054963	0.35	U	0.22	U
BKSB134	2.3	J	0.83290912	0.33	U	0.21	U
BKSB136	3	J	1.09861229	0.32	R	0.22	U
BKSB137	2.3	J	0.83290912	0.31	R	0.21	U
BKSB138	4.1	J	1.41098697	0.32	R	0.22	U
BKSB139	3.6	J	1.28093385	0.31	R	0.21	U
BKSB141	12.1	J	2.49320545	1.8	R	0.25	U
BKSB142	5	J	1.60943791	1.9	R	0.25	U
BKSB143	6.6	J	1.88706965	0.35	R	0.24	U
BKSB144	4	J	1.38629436	0.31	R	0.21	U
BKSB104	5.3	J	1.66770682	0.32	U	0.2	U
BKSB108	9.8	J	2.28238239	0.37	U	0.23	U
BKSB112	1.5	J	0.40546511	0.32	U	0.2	U
BKSB117	8.3	J	2.11625551	0.33	U	0.21	U
BKSB121	10.2	J	2.32238772	0.34	U	0.22	U
BKSB124	4.5	J	1.5040774	0.34	U	0.21	U
BKSB127	3.8	J	1.33500107	0.33	U	0.21	U
BKSB135	2.5	J	0.91629073	1.5	R	0.21	U
BKSB140	33.2	J	3.50254988	0.35	R	0.24	U
%nondetects=		0					
Distribution			L	D		D	
Mean	5.77318182		1.52441844	—	0.345	0.21795455	
std dev	4.99838289		0.67810106	0.02427744		0.01390659	
n	44		44				
K	2.097		2.097				
UTL	16.254791		2.9463964				
UTL(ln)=exp(me			19.037227				

Shapiro Wilk for Barium

	Bkgd Conc (xi) (mg/kg)	Ordered Conc. x(i)	Reverse Ordered x(n-i+1)	Difference x(n- i+1)-x(i)	a(n-i+1)	b(i)
BKSB101	21.3	2	155	153	0.3894	59.5782
BKSB102	8	3	127	124	0.2684	33.2816
BKSB103	14.7	4.4	108	103.6	0.2334	24.18024
BKSB105	23.4	4.9	72.4	67.5	0.2078	14.0265
BKSB106	43.7	5.4	68.6	63.2	0.1871	11.82472
BKSB107		5.5	65.9	60.4	0.1695	10.2378
BKSB109	155	6.1	63	56.9	0.1539	8.75691
BKSB110	24.1	6.6	43.7	37.1	0.1398	5.18658
BKSB111	7.2	7.2	41.7	34.5	0.1269	4.37805
BKSB113	20.5	7.3	39.3	32	0.1149	3.6768
BKSB114	25.2	7.8	36.3	28.5	0.1035	2.94975
BKSB115	10.6	8	36.1	28.1	0.0927	2.60487
BKSB116	4.9	8.1	28.2	20.1	0.0824	1.65624
BKSB118	4.4	10.6	27.9	17.3	0.0724	1.25252
BKSB119	3	12.2	26.3	14.1	0.0628	0.88548
BKSB120	2	14.7	25.2	10.5	0.0534	0.5607
BKSB122	6.1	14.8	24.1	9.3	0.0442	0.41106
BKSB123	5.5	15.4	24	8.6	0.0352	0.30272
BKSB125	18.1	18.1	23.4	5.3	0.0263	0.13939
BKSB126	5.4	18.8	21.3	2.5	0.0175	0.04375
BKSB128	36.3	19.3	20.5	1.2	0.0087	0.01044
BKSB129	26.3	20.1	20.1	0	0	0
BKSB130	8.1	20.5	19.3	-1.2		0
BKSB131	65.9	21.3	18.8	-2.5		0
BKSB132	41.7	23.4	18.1	-5.3		
BKSB133	68.6	24	15.4	-8.6	sum Bi=	185.94432
BKSB134	20.1	24.1	14.8	-9.3		
BKSB136	14.8	25.2	14.7	-10.5	W(0.05,43)	0.943
BKSB137	7.8	26.3	12.2	-14.1	W=	0.73470973
BKSB138	12.2	27.9	10.6	-17.3		
BKSB139	7.3	28.2	8.1	-20.1		
BKSB141	127	36.1	8	-28.1		
BKSB142	63	36.3	7.8	-28.5		
BKSB143	39.3	39.3	7.3	-32		
BKSB144	36.1	41.7	7.2	-34.5		
BKSB104	28.2	43.7	6.6	-37.1		
BKSB108	72.4	63	6.1	-56.9		
BKSB112	6.6	65.9	5.5	-60.4		
BKSB117	27.9	68.6	5.4	-63.2		
BKSB121	24	72.4	4.9	-67.5		
BKSB124	19.3	108	4.4	-103.6		
BKSB127	18.8	127	3	-124		
BKSB135	15.4	155	2	-153		
BKSB140	108			0		
Sum of xi	1298.2					
Mean	30.19069767					
n=	43					
sum of xi^2	86253.36					
1/n=	0.023255814					
xi=(sum xi)^2	1685323.24					
d=	47059.79628					
W=	0.734709728					
W(0.05,43)=	0.943					
W<W(0.5,43), distribution is not Normal						

Shapiro Wilk for Barium

	ln of ordered Conc. x(i)		ln of Reverse Order x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
	0.693147181	0.48045301	5.043425117	4.35027794	0.3894	1.693998228
	1.098612289	1.20694896	4.844187086	3.7455748	0.2684	1.005312276
	1.481604541	2.19515202	4.682131227	3.20052669	0.2334	0.747002929
	1.589235205	2.52566854	4.282206299	2.69297109	0.2078	0.559599393
	1.686398954	2.84394143	4.228292535	2.54189358	0.1871	0.475588289
	1.704748092	2.90616606	4.188138442	2.48339035	0.1695	0.420934664
	1.808288771	3.26990828	4.143134726	2.33484596	0.1539	0.359332793
	1.887069649	3.56103186	3.777348102	1.89027845	0.1398	0.264260928
	1.974081026	3.8969959	3.730501129	1.7564201	0.1269	0.222889711
	1.987874348	3.95164442	3.671224519	1.68335017	0.1149	0.193416935
	2.054123734	4.21942431	3.591817741	1.53769401	0.1035	0.15915133
	2.079441542	4.32407713	3.586292865	1.50685132	0.0927	0.139685118
	2.091864062	4.37589525	3.339321978	1.24745792	0.0824	0.102790532
	2.360854001	5.57363161	3.328626689	0.96777269	0.0724	0.070066743
	2.501435952	6.25718182	3.269568939	0.76813299	0.0628	0.048238752
	2.687847494	7.22452415	3.226843995	0.5389965	0.0534	0.028782413
	2.694627181	7.26101564	3.18221184	0.48758466	0.0442	0.021551242
	2.734367509	7.47676568	3.17805383	0.44368632	0.0352	0.015617758
	2.895911938	8.38630595	3.152736022	0.25682408	0.0263	0.006754473
	2.93385687	8.60751613	3.058707073	0.1248502	0.0175	0.002184879
	2.960105096	8.76222218	3.020424886	0.06031979	0.0087	0.000524782
	3.000719815	9.00431941	3.000719815	0		0
	3.020424886	9.12296649	2.960105096	-0.0603198		0
	3.058707073	9.35568896	2.93385687	-0.1248502		0
	3.152736022	9.93974443	2.895911938	-0.2568241		
	3.17805383	10.1000261	2.734367509	-0.4436863		6.537684167
	3.18221184	10.1264722	2.694627181	-0.4875847		
	3.226843995	10.4125222	2.687847494	-0.5389965	W(0.05,43)	0.943
	3.269568939	10.690081	2.501435952	-0.768133	W(ln)=	0.98083423
	3.328626689	11.0797556	2.360854001	-0.9677727		
	3.339321978	11.1510713	2.091864062	-1.2474579		
	3.586292865	12.8614965	2.079441542	-1.5068513		
	3.591817741	12.9011547	2.054123734	-1.537694		
	3.671224519	13.4778895	1.987874348	-1.6833502		
	3.730501129	13.9166387	1.974081026	-1.7564201		
	3.777348102	14.2683587	1.887069649	-1.8902785		
	4.143134726	17.1655654	1.808288771	-2.334846		
	4.188138442	17.5405036	1.704748092	-2.4833903		
	4.228292535	17.8784578	1.686398954	-2.5418936		
	4.282206299	18.3372908	1.589235205	-2.6929711		
	4.682131227	21.9223528	1.481604541	-3.2005267		
	4.844187086	23.4661485	1.098612289	-3.7455748		
	5.043425117	25.4361369	0.693147181	-4.3502779		
Sum of xi	125.4314103		125.4314103			
Mean	2.917009542					
n=	43					
sum of xi^2	409.4611119					
1/n=	0.023255814					
xi=(sum xi)^	15733.03869					
d=	43.57649126					
W(ln)=	0.98083423					
W(0.05,43)	0.943					
W>W(0.5,43), distribution is lognormal						

Shapiro Wilk for Cadmium

smp_id	Cadmium	(xi) ²	Ordered Conc. x(i)	Reverse Ordered x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)	smp_id
BKSB101	0.12	0.0144	0.02	0.79	0.77	0.3872	0.298144	BKSB101
BKSB102	0.05	0.0025	0.02	0.45	0.43	0.2667	0.114681	BKSB102
BKSB103	0.025	0.00063	0.02	0.35	0.33	0.2323	0.076659	BKSB103
BKSB104	0.15	0.0225	0.02	0.29	0.27	0.2072	0.055944	BKSB104
BKSB105	0.11	0.0121	0.02	0.27	0.25	0.1868	0.0467	BKSB105
BKSB106	0.16	0.0256	0.025	0.21	0.185	0.1695	0.031358	BKSB106
BKSB107	0.35	0.1225	0.025	0.2	0.175	0.1542	0.026985	BKSB107
BKSB108	0.2	0.04	0.025	0.2	0.175	0.1405	0.024588	BKSB108
BKSB109	0.07	0.0049	0.05	0.2	0.15	0.1278	0.01917	BKSB109
BKSB110	0.06	0.0036	0.05	0.2	0.15	0.116	0.0174	BKSB110
BKSB111	0.05	0.0025	0.06	0.2	0.14	0.1049	0.014686	BKSB111
BKSB112	0.02	0.0004	0.06	0.19	0.13	0.0943	0.012259	BKSB112
BKSB113	0.07	0.0049	0.06	0.18	0.12	0.0842	0.010104	BKSB113
BKSB114	0.025	0.00063	0.06	0.18	0.12	0.0745	0.00894	BKSB114
BKSB115	0.06	0.0036	0.06	0.18	0.12	0.0651	0.007812	BKSB115
BKSB116	0.2	0.04	0.07	0.17	0.1	0.056	0.0056	BKSB116
BKSB117	0.18	0.0324	0.07	0.16	0.09	0.0471	0.004239	BKSB117
BKSB118	0.19	0.0361	0.07	0.15	0.08	0.0383	0.003064	BKSB118
BKSB119	0.06	0.0036	0.08	0.15	0.07	0.0296	0.002072	BKSB119
BKSB120	0.02	0.0004	0.08	0.12	0.04	0.0211	0.000844	BKSB120
BKSB121	0.18	0.0324	0.11	0.11	0	0.0126	0	BKSB121
BKSB122	0.06	0.0036	0.11	0.11	0	0.0042	0	BKSB122
BKSB123	0.08	0.0064	0.11	0.11	0	0	0	BKSB123
BKSB124	0.11	0.0121	0.11	0.11	0	0	0	BKSB124
BKSB125	0.11	0.0121	0.12	0.08	-0.04			BKSB125
BKSB126	0.06	0.0036	0.15	0.08	-0.07	Sum of b=	0.781248	BKSB126
BKSB127	0.02	0.0004	0.15	0.07	-0.08			BKSB127
BKSB128	0.025	0.00063	0.16	0.07	-0.09	W=	0.744801	BKSB128
BKSB129	0.02	0.0004	0.17	0.07	-0.1	W(0.05,44)	0.944	BKSB129
BKSB130	0.07	0.0049	0.18	0.06	-0.12			BKSB130
BKSB131	0.15	0.0225	0.18	0.06	-0.12			BKSB131
BKSB132	0.02	0.0004	0.18	0.06	-0.12			BKSB132
BKSB133	0.11	0.0121	0.19	0.06	-0.13			BKSB133
BKSB134	0.08	0.0064	0.2	0.06	-0.14			BKSB134
BKSB135	0.17	0.0289	0.2	0.05	-0.15			BKSB135
BKSB136	0.2	0.04	0.2	0.05	-0.15			BKSB136
BKSB137	0.18	0.00063	0.2	0.025	-0.175			BKSB137
BKSB138	0.21	0.0225	0.2	0.025	-0.175			BKSB138
BKSB139	0.2	0.0121	0.21	0.025	-0.185			BKSB139
BKSB140	0.79	0.0256	0.27	0.02	-0.25			BKSB140
BKSB141	0.45	0.1225	0.29	0.02	-0.27			BKSB141
BKSB142	0.29	0.04	0.35	0.02	-0.33			BKSB142
BKSB143	0.27	0.0049	0.45	0.02	-0.43			BKSB143
BKSB144	0.2	0.0036	0.79	0.02	-0.77			BKSB144
Sum of xi	6.225							Sum of xi
Mean	0.14147727							Mean
n=	44							n=
sum of xi ²	1.700175							sum of xi ²
1/n=	0.02272727							1/n=
xi=(sum xi) ²	38.750625							xi=(sum xi) ²
d=	0.81947898							d=
W=	0.7448006							W=
W(0.05,44)=	0.944							W(0.05,44)=
W<W(0.5,44), the distribution is not normal								W<W(0.5,44),

Shapiro Wilk for Cadmium

ln of ordered Conc. x(i)	ln(xi)^2	ln of Reverse Order x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
-3.912023005	15.303924	-0.2357223	3.67630067	0.3872	1.42346362
-3.912023005	15.303924	-0.7985077	3.11351531	0.2667	0.83037453
-3.912023005	15.303924	-1.0498221	2.86220088	0.2323	0.66488926
-3.912023005	15.303924	-1.2378744	2.67414865	0.2072	0.5540836
-3.912023005	15.303924	-1.3093333	2.60268969	0.1868	0.48618243
-3.688879454	13.607832	-1.5606477	2.12823171	0.1695	0.36073527
-3.688879454	13.607832	-1.6094379	2.07944154	0.1542	0.32064989
-3.688879454	13.607832	-1.6094379	2.07944154	0.1405	0.29216154
-2.995732274	8.9744119	-1.6094379	1.38629436	0.1278	0.17716842
-2.995732274	8.9744119	-1.6094379	1.38629436	0.116	0.16081015
-2.813410717	7.9152799	-1.6094379	1.2039728	0.1049	0.12629675
-2.813410717	7.9152799	-1.6607312	1.15267951	0.0943	0.10869768
-2.813410717	7.9152799	-1.7147984	1.09861229	0.0842	0.09250315
-2.813410717	7.9152799	-1.7147984	1.09861229	0.0745	0.08184662
-2.813410717	7.9152799	-1.7147984	1.09861229	0.0651	0.07151966
-2.659260037	7.0716639	-1.7719568	0.8873032	0.056	0.04968898
-2.659260037	7.0716639	-1.8325815	0.82667857	0.0471	0.03893656
-2.659260037	7.0716639	-1.89712	0.76214005	0.0383	0.02918996
-2.525728644	6.3793052	-1.89712	0.62860866	0.0296	0.01860682
-2.525728644	6.3793052	-2.1202635	0.40546511	0.0211	0.00855531
-2.207274913	4.8720625	-2.2072749	0	0.0126	0
-2.207274913	4.8720625	-2.2072749	0	0.0042	0
-2.207274913	4.8720625	-2.2072749	0	0	0
-2.207274913	4.8720625	-2.2072749	0	0	0
-2.120263536	4.4955175	-2.5257286	-0.40546511		
-1.897119985	3.5990642	-2.5257286	-0.62860866	Sum of b=	5.8963602
-1.897119985	3.5990642	-2.65926	-0.76214005		
-1.832581464	3.3583548	-2.65926	-0.82667857	W=	0.94177684
-1.771956842	3.139831	-2.65926	-0.8873032	W(0.05,44)	0.944
-1.714798428	2.9405336	-2.8134107	-1.09861229		
-1.714798428	2.9405336	-2.8134107	-1.09861229		
-1.660731207	2.7580281	-2.8134107	-1.15267951		
-1.609437912	2.5902904	-2.8134107	-1.2039728		
-1.609437912	2.5902904	-2.9957323	-1.38629436		
-1.609437912	2.5902904	-2.9957323	-1.38629436		
-1.609437912	2.5902904	-3.6888795	-2.07944154		
-1.609437912	2.5902904	-3.6888795	-2.07944154		
-1.560647748	2.4356214	-3.6888795	-2.12823171		
-1.30933332	1.7143537	-3.912023	-2.60268969		
-1.237874356	1.5323329	-3.912023	-2.67414865		
-1.049822124	1.1021265	-3.912023	-2.86220088		
-0.798507696	0.6376145	-3.912023	-3.11351531		
-0.235722334	0.055565	-3.912023	-3.67630067		
-103.106874					
-2.343338046					
44					
278.5307172					
0.022727273					
10631.02747					
36.91645655					
0.941776836					
0.944					
The distribution is approximately lognormal					

Shapiro Wilk Chromium

smp_id	Chromium	Ordered Conc. x(i)	Reverse Ordered x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
BKSB101	5.1	0.93	23.6	22.67	0.3872	8.777824
BKSB102	10.3	1.2	20.3	19.1	0.2667	5.09397
BKSB103	10.1	1.8	16.6	14.8	0.2323	3.43804
BKSB104	3.1	2.1	16.1	14	0.2072	2.9008
BKSB105	4	2.2	12.9	10.7	0.1868	1.99876
BKSB106	7.6	2.7	12.2	9.5	0.1695	1.61025
BKSB107	5.1	3.1	11.1	8	0.1542	1.2336
BKSB108	12.9	3.7	10.3	6.6	0.1405	0.9273
BKSB109	6.5	4	10.1	6.1	0.1278	0.77958
BKSB110	16.6	4	8.9	4.9	0.116	0.5684
BKSB111	6.2	4.3	8.5	4.2	0.1049	0.44058
BKSB112	4	4.6	8.4	3.8	0.0943	0.35834
BKSB113	8.9	4.9	8.4	3.5	0.0842	0.2947
BKSB114	20.3	4.9	8.30	3.4	0.0745	0.2533
BKSB115	7.3	5.1	8.1	3	0.0651	0.1953
BKSB116	2.7	5.1	7.7	2.6	0.056	0.1456
BKSB117	5.7	5.1	7.6	2.5	0.0471	0.11775
BKSB118	2.2	5.5	7.3	1.8	0.0383	0.06894
BKSB119	2.1	5.7	7.2	1.5	0.0296	0.0444
BKSB120	0.93	5.9	6.5	0.6	0.0211	0.01266
BKSB121	6.3	6.1	6.5	0.4	0.0126	0.00504
BKSB122	4.9	6.2	6.3	0.1	0.0042	0.00042
BKSB123	4.3	6.3	6.2	-0.1	0	0
BKSB124	7.2	6.5	6.1	-0.4	0.0037	-0.00148
BKSB125	5.1	6.5	5.9	-0.6	Sum of b=	29.264074
BKSB126	5.5	7.2	5.7	-1.5		
BKSB127	3.7	7.3	5.5	-1.8	W=	0.87100033
BKSB128	8.5	7.6	5.1	-2.5	W(0.05,45)	0.945
BKSB129	4.6	7.7	5.1	-2.6		
BKSB130	1.8	8.1	5.1	-3		
BKSB131	7.7	8.30	4.9	-3.4		
BKSB132	5.9	8.4	4.9	-3.5		
BKSB133	4.9	8.4	4.6	-3.8		
BKSB134	1.2	8.5	4.3	-4.2		
BKSB135	6.1	8.9	4	-4.9		
BKSB136	8.30	10.1	4	-6.1		
BKSB137	8.1	10.3	3.7	-6.6		
BKSB138	11.1	11.1	3.1	-8		
BKSB139	8.4	12.2	2.7	-9.5		
BKSB140	16.1	12.9	2.2	-10.7		
BKSB141	23.6	16.1	2.1	-14		
BKSB142	8.4	16.6	1.8	-14.8		
BKSB143	12.2	20.3	1.2	-19.1		
BKSB144	6.5	23.6	0.93	-22.67		
Sum of x _i	322.03					
Mean	7.31886364					
n=	44					
sum of x _i ²	3340.1149					
1/n=	0.02272727					
x _i -(sum x _i) ²	103703.321					
d=	983.221243					
W=	0.87100033					
W(0.05,44)=	0.944					
W<W(0.5,45), the distribution is not normal						

Shapiro Wilk Chromium

smpl_id	ln of ordered Conc. x(i)	ln(xi)^2	ln of Reverse Order x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
BKSB101	-0.07257069	0.00526651	3.161246712	3.2338174	0.3872	1.2521341
BKSB102	0.182321557	0.03324115	3.010620886	2.82829933	0.2667	0.75430743
BKSB103	0.587786665	0.34549316	2.809402695	2.22161603	0.2323	0.5160814
BKSB104	0.741937345	0.55047102	2.778819272	2.03688193	0.2072	0.42204194
BKSB105	0.78845736	0.62166501	2.557227311	1.76876995	0.1868	0.33040623
BKSB106	0.993251773	0.98654908	2.501435952	1.50818418	0.1695	0.25563722
BKSB107	1.131402111	1.28007074	2.406945108	1.275543	0.1542	0.19668873
BKSB108	1.30833282	1.71173477	2.332143895	1.02381108	0.1405	0.14384546
BKSB109	1.386294361	1.92181206	2.312535424	0.92624106	0.1278	0.11837361
BKSB110	1.386294361	1.92181206	2.186051277	0.79975692	0.116	0.0927718
BKSB111	1.458615023	2.12755778	2.140066163	0.68145114	0.1049	0.07148422
BKSB112	1.526056303	2.32884784	2.128231706	0.6021754	0.0943	0.05678514
BKSB113	1.589235205	2.52566854	2.128231706	0.5389965	0.0842	0.04538351
BKSB114	1.589235205	2.52566854	2.116255515	0.52702031	0.0745	0.03926301
BKSB115	1.62924054	2.65442474	2.091864062	0.46262352	0.0651	0.03011679
BKSB116	1.62924054	2.65442474	2.041220329	0.41197979	0.056	0.02307087
BKSB117	1.62924054	2.65442474	2.028148247	0.39890771	0.0471	0.01878855
BKSB118	1.704748092	2.90616606	1.987874348	0.28312626	0.0383	0.01084374
BKSB119	1.740466175	3.02922251	1.974081026	0.23361485	0.0296	0.006915
BKSB120	1.774952351	3.15045585	1.871802177	0.09684983	0.0211	0.00204353
BKSB121	1.808288771	3.26990828	1.871802177	0.06351341	0.0126	0.00080027
BKSB122	1.824549292	3.32898012	1.840549633	0.01600034	0.0042	6.7201E-05
BKSB123	1.840549633	3.38762295	1.824549292	-0.0160003	0	0
BKSB124	1.871802177	3.50364339	1.808288771	-0.0635134		0
BKSB125	1.871802177	3.50364339	1.774952351	-0.0968498	Sum of b=	4.38784974
BKSB126	1.974081026	3.8969959	1.740466175	-0.2336149		
BKSB127	1.987874348	3.95164442	1.704748092	-0.2831263	W=	0.96653268
BKSB128	2.028148247	4.11338531	1.62924054	-0.3989077	W(0.05,45)	0.945
BKSB129	2.041220329	4.16658043	1.62924054	-0.4119798		
BKSB130	2.091864062	4.37589525	1.62924054	-0.4626235		
BKSB131	2.116255515	4.4785374	1.589235205	-0.5270203		
BKSB132	2.128231706	4.52937019	1.589235205	-0.5389965		
BKSB133	2.128231706	4.52937019	1.526056303	-0.6021754		
BKSB134	2.140066163	4.57988318	1.458615023	-0.6814511		
BKSB135	2.186051277	4.77882018	1.386294361	-0.7997569		
BKSB136	2.312535424	5.34782009	1.386294361	-0.9262411		
BKSB137	2.332143895	5.79338475	1.30833282	-1.0238111		
BKSB138	2.406945108	6.25718182	1.131402111	-1.275543		
BKSB139	2.501435952	6.53941152	0.993251773	-1.5081842		
BKSB140	2.557227311	7.72183655	0.78845736	-1.76877		
BKSB141	2.778819272	7.8927435	0.741937345	-2.0368819		
BKSB142	2.809402695	9.06383812	0.587786665	-2.221616		
BKSB143	3.010620886	9.99348077	0.182321557	-2.8282993		
BKSB144	3.161246712	#REF!	-0.072570693	-3.2338174		
Sum of x _i	78.61393132					
Mean	1.786680257					
n=	44					
sum of x _i ²	160.3778498					
1/n=	0.022727273					
x _i =(sum xi) [^]	6180.150197					
d=	19.91989073					
W=	0.96653268					
W(0.05,44)	0.944					
W>W(0.5,44), the distribution is lognormal						

Shapiro Wilk for Lead

smpl_id	Lead	Ordered Conc. x(i)	Reverse Ordered x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
BKSB101	6	0.72	33.2	32.48	0.3872	12.57626
BKSB102	5	1.3	12.1	10.8	0.2667	2.88036
BKSB103	9.5	1.5	10.2	8.7	0.2323	2.02101
BKSB104	5.3	1.5	10.1	8.6	0.2072	1.78192
BKSB105	3.9	1.7	9.8	8.1	0.1868	1.51308
BKSB106	5	2.3	9.5	7.2	0.1695	1.2204
BKSB107	6.1	2.3	8.3	6	0.1542	0.9252
BKSB108	9.8	2.5	7.8	5.3	0.1405	0.74465
BKSB109	3.2	3.00	7.8	4.8	0.1278	0.61344
BKSB110	7.8	3.1	7.7	4.6	0.116	0.5336
BKSB111	5.3	3.2	7.5	4.3	0.1049	0.45107
BKSB112	1.5	3.6	6.6	3	0.0943	0.2829
BKSB113	6	3.7	6.3	2.6	0.0842	0.21892
BKSB114	7.7	3.8	6.1	2.3	0.0745	0.17135
BKSB115	5.1	3.8	6	2.2	0.0651	0.14322
BKSB116	5.6	3.9	6	2.1	0.056	0.1176
BKSB117	8.3	4	5.6	1.6	0.0471	0.07536
BKSB118	3.7	4.1	5.3	1.2	0.0383	0.04596
BKSB119	1.3	4.1	5.3	1.2	0.0296	0.03552
BKSB120	0.72	4.1	5.1	1	0.0211	0.0211
BKSB121	10.2	4.5	5	0.5	0.0126	0.0063
BKSB122	4.1	5	5	0	0.0042	0
BKSB123	3.8	5	5	0	0	0
BKSB124	4.5	5	4.5	-0.5		0
BKSB125	1.7	5.1	4.1	-1		
BKSB126	1.5	5.3	4.1	-1.2	Sum of b=	26.37922
BKSB127	3.8	5.3	4.1	-1.2		
BKSB128	7.5	5.6	4	-1.6	W=	0.647733
BKSB129	4.1	6	3.9	-2.1	W(0.05,45)	0.945
BKSB130	3.1	6	3.8	-2.2		
BKSB131	10.1	6.1	3.8	-2.3		
BKSB132	7.8	6.3	3.7	-2.6		
BKSB133	6.3	6.6	3.6	-3		
BKSB134	2.3	7.5	3.2	-4.3		
BKSB135	2.5	7.7	3.1	-4.6		
BKSB136	3.00	7.8	3.00	-4.8		
BKSB137	2.3	7.8	2.5	-5.3		
BKSB138	4.1	8.3	2.3	-6		
BKSB139	3.6	9.5	2.3	-7.2		
BKSB140	33.2	9.8	1.7	-8.1		
BKSB141	12.1	10.1	1.5	-8.6		
BKSB142	5	10.2	1.5	-8.7		
BKSB143	6.6	12.1	1.3	-10.8		
BKSB144	4	33.2	0.72	-32.48		
Sum of xi	254.02					
Mean	5.773182					
n=	44					
sum of xi^2	2540.808					
1/n=	0.022727					
xi=(sum xi)^2	64526.16					
d=	1074.305					
W=	0.647733					
W(0.05,44)=	0.944					
W<W(0.5,44), the distribution is not normal						

Shapiro Wilk for Lead

smpl_id	ln of ordered Conc. x(i)	ln(xi)^2	ln of Reverse Order x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
BKSB101	-0.328504067	0.107914922	3.502549876	3.83105394	0.3872	1.48338409
BKSB102	0.262364264	0.068835007	2.493205453	2.23084119	0.2667	0.59496534
BKSB103	0.405465108	0.164401954	2.32238772	1.91692261	0.2323	0.44530112
BKSB104	0.405465108	0.164401954	2.312535424	1.90707032	0.2072	0.39514497
BKSB105	0.530628251	0.281566341	2.282382386	1.75175413	0.1868	0.32722767
BKSB106	0.832909123	0.693737607	2.251291799	1.41838268	0.1695	0.24041586
BKSB107	0.832909123	0.693737607	2.116255515	1.28334639	0.1542	0.19789201
BKSB108	0.916290732	0.839588705	2.054123734	1.137833	0.1405	0.15986554
BKSB109	1.098612289	1.206948961	2.054123734	0.95551145	0.1278	0.12211436
BKSB110	1.131402111	1.280070738	2.041220329	0.90981822	0.116	0.10553891
BKSB111	1.16315081	1.352919806	2.014903021	0.85175221	0.1049	0.08934881
BKSB112	1.280933845	1.640791516	1.887069649	0.6061358	0.0943	0.05715861
BKSB113	1.30833282	1.711734767	1.840549633	0.53221681	0.0842	0.04481266
BKSB114	1.335001067	1.782227848	1.808288771	0.4732877	0.0745	0.03525993
BKSB115	1.335001067	1.782227848	1.791759469	0.4567584	0.0651	0.02973497
BKSB116	1.360976553	1.852257178	1.791759469	0.43078292	0.056	0.02412384
BKSB117	1.386294361	1.921812056	1.722766598	0.33647224	0.0471	0.01584784
BKSB118	1.410986974	1.99088424	1.667706821	0.25671985	0.0383	0.00983237
BKSB119	1.410986974	1.99088424	1.667706821	0.25671985	0.0296	0.00759891
BKSB120	1.410986974	1.99088424	1.62924054	0.21825357	0.0211	0.00460515
BKSB121	1.504077397	2.262248815	1.609437912	0.10536052	0.0126	0.00132754
BKSB122	1.609437912	2.590290394	1.609437912	0	0.0042	0
BKSB123	1.609437912	2.590290394	1.609437912	0		0
BKSB124	1.609437912	2.590290394	1.504077397	-0.10536052		0
BKSB125	1.62924054	2.654424736	1.410986974	-0.21825357		
BKSB126	1.667706821	2.781246039	1.410986974	-0.25671985	Sum of b=	4.39150052
BKSB127	1.667706821	2.781246039	1.410986974	-0.25671985		
BKSB128	1.722766598	2.96792475	1.386294361	-0.33647224	W(ln)=	0.97536815
BKSB129	1.791759469	3.210401996	1.360976553	-0.43078292		
BKSB130	1.791759469	3.210401996	1.335001067	-0.4567584	W(0.05,44)	0.944
BKSB131	1.808288771	3.26990828	1.335001067	-0.4732877		
BKSB132	1.840549633	3.387622953	1.30833282	-0.53221681		
BKSB133	1.887069649	3.56103186	1.280933845	-0.6061358		
BKSB134	2.014903021	4.059834182	1.16315081	-0.85175221		
BKSB135	2.041220329	4.166580431	1.131402111	-0.90981822		
BKSB136	2.054123734	4.219424313	1.098612289	-0.95551145		
BKSB137	2.054123734	4.219424313	0.916290732	-1.137833		
BKSB138	2.116255515	4.478537404	0.832909123	-1.28334639		
BKSB139	2.251291799	5.068314762	0.832909123	-1.41838268		
BKSB140	2.282382386	5.209269354	0.530628251	-1.75175413		
BKSB141	2.312535424	5.347820087	0.405465108	-1.90707032		
BKSB142	2.32238772	5.393484723	0.405465108	-1.91692261		
BKSB143	2.493205453	6.216073429	0.262364264	-2.23084119		
BKSB144	3.502549876	12.26785563	-0.328504067	-3.83105394		
Sum of xi	67.07441138					
Mean	1.52441844					
n=	44					
sum of xi^2	122.0217748					
1/n=	0.022727273					
xi=(sum xi)^2	4498.976662					
d=	19.77230523					
W(ln)=	0.975368151					
W(0.05,44)=	0.944					
W>W(0.5,44), the distribution is lognormal						

Shapiro Wilk for Arsenic

smp_id	Arsenic				a(n-i+1)	b(i)
BKSB101	3	0.44	11.6	11.16	0.3894	4.345704
BKSB102	2	0.66	9.2	8.54	0.2684	2.292136
BKSB103	9.1	1	9.1	8.1	0.2334	1.89054
BKSB104	6.2	1.6	8.2	6.6	0.2078	1.37148
BKSB105	4.3	1.9	7.6	5.7	0.1871	1.06647
BKSB106	4.4	2	6.2	4.2	0.1695	0.7119
BKSB108	6	2.5	6	3.5	0.1539	0.53865
BKSB109	3.5	2.6	6	3.4	0.1398	0.47532
BKSB110	4.8	2.6	5.7	3.1	0.1269	0.39339
BKSB111	5.2	2.7	5.6	2.9	0.1149	0.33321
BKSB112	1.6	2.9	5.3	2.4	0.1035	0.2484
BKSB113	5.7	3	5.3	2.3	0.0927	0.21321
BKSB114	5.2	3.2	5.2	2	0.0824	0.1648
BKSB115	5.3	3.2	5.2	2	0.0724	0.1448
BKSB116	11.6	3.2	4.8	1.6	0.0628	0.10048
BKSB117	4.4	3.5	4.8	1.3	0.0534	0.06942
BKSB118	2.6	3.6	4.4	0.8	0.0442	0.03536
BKSB119	0.66	3.7	4.4	0.7	0.0352	0.02464
BKSB120	0.44	3.8	4.3	0.5	0.0263	0.01315
BKSB121	4.1	3.8	4.30	0.5	0.0175	0.00875
BKSB122	3.2	3.8	4.2	0.4	0.0087	0.00348
BKSB123	3.8	4.1	4.1	0	0	0
BKSB124	6	4.2	3.8	-0.4		
BKSB125	3.2	4.3	3.8	-0.5		
BKSB126	2.5	4.30	3.8	-0.5	sum Bi=	14.44529
BKSB127	1.9	4.4	3.7	-0.7		
BKSB128	3.6	4.4	3.6	-0.8	W(0.05,43)	0.943
BKSB129	2.6	4.8	3.5	-1.3	W=	0.939827935
BKSB130	1	4.8	3.2	-1.6		
BKSB131	5.3	5.2	3.2	-2		
BKSB132	4.2	5.2	3.2	-2		
BKSB133	3.2	5.3	3	-2.3		
BKSB134	2.9	5.3	2.9	-2.4		
BKSB135	2.7	5.6	2.7	-2.9		
BKSB136	4.30	5.7	2.6	-3.1		
BKSB137	8.2	6	2.6	-3.4		
BKSB138	9.2	6	2.5	-3.5		
BKSB139	7.6	6.2	2	-4.2		
BKSB140	4.8	7.6	1.9	-5.7		
BKSB141	5.6	8.2	1.6	-6.6		
BKSB142	3.8	9.1	1	-8.1		
BKSB143	3.8	9.2	0.66	-8.54		
BKSB144	3.7	11.6	0.44	-11.16		
Sum of xi	187.2					
Mean	4.3534884					
n=	43					
sum of xi^2	1036.9992					
1/n=	0.0232558					
xi=(sum xi)^2	35043.84					
d=	222.02618					
W=	0.9398279					
W(0.05,43)=	0.943					
W<W(0.5,43), the distribution is approximately normal						

Shapiro Wilk for Arsenic

	ln of ordered Conc. x(i)		ln of Reverse Order x(n-i+1)	Difference x(n-i+1)-x(i)	a(n-i+1)	b(i)
	-0.820980552	0.674009067	2.451005098	3.27198565	0.3894	1.27411121
	-0.415515444	0.172653084	2.219203484	2.63471893	0.2684	0.70715856
	0	0	2.208274414	2.20827441	0.2334	0.51541125
	0.470003629	0.220903412	2.104134154	1.63413053	0.2078	0.33957232
	0.641853886	0.411976411	2.028148247	1.38629436	0.1871	0.25937567
	0.693147181	0.480453014	1.824549292	1.13140211	0.1695	0.19177266
	0.916290732	0.839588705	1.791759469	0.87546874	0.1539	0.13473464
	0.955511445	0.913002122	1.791759469	0.83624802	0.1398	0.11690747
	0.955511445	0.913002122	1.740466175	0.78495473	0.1269	0.09961076
	0.993251773	0.986549085	1.722766598	0.72951482	0.1149	0.08382125
	1.064710737	1.133608953	1.667706821	0.60299608	0.1035	0.06241009
	1.098612289	1.206948961	1.667706821	0.56909453	0.0927	0.05275506
	1.16315081	1.352919806	1.648658626	0.48550782	0.0824	0.04000584
	1.16315081	2.781246039	1.648658626	0.48550782	0.0724	0.03515077
	1.16315081	6.007425991	1.568615918	0.40546511	0.0628	0.02546321
	1.252762968	2.195152016	1.568615918	0.31585295	0.0534	0.01686655
	1.280933845	0.913002122	1.481604541	0.2006707	0.0442	0.00886964
	1.30833282	0.172653084	1.481604541	0.17327172	0.0352	0.00609916
	1.335001067	0.674009067	1.458615023	0.12361396	0.0263	0.00325105
	1.335001067	1.99088424	1.458615023	0.12361396	0.0175	0.00216324
	1.335001067	1.352919806	1.435084525	0.10008346	0.0087	0.00087073
	1.410986974	1.782227848	1.410986974	0		0
	1.435084525	3.210401996	1.335001067	-0.1000835		0
	1.458615023	1.352919806	1.335001067	-0.123614		0
	1.458615023	0.839588705	1.335001067	-0.123614		
	1.481604541	0.411976411	1.30833282	-0.1732717		3.97638115
	1.481604541	1.640791516	1.280933845	-0.2006707		
	1.568615918	0.913002122	1.252762968	-0.3158529	W(0.05,43)	0.943
	1.568615918	0	1.16315081	-0.4054651	W(ln)=	0.91061638
	1.648658626	2.781246039	1.16315081	-0.4855078		
	1.648658626	2.059467595	1.16315081	-0.4855078		
	1.667706821	1.352919806	1.098612289	-0.5690945		
	1.667706821	1.133608953	1.064710737	-0.6029961		
	1.722766598	0.986549085	0.993251773	-0.7295148		
	1.740466175	2.127557784	0.955511445	-0.7849547		
	1.791759469	4.427380539	0.955511445	-0.836248		
	1.791759469	4.924864104	0.916290732	-0.8754687		
	1.824549292	4.113385313	0.693147181	-1.1314021		
	2.028148247	2.460555898	0.641853886	-1.3862944		
	2.104134154	2.96792475	0.470003629	-1.6341305		
	2.208274414	1.782227848	0	-2.2082744		
	2.219203484	1.782227848	-0.415515444	-2.6347189		
	2.451005098	1.711734767	-0.820980552	-3.2719857		
Sum of xi	56.26742214		56.26742214			
Mean	1.308544701					
n=	43					
sum of xi^2	90.99206827					
1/n=	0.023255814					
xi=(sum xi)^2	3166.022794					
d=	17.3636312					
W=	0.910616383					
W(0.05,43)=	0.943					
W<W(0.5,43), the distribution is not lognormal						

APPENDIX E

FH-061 Screening Results

Table 5.1 FH-061 Sediment Analytes Above Screening Criteria

Location	Sample ID	Depth	Parameter	Result	Units	Screening Criteria	Screening Concentration	Units
SW103	61SD103	--	Arsenic	10.4 J	mg/kg	Soil Background	9.2	mg/kg
SW104	61SD104	--	Arsenic	7	mg/kg	Sediment Benchmarks	6	mg/kg
			Barium	70	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Cadmium	0.66 B	mg/kg	Sediment Benchmarks	0.6	mg/kg
SW105	61SD105	--	Acetone	0.02 B	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Arsenic	6.4	mg/kg	Sediment Benchmarks	6	mg/kg
			Barium	63.6	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Cadmium	0.94	mg/kg	Sediment Benchmarks	0.6	mg/kg
			Selenium	3.1 B	mg/kg	Sediment Benchmarks	0.0	mg/kg

J - Indicates estimated value

B (Inorganics) - Value was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

B (Organics) - Constituent detected in associated blank sample

Summary of Detected Analytical Results, Detection Limits and Screening Criteria for FH-061 Samples

Location	Sample ID	Depth	Parameter	Result	PQL	Units	Screening Criteria	Screening Value	Units	
SW101	61SD101	--	Arsenic	3.1 J	0.41	mg/kg	Soil Background	9.2	mg/kg	
			Barium	24.6	0.1	mg/kg	Soil Background	157.3	mg/kg	
			Cadmium	0.17	0.05	mg/kg	Soil Background	0.67	mg/kg	
			Chromium	1.4 J	0.1	mg/kg	Soil Background	24.9	mg/kg	
			Lead	3	0.17	mg/kg	Soil Background	19	mg/kg	
				Toluene	0.008	0.006	mg/kg	30 TAC 335 Industrial Soil GWP	100	mg/kg
		61SW101	--	Arsenic	0.0026	0.0025	mg/l	30 TAC 335 Groundwater	0.05	mg/l
	Barium			0.0418	0.0003	mg/l	30 TAC 335 Groundwater	2.0	mg/l	
	2-Butanone			0.011	0.005	mg/l	30 TAC 335 Groundwater	1.83	mg/l	
	SW102	61SD102	--	Arsenic	3.9 J	0.38	mg/kg	Soil Background	9.2	mg/kg
Barium				35.3	0.09	mg/kg	Soil Background	157.3	mg/kg	
Cadmium				0.16	0.05	mg/kg	Soil Background	0.67	mg/kg	
Chromium				6.5 J	0.09	mg/kg	Soil Background	24.9	mg/kg	
Lead				4.8	0.16	mg/kg	Soil Background	19	mg/kg	
				Toluene	0.014	0.006	mg/kg	30 TAC 335 Industrial Soil GWP	100	mg/kg
		61SW102	--	Barium	0.0344	0.0003	mg/l	30 TAC 335 Groundwater	2.0	mg/l
SW103		61SD103	--	Arsenic	10.4 J	0.41	mg/kg	Soil Background	9.2	mg/kg
				Barium	26.9	0.1	mg/kg	Soil Background	157.3	mg/kg
				Cadmium	0.24	0.05	mg/kg	Soil Background	0.67	mg/kg
	Chromium			2.9 J	0.1	mg/kg	Soil Background	24.9	mg/kg	

Summary of Detected Analytical Results, Detection Limits and Screening Criteria for FH-061 Samples

Location	Sample ID	Depth	Parameter	Result	PQL	Units	Screening Criteria	Screening Value	Units
SW103	61SD103	--	Lead	4.6	0.17	mg/kg	Soil Background	19	mg/kg
	61SW103	--	Barium	0.039	0.0003	mg/l	30 TAC 335 Groundwater	2.0	mg/l
SW104	61SD104	--	Arsenic	7	0.58	mg/kg	Sediment Benchmarks	6	mg/kg
			Barium	70	0.11	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Cadmium	0.66 B	0.093	mg/kg	Sediment Benchmarks	0.6	mg/kg
			Chromium	13.5	0.13	mg/kg	Sediment Benchmarks	26	mg/kg
			Lead	12.4	0.34	mg/kg	Sediment Benchmarks	30.2	mg/kg
	61SW104	--	Arsenic	0.0022 B	0.0021	mg/l	30 TAC 335 Groundwater	0.05	mg/l
			Barium	0.0217	0.0003	mg/l	30 TAC 335 Groundwater	2.0	mg/l
			Mercury	0.0002 B	0.0001	mg/l	30 TAC 335 Groundwater	0.002	mg/l
			Selenium	0.0028 B	0.0022	mg/l	30 TAC 335 Groundwater	0.05	mg/l
SW105	61SD105	--	Arsenic	6.4	0.55	mg/kg	Sediment Benchmarks	6	mg/kg
			Barium	63.6	0.11	mg/kg	Sediment Benchmarks	0.0	mg/kg
			Cadmium	0.94	0.089	mg/kg	Sediment Benchmarks	0.6	mg/kg
			Chromium	10.8	0.12	mg/kg	Sediment Benchmarks	26	mg/kg
			Lead	13.7	0.32	mg/kg	Sediment Benchmarks	30.2	mg/kg
			Selenium	3.1 B	1.9	mg/kg	Sediment Benchmarks	0.0	mg/kg
	Acetone	0.02 B	0.009	mg/kg	Sediment Benchmarks	0.0	mg/kg		
	61SW105	--	Arsenic	0.0039	0.0021	mg/l	30 TAC 335 Groundwater	0.05	mg/l
			Barium	0.0279	0.0003	mg/l	30 TAC 335 Groundwater	2.0	mg/l

APPENDIX F

Sediment Benchmark Values

Sediment Benchmarks for Inorganic Constituents Detected in Sediment

Parameters	NOAA ^a		Florida DEP ^b		New York DEC ^c		Minimum Sediment Criteria
	ER-L (mg/kg)	ER-M (mg/kg)	TEL (mg/kg)	PEL (mg/kg)	Lowest Effect Level (mg/kg)	Severe Effect Level (mg/kg)	
Antimony	2	25	NA	NA	2 (L)	25 (L)	2
Arsenic	8.2	70	7.24	41.6	6 (P)	33 (P)	6
Cadmium	1.2	9.6	0.68	4.21	0.6 (P)	9.0 (L)	0.6
Chromium	81	370	52.3	160	26 (P)	110 (P)	26
Copper	34	270	18.7	108	16 (P)	110 (P)	16
Iron	NA	NA	NA	NA	2.0% (P)	4.0% (P)	2.0%
Lead	46.7	218	30.2	112	31 (P)	110 (L)	30.2
Manganese	NA	NA	NA	NA	460 (P)	110 (L)	460
Mercury	0.15	0.71	0.13	0.7	0.15 (L)	1.3 (L)	0.13
Nickel	20.9	51.6	15.9	42.8	16.0 (P)	50.0 (L)	15.9
Silver	1.0	3.7	0.73	1.77	1.0 (L)	2.2 (L)	.73
Zinc	150	410	124	271	120 (P/L)	270 (L)	120

a = Effects Range-Low (ER-L) and Effects Range-Median (ER-M) identified by the National Oceanic and Atmospheric Administration (NOAA) (Long and Morgan 1991)

b = Florida Department of Environmental Protection; TEL = threshold effects level; PEL = probable effects level; source document is MacDonald (1994)

c = Guidelines utilized by the New York Department of Environmental conservation (1993) which includes sediment quality guidelines from the Ontario Ministry of the Environment (Pursaud, Jaagumagi, and Hayton 1990) = (P) and NOAA (Long and Morgan 1991) = (L). Sediment criteria are based on Benthic Aquatic Life Chronic Toxicity.

NA = value not available