

**BUILDING AS-4159 UST AND OIL/WATER SEPARATOR
CLOSURE REPORT
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

Prepared for:

Department of the Navy, Atlantic Division



Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, Virginia 23508-1278

Prepared by:



11560 Great Oaks Way, Suite 500
Alpharetta, GA 30022-2424

Task Order 0033/Shaw Project No. 109972
November 2005

BUILDING AS-4159 UST and OIL/WATER SEPARATOR CLOSURE REPORT

Prepared for:

DEPARTMENT OF THE NAVY

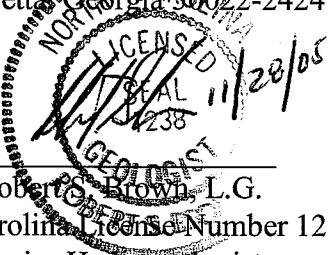
Contract No. N62470-02-D-3260

Task Order 0033

Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, Virginia 23508-1273

Prepared by:

Shaw Environmental, Inc.
11560 Great Oaks Way, Suite 500
Alpharetta, Georgia 30022-2424


Robert C. Brown, L.G.
North Carolina License Number 1238
Senior Hydrogeologist



Ron Kenyon
Project Manager



James A. Dunn Jr., P.E.
Program Manager

Task Order 0033
Shaw Project No. 109972

November 2005

EXECUTIVE SUMMARY		II
1.0	GENERAL INFORMATION	1-1
1.1	Site Location and Description.....	1-1
1.2	NCDENR Notification Forms and UST Removal Permits.....	1-1
1.3	UST and Piping System	1-1
1.4	Facility Information	1-1
1.5	Facility Contacts	1-2
1.6	Site Characteristics.....	1-3
1.6.1	Camp Lejeune Marine Base Location and Description	1-3
1.6.2	Topographic and Hydrogeologic Setting	1-3
2.0	UST CLOSURE PROCEDURES.....	2-1
2.1	Building AS-4159 UST and Oil/Water Separator Removal	2-2
2.2	Temporary Monitoring Well Installation/Groundwater Sample Collection ..	2-3
2.3	Non-hazardous Soil Disposal Sampling and Analysis.....	2-3
3.0	POST EXCAVATION SOIL AND GROUNDWATER SAMPLE ANALYTICAL RESULTS	3-1
3.1	North Carolina Regulatory Standards	3-1
3.2	UST Confirmation Soil Sampling Analytical Results	3-1
3.3	Groundwater Sample Analytical Results	3-1
3.4	Disposal Sampling Analytical Results.....	3-2
4.0	CONCLUSIONS AND RECOMMENDATIONS.....	4-1

FIGURES

Figure 1.1 Site Vicinity Map
Figure 1.2 Site Location Map
Figure 1.3 Building AS-4159 Site Map
Figure 1.4 Sample Location and Analytical Results Map

TABLES

Table 3.1	MADEP-EPH/VPH Summary Confirmation Soil Sample Analytical Results
Table 3.2	Confirmation Soil Sample VOC, SVOC, Metals and Pesticide Analytical Results
Table 3.3	Groundwater VOC, SVOC, Metals and Pesticide Analytical Results
Table 3.4	Groundwater MADEP-EPH/VPH Analytical Results

APPENDIX

Appendix A	Notification of Intent: UST Permanent Closure or Change-in-Service (UST-3 Form)
Appendix B	Site Investigation Report for Permanent Closure or Change-in-Service of UST (UST-2 Form)
	24 Hour Release and UST Leak Reporting Form (UST Form 61)
Appendix C	Soil and UST Disposal Manifests
Appendix D	Complete Chain of Custody Records
Appendix E	Laboratory Analytical Reports
Appendix F	Photographs of UST Closure Activities
Appendix G	MADEP-EPH/VPH Sample Analytical Results
Appendix H	Temporary Monitoring Well Construction and Abandonment Logs

EXECUTIVE SUMMARY

Building AS-4159 is located along Perimeter Road on the New River Air Station. The following work was accomplished at the site during UST removal activities:

- Remove an existing 1,000 gallon UST and associated concrete oil/water separator at Building AS-4159. The UST was installed on a 5.5 feet by 5.5 feet concrete pad at a depth of approximately 8 feet bls.
- Excavation of approximately 200 tons of non-hazardous soil from the UST location at Building AS-4159.
- Collection of four confirmation soil samples from the excavation sidewalls adjacent to the concrete pad sides and immediately above groundwater (approximately 8.5 feet bls) for pesticides (Method 8081A), PCBs (Method 8082), chromium and lead (Method 6010B), VOCs plus IPE & MTBE (Method 8260B), SVOCs (Method 8270C), MADEP-EPH and MADEP-VPH analysis.
- Collection of two soil samples beneath the piping connecting the oil/water separator and the UST (approximately 4-feet bls) for pesticides (Method 8081A), PCBs (Method 8082), chromium and lead (Method 6010B), VOCs plus IPE & MTBE (Method 8260B), SVOCs (Method 8270C), MADEP-EPH and MADEP-VPH analysis.
- Collection of one soil sample beneath the oil/water separator for TPH-GRO and TPH-DRO analysis.
- A temporary monitoring well was installed in the excavation by a North Carolina licensed driller. Following installation, a groundwater sample was collected for VOCs (Method 8260B), SVOCs (Method 625), Metals, chromium and lead (Method 6010), MADEP-EPH, and MADEP-VPH analysis.
- Collection of one composite soil sample from the soil stockpile for TPH-DRO, TPH-GRO, general chemistry and Full TCLP analysis for disposal purposes.
- Restoration of the site by backfilling, compacting and completing with asphalt cover.
- Transportation to and disposal of soil at an in-State petroleum permitted disposal facility.
- Transportation and disposal of the steel UST at a local steel recycling facility.

The removal activity revealed some soil staining with a hydrocarbon odor on the north side of the UST. Screening of the soil removed from the north side of the UST with an Organic Vapor Analyzer equipped with a Flame Ionization Detector (OVA-FID) detected organic vapors at a concentration of 325 ppm. OVA-FID readings from the soil removed from the remainder of the excavation were predominantly non-detect with no readings in excess of 50 ppm.

Soil analytical results from confirmation soil sample AS4159-02 collected from beneath the oil/water separator detected TPH-DRO (384 mg/kg) at a concentration above the North Carolina action level of 10 mg/kg. Soil sample AS4159-04 detected the C₉-C₂₂ aromatics hydrocarbon range (1,190 mg/kg) at a concentration in excess of North Carolina's residential and soil-to-groundwater MSCC. Soil sample AS4159-05 detected the C₉-C₂₂ aromatics hydrocarbon range (102.2 mg/kg) at a concentration above the soil-to-groundwater MSCC. The groundwater sample detected the C₉-C₂₂ aromatics hydrocarbon range (443 µg/l), chromium (52.5 µg/l) and lead (33.1 µg/l) at concentrations above the North Carolina GWQS.

For disposal purposes, soil from the UST excavation was staged on site until transportation and disposal was completed. One composite soil sample from the excavated backfill material was collected for disposal analysis. The sample was analyzed for TPH-GRO and TPH-DRO. Results from the analyses met the allowable State regulatory levels for non-hazardous landfill disposal. The soils were disposed at Oak Hill Farms located in Autryville, North Carolina. The facility is an in-State petroleum permitted disposal facility.

Because analytical results from confirmation soil samples AS4159-02, AS4159-04 and AS4159-05 exceeded North Carolina's soil action levels, and groundwater analytical results exceeded the GWQS for the C₉-C₂₂ carbon range, chromium and lead additional contamination assessment activities will be required.

1.0 GENERAL INFORMATION

1.1 Site Location and Description

Building AS-4159 is located in the Building 2000-5000 area of the New River Air Station, Marine Corps Base, Camp Lejeune, North Carolina (*Figure 1.1*). The site is located next to Perimeter Road within the compound for the Second Marine Air Wing Operational and Maintenance Facility. The building is used for vehicle maintenance and repair. A neighboring structure, Building AS-4158, is also a maintenance support facility for Marine Corps Air Station (MCAS) vehicles. Refueling bays and petroleum above ground tanks (ASTs) are located near Building AS-4158.

Building AS-4159 is surrounded by areas used for equipment and vehicle staging. The area adjacent to the building is concrete and asphalt covered. Land usage in the vicinity of Building AS-4159 includes a combat vehicle maintenance facility (Building AS-4158) to the north, roads to the east and woods to the south and west. *Figure 1.2* presents a site vicinity map and *Figure 1.3* presents a site map showing the former UST location and other pertinent site features. The removed UST was used to contain waste oil from the associated oil/water separator.

Evidence of a petroleum release was observed in the form of stained soil exhibiting petroleum hydrocarbon odors in the soil north of the UST (between the oil/water separator and the UST). Screening of the soil removed from the excavation with an Organic Vapor Analyzer equipped with a Flame Ionization Detector (OVA-FID) detected organic vapors at concentrations up to 325 ppm.

1.2 NCDENR Notification Forms and UST Removal Permits

A Notification of Intent form (UST-3) to remove the UST was submitted to the NCDENR, Wilmington Regional Office by the Marine Corp Base prior to UST removal activities. A photocopy of the completed UST-3 form is provided in *Appendix A*. No local UST removal permits were required. The MCB Fire Division was notified of the closure activities.

1.3 UST and Piping System

The UST located at Building AS-4159 consisted of one 1,000 gallon ACT100 doublewall polyethylene coated steel tank. The UST and oil water separator system had been installed in January 1999.

1.4 Facility Information

The facility name, UST owner and UST information are provided below:

Name: Building AS-4159

UST Location Building AS-4159, Perimeter Road
New River Air Station
Onslow County
Camp Lejeune, N.C. 28542-0004

UST Owner: Commanding General, MCB
Building 1 Holcomb Boulevard
PSC Box 20004
Onslow County
Camp Lejeune, NC 28542-0001

UST Information: Building AS-4159 Tank Number – AS-4159-2
Facility ID #X-002740
Tank Capacity – 1,000 gallons
Tank Dimensions – 4.5 feet diameter by 6 feet long
Last Contents – Used Oil
Previous Contents – Used Oil

1.5 Facility Contacts

Information regarding the responsible party, as well as the names, addresses, and phone numbers of the primary contacts, the UST excavation subcontractor, the primary consultant, and the analytical laboratory are as follows:

Primary Responsible Party Contact:

Mr. Andrew Smith
Mr. Bruce Markwick
I & E/EMD, MCB
PSC Box 20004
Camp Lejeune, NC 28542
(910)451-9660

Closure Contractor &

Primary Consultant

Mr. Ron Kenyon
Shaw Environmental, Inc
11560 Great Oaks Way
Suite 500
Alpharetta, Georgia 30022
(770)475-8994

UST Excavation Contractor:

Shaw Environmental, Inc.
11560 Great Oaks Way, Suite 500
Alpharetta, Georgia 30022
(770)475-8994

Laboratory:

Accutest Laboratories SE, Inc.
4405 Vineland Road, Suite C15
Orlando, Fl 32811-7363
(407)425-6700
Heather Wandrey, Project Manager
N.C. Certification No. 573

1.6 Site Characteristics

Building AS-4159 is located in the Building 2000-5000 area of the New River Air Station, Marine Corps Base, Camp Lejeune, North Carolina. The site is located next to Perimeter Road and is a part of the compound for the Second Marine Air Wing Operational and Maintenance Facility. Previous contamination assessment work has been completed at the site by several contractors. However, this assessment work was not related to the UST that was removed.

1.6.1 Camp Lejeune Marine Base Location and Description

Located in Onslow County, North Carolina, MCB Camp Lejeune is a training base for the United States Marine Corps. The Base covers approximately 236 square miles (153,000 acres) and includes 14 miles of coastline. MCB Camp Lejeune is bounded to the southeast by the Atlantic Ocean and to the northeast by State Route 24. Wooded areas are located North, East, and West of the site. The town of Jacksonville, North Carolina is located north of the base.

1.6.2 Topographic and Hydrogeologic Setting

The following sections briefly discuss the site topography and hydrogeologic setting.

Topography

The project area is at an elevation of approximately 20 to 23 feet above mean sea level and is relatively flat. In general, the area gently slopes towards the west-southwest. The nearest mapped body of surface water is Southwest Creek approximately one mile south of the site (*Figure 1.2*). Surface water runoff from the site drains from the paved areas to the Base storm water sewer system.

Regional Geology and Hydrogeology

Sediment and stratigraphy in the vicinity of the site indicates that near surface soils within 6 to 8 feet below land surface (bls) generally consist of sandy clays to clayey fine sands with occasional fine sand or clay lenses. Below the surficial material, soils generally consist of relatively clean fine to medium sands with discontinuous clay lenses to bedrock. In general groundwater flow in the area is toward to the west and south toward Southwest Creek.

2.0 UST CLOSURE PROCEDURES

Shaw Environmental, Inc. (Shaw) was contracted to provide closure services for UST and oil/water separator removal activities at Building AS-4159. The UST and associated oil/water separator were located on the western side of the building. The MCB Fire Division was contacted prior to removal operations. Photographs of UST removal activities are provided in *Appendix F*.

Equipment and personnel currently working at Camp Lejeune performed the UST and oil/water separator removal activities. The initial site preparation activities included:

- Acquiring dig permits and proper safety forms.
- Examining the site to determine access to the proposed excavation area.
- Delineation of the job site perimeter and work zones.
- Location of all utilities within the project area.
- Placement of an excavator into the excavation area.
- Construction of a soil staging area and decontamination pad.
- Placement of temporary fence/barricades surrounding the work area.
- Procurement of required equipment and materials.

A local utility locator contracted by Shaw identified and marked known utilities within the work zone.

Initial field activities began on 25 August 2005, to remove the 6-inch thick re-bar reinforced concrete pad covering the UST and oil/water separator. Removal activities of the oil/water separator were completed 27 August 2005 and the UST was removed 29 August 2005. The oil/water separator and the 1,000 gallon doublewall polyethylene coated steel UST was removed using a track mounted excavator. Groundwater was observed in the excavation at a depth of nine feet bls. The depth from land surface to the top of the tank was 2.5 feet bls. The tank was installed in a moderately sorted very angular to sub-angular gravel backfill material. Native material surrounding the UST excavation consisted of a light brown silty sand. The tank was completely surrounded by the gravel backfill.

Following removal of the UST from the excavation, an inspection of the UST did not identify any cracks in the tank or any evidence of a petroleum leak. The oil/water separator removal activity did not reveal soil staining or hydrocarbon odors in the backfill material. However, some staining of the soil between the UST and the oil water separator at an approximate depth of eight feet bls was observed. Screening of the soil with an Organic Vapor Analyzer equipped with a

Flame Ionization Detector (OVA-FID) removed from the north side of the UST detected organic vapors at a concentration of 325 ppm. OVA-FID readings from the soil removed from the remainder of the excavation were predominantly non-detect with no readings in excess of 50 ppm. OVA-FID readings from soil removed from the oil/water separator excavation did not detect organic vapors in excess of 1 ppm. All of the soil removed during UST removal activities was staged on site for disposal. A copy of the disposal manifests are provided in *Appendix C*.

Following removal, the outside of the UST was cleaned of excess soil and inspected for damage. The inside of the UST was inerted using nitrogen gas, and tested with an O₂/LEL meter and OVA-FID to ensure it was safe to cut the tank. The ends of the tank were then cut off, the inside was cleaned and the tank was then cut up.

The steel UST was disposed at a local steel recycling facility. A copy of the UST disposal manifest is provided in *Appendix C*. A completed Site Investigation Report for Permanent Closure or Change in Service of UST (UST-2 Form) is provided in *Appendix B*. The excavated area was back-filled with clean sand material and covered with concrete to match the surrounding area.

During UST excavation and removal activities, routine air monitoring in the breathing zone was performed during excavation activities using an OVA-FID to monitor for the presence of volatile hydrocarbons. No readings were detected above the ambient level of 0.0 parts per million (ppm) at the UST location; therefore no upgrade in protective equipment was required.

2.1 Building AS-4159 UST and Oil/Water Separator Removal

During excavation activities the soil from the excavation was screened with an OVA-FID. Field measurements ranged from non-detect to 325 ppm (from the north end of the UST). Excavated soil was staged on plastic and stockpiled at the site. The final UST excavation area was approximately 14 ft x 32 ft to a depth of 9 feet bls. Approximately 200 tons of backfill material was removed from the excavation. Approximately 10 feet of underground piping connecting the oil/water separator to the UST was removed. *Figure 1.3* presents a site map of the UST removal activities.

UST number AS-4159-2 was a 1,000 gallon capacity, 6.5-feet long by 5.5-feet diameter, doublewall polyethylene coated steel tank. The tank was completely surrounded by the gravel backfill material. During removal activities it was discovered the UST had been installed on a 5.5 feet by 5.5 feet concrete pad approximately 8.5 feet bls. Following removal of the UST, because of the concrete pad and the occurrence of groundwater at a depth of approximately 9 feet bls, four confirmation soil samples were collected adjacent to the sides of the concrete pad from a

depth of approximately 8.5-feet bls. In addition, a soil sample was collected from beneath the oil/water separator and the piping leaving the oil/water separator and entering the UST. These samples were collected from a depth of 4 feet bls.

The sample from beneath the oil/water separator was analyzed for TPH-GRO and TPH-DRO. The remaining samples were analyzed for pesticides (Method 8081A), PCBs (Method 8082), chromium and lead (Method 6010B), VOCs plus IPE & MTBE (Method 8260B), SVOCs (Method 8270C), MADEP-EPH and MADEP-VPH. The remedial objectives were based on North Carolina's TPH-GRO/DRO action level of 10 mg/kg and North Carolina's residential and soil-to-groundwater MSCCs.

2.2 Temporary Monitoring Well Installation/Groundwater Sample Collection

Because groundwater was observed in the UST excavation, a temporary monitoring well was installed on September 26, 2005 in the backfilled excavation. The monitoring well was installed using hollow stem auger drilling techniques to a total depth of 15 feet bls. The well was constructed using a 10 foot section of 1-inch diameter, Schedule 40 PVC 0.010-inch slot well screen and 5-feet of riser pipe. A groundwater sample was collected on October 3, 2005 for VOCs (Method 8260B), SVOCs (Method 625), Metals chromium and lead (Method 6010), MADEP-EPH and MADEP-VPH analysis. Following groundwater sample collection the monitoring well was properly abandoned by a North Carolina licensed driller. Photocopies of the well completion and abandonment forms are provided in *Appendix H*.

2.3 Non-hazardous Soil Disposal Sampling and Analysis

One composite soil sample from the stockpiled backfill material was collected September 1, 2005 for disposal characterization analysis. The sample was analyzed for TPH-GRO, TPH-DRO, Full TCLP analysis and physical characteristics in accordance with requirements of the disposal facility. The concrete and steel rebar were taken to the Base recycling center located across from the Base landfill.

3.0 POST EXCAVATION SOIL and GROUNDWATER SAMPLE ANALYTICAL RESULTS

The following sections discuss analytical results of the post excavation confirmation soil samples collected following UST and oil/water separator removal activities. *Figure 1.4* illustrates the locations and provides analytical results of the soil samples.

3.1 North Carolina Regulatory Standards

The remedial action cleanup criteria for the Building AS-4159 soils were based on the NCDENR TPH-GRO/GRO guidelines, residential MSCCs and soil-to-groundwater MSCCs.

3.2 Confirmation Soil Sampling Analytical Results

Following excavation activities, confirmation soil samples were collected from adjacent to each side of the concrete pad (immediately above groundwater), beneath the oil/water separator, and beneath the piping leaving the oil/water separator and entering the UST. The sample from beneath the oil/water separator was sent to an off-site laboratory for TPH-GRO/DRO analysis. The remaining samples were sent to an off-site laboratory for pesticides (Method 8081A), PCBs (Method 8082), chromium and lead (Method 6010B), VOCs plus IPE & MTBE (Method 8260B), SVOCs (Method 8270C), MADEP-EPH and MADEP-VPH analysis. A photocopy of the chain-of-custody for these samples is provided in *Appendix D*.

Soil analytical results from confirmation soil sample AS4159-02 collected from beneath the oil/water separator detected TPH-DRO (384 mg/kg) at a concentration above the North Carolina action level of 10 mg/kg. Soil sample AS4159-04 detected the C₉-C₂₂ aromatics hydrocarbon range (1,190 mg/kg) at a concentration in excess of North Carolina's residential and soil-to-groundwater MSCC. Soil sample AS4159-05 detected the C₉-C₂₂ aromatics hydrocarbon range (102.2 mg/kg) at a concentration above the soil-to-groundwater MSCC. Photocopies of the confirmation soil sample laboratory analytical reports are provided in *Appendix E*. The MADEP-EPH/VPH confirmation sample analytical results are provided in *Appendix G*.

Because analytical results exceeded North Carolina MSCCs for some compounds, the Navy submitted an UST Form 61 to the NCDENR on September 20, 2005. A copy of the UST Form 61 is provided in *Appendix B*.

3.3 Groundwater Sample Analytical Results

Following excavation activities, one groundwater sample was collected from the temporary well and sent to an off-site laboratory for VOCs, SVOCs and MADEP-EPH/VPH analysis. A photocopy of the chain-of-custody for this sample is provided in *Appendix D*.

Analytical results detected the C₉-C₂₂ aromatics hydrocarbon range (443 µg/l), chromium (52.5 µg/l) and lead (33.1 µg/l) at concentrations in excess of the North Carolina Groundwater Quality Standards (GWQS). *Table 3.2* presents VOC and SVOC analytical results. *Table 3.3* presents MADEP-EPH/VPH analytical results. The groundwater sample laboratory analytical reports are provided in *Appendix E*. The location of the temporary well is illustrated in *Figure 1.4*.

3.4 Disposal Sampling Analytical Results

The soil disposal analytical results indicated all compounds were below their respective regulatory limits and the soil was determined to be non-hazardous. The soil was disposed of at ES&J Enterprises, Inc. located in Autryville, North Carolina. The facility is a state permitted Subtitle D Landfill. The laboratory analytical reports for the disposal analyses are provided in *Appendix E*.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Between August 25, 2005 and August 29, 2005 a concrete oil/water separator and associated 1,000 gallon doublewall polyethylene coated steel UST was removed from Building AS-4159, MCAS, Camp Lejeune, North Carolina. The UST and oil/water separator had been used to contain used oil.

The removal activities revealed some soil staining and hydrocarbon odor when the UST was removed. A total of approximately 200 tons of soil was removed for off-site disposal during removal activities. Groundwater was observed during excavation activities at an approximate depth of 9-feet bls.

Soil laboratory analytical results are provided in *Tables 3.1, 3.2, 3.3, 3.4 and Appendix G* and summarized below.

- *TPH-DRO Results:* Soil analytical results from confirmation soil sample AS4159-02 collected from beneath the oil/water separator detected TPH-DRO (384 mg/kg) at a concentration above the North Carolina action level of 10 mg/kg.
- *MADEP-EPH Results:* Soil sample AS4159-04 detected the C₉-C₂₂ aromatics hydrocarbon range (1,190 mg/kg) at a concentration in excess of North Carolina's residential and soil-to-groundwater MSCC. Soil sample AS4159-05 detected the C₉-C₂₂ aromatics hydrocarbon range (102.2 mg/kg) at a concentration above the soil-to-groundwater MSCC.
- *MADEP-VPH Results:* Confirmation soil sample analytical results were not above North Carolina's Industrial, Residential or Soil-to-Groundwater MSCCs.
- *VOC Results:* Confirmation soil sample analytical results were not above North Carolina's Industrial, Residential or Soil-to-Groundwater MSCCs.
- *SVOC Results:* Confirmation soil sample analytical results were not above North Carolina's Industrial, Residential or Soil-to-Groundwater MSCCs.
- *Pesticide Results:* Confirmation soil sample analytical results were not above North Carolina's Industrial, Residential or Soil-to-Groundwater MSCCs.
- *PCBs Results:* Confirmation soil sample analytical results were not above North Carolina's Industrial, Residential or Soil-to-Groundwater MSCCs.

- *Chromium and Lead Results:* Confirmation soil sample analytical results were not above North Carolina's Industrial, Residential or Soil-to-Groundwater MSCCs.
- *Groundwater Analytical Results:* Groundwater analytical results of the sample collected from the temporary well indicated the C9-C22 aromatics hydrocarbon range (443 µg/l), chromium (52.5 µg/l) and lead (33.1 µg/l) exceeded the North Carolina GWQS.

Based on analytical results of the groundwater and confirmation soil samples collected from the former UST and oil/water separator excavation, additional soil and groundwater assessment will be required.

FIGURES

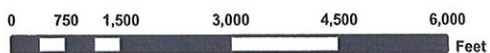
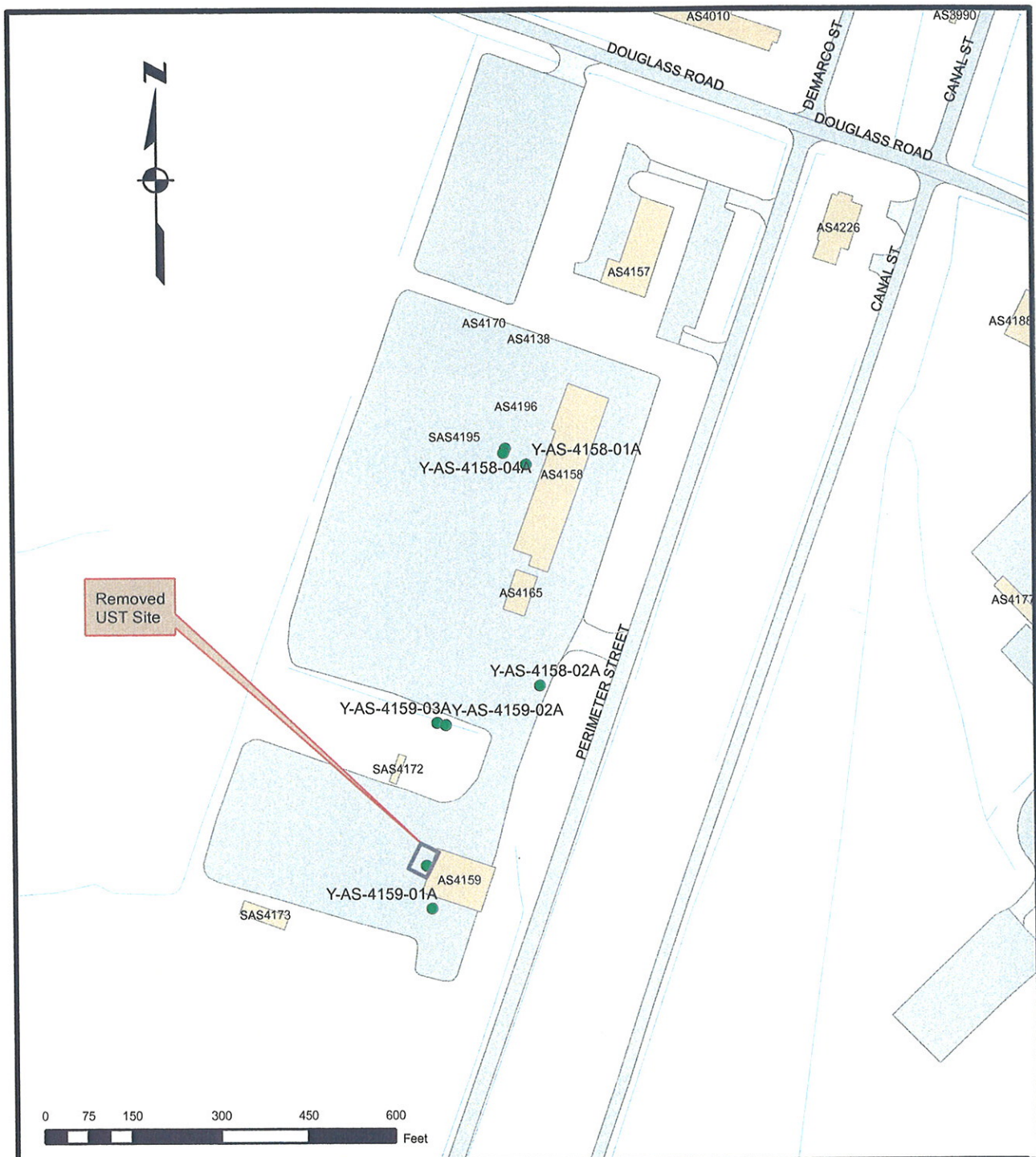


**FIGURE 1.1
SITE VICINITY MAP
BUILDING AS-4159
NEW RIVER AIR STATION, NC**

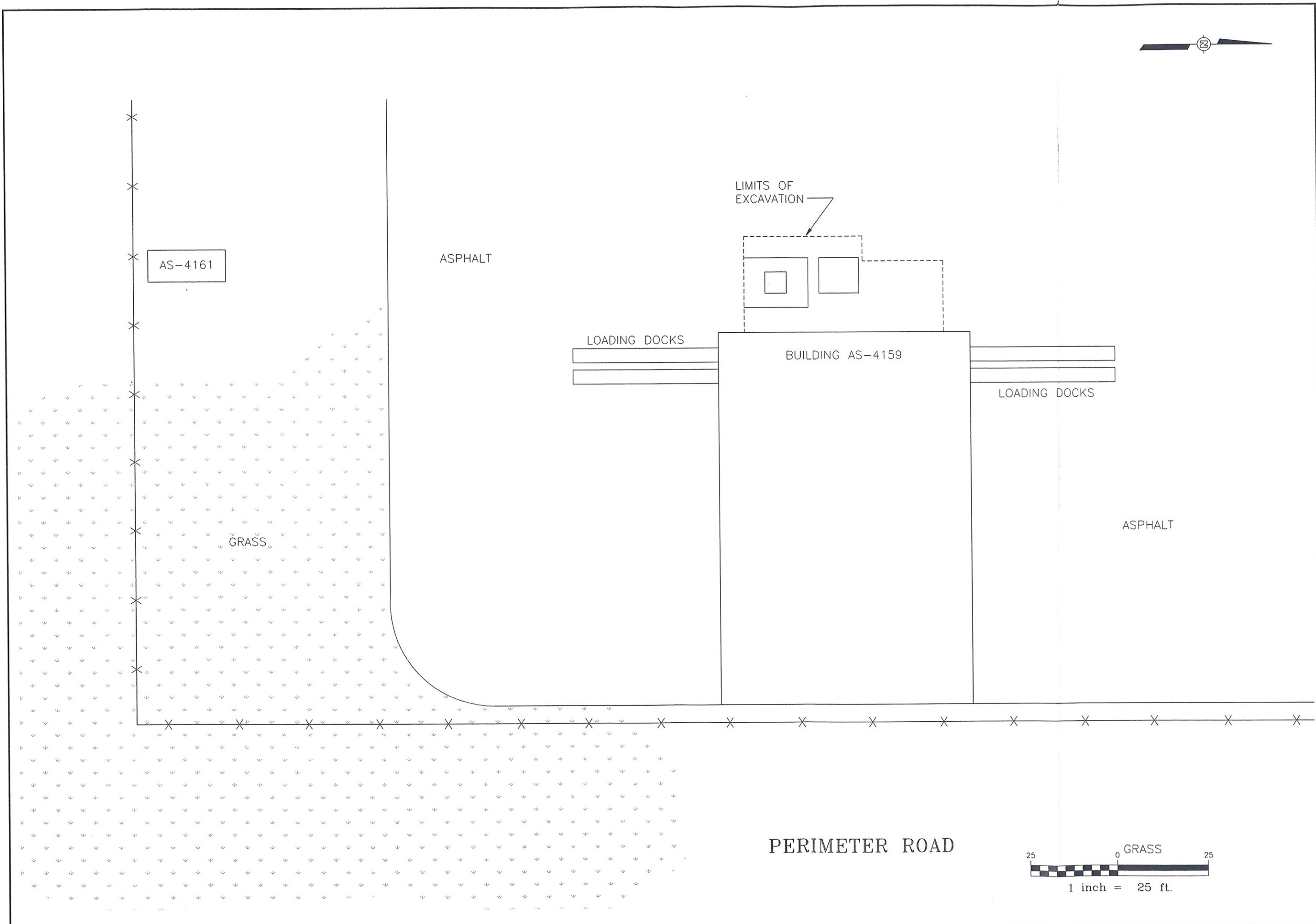


Legend

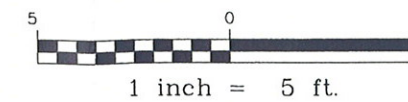
- storage_tank_point
- buildings_general_area
- vehicle_parking_area
- road_area
- ditch_aqueduct_centerline

 Shaw Environmental, Inc.

FIGURE 1.2
SITE LOCATION MAP
BUILDING AS-4159
NEW RIVER AIR STATION, NC



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND		DRAFT FORENSICS WP	
NAVAL STATION		ATLANTIC DIVISION			
MCB CAMP LEJEUNE		JACKSONVILLE, N.C.			
BUILDING AS-4159		PROJECT NO. 109972			
NEW RIVER AIR STATION, NORTH CAROLINA		DESIGNED BY RBK		CHECKED BY RBK	
		DRAWN BY JEL		APPROVED BY	
SHEET I.D.		1.3		REVISIONS	
				REV	
		DATE		BY	
		4/00		CHK'D APR '00	
				DESCRIPTION/ISSUE	



DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND ATLANTIC DIVISION NAVAL STATION NORFOLK, VIRGINIA MCB CAMP LEJEUNE JACKSONVILLE, N.C.		 Shaw [™] Shaw Environmental, Inc.		PROJECT NO. 109972		0 4/00		DRAFT FORENSICS WIP	
BUILDING AS-4159 NEW RIVER AIR STATION, NORTH CAROLINA		DESIGNED BY		CHECKED BY		REV		DATE	
UST REMOVAL SITE AND SAMPLE LOCATIONS		DRAWN BY		APPROVED BY		BY		CHK'D	
SCALE: AS SHOWN		SIZE:		DESCRIPTION/ISSUE		REVISIONS			
DELIVERY ORDER NO. 033		CONSTR. CONTRACT NO. N62470-97-D-5000		NAVFAC DRAWING NO.		SHEET I.D. 1.4			

TABLES

Table 3.1
Building AS-4159
MADEP-EPH/VPH Summary Confirmation soil Sample Analytical Results

Method for Ranges: MADEP-EPH/VPH		Sample Identification			AS4159-02	AS4159-03	AS4159-04	AS4159-05
Hydrocarbon Ranges	Units of Measure	Residential	Industrial	Soil to Water				
C9-C18 Aliphatics	mg/kg	9,386	245,280	3,255	ND	ND	1,750	169
C19-C36 Aliphatics	mg/kg	93,860	#	#	ND	ND	ND	16.2
C9-C22 Aromatics (Unadj.)	mg/kg	469	12,264	34	ND	ND	1,190	102.2
C5-C8 Aliphatics	mg/kg	939	24,528	72	ND	ND	ND	ND

Bold = Above Soil-to-Groundwater MSCC

Shaded = Above Residential MSCC

Method for Ranges: MADEP-EPH/VPH		Sample Identification			AS4159-06	AS4159-07	AS4159-08
Hydrocarbon Ranges	Units of Measure	Residential	Industrial	Soil to Water			
C9-C18 Aliphatics	mg/kg	9,386	245,280	3,255	ND	ND	ND
C19-C36 Aliphatics	mg/kg	93,860	#	#	ND	ND	ND
C9-C22 Aromatics (Unadj.)	mg/kg	469	12,264	34	ND	ND	ND
C5-C8 Aliphatics	mg/kg	939	24,528	72	ND	ND	ND

Bold = Above Soil-to-Groundwater MSCC

Shaded = Above Residential MSCC

= Health Based Level >100% Solubility

Table 3-2
AS-4159
VOC, SVOC, Metals and Pesticides Confirmation Soil Sample Analytical Results

Date: 9/13/2005			Project Number and Name: 109972 AS-4159																	
Analytical Method:			8260B																	
Contaminant of Concern			Aceitone	Benzene	Bromodichloromethane	Bromofom	Chlorobenzene	Chloroethane	Chloroform	Carbon disulfide	Carbon tetrachloride	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichloropropane	Di-Isopropyl ether	Dibromodichloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropane	trans-1,2-Dichloroethene
Sample ID	Date Collected	Sample Depth (ft bgs)																		
AS4159-002 Product Line next to QWS	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Soil to Groundwater MSCC (mg/kg)			3	0.0058	NS	NS	NS	NS	0.001	4	NS	4	0.045	0.0018	0.0029	0.37	0.002	0.35	0.0009	0.38
Residential MSCC (mg/kg)			1564	22	NS	NS	NS	NS	100	1564	NS	1560	1	7	9	156	7	156	4	320
Industrial/Commercial MSCC (mg/kg)			40800	200	NS	NS	NS	NS	938	40880	NS	40000	10	63	84	4088	68	4000	33	8200

Date: 9/13/2005			Project Number and Name: 109972 AS-4159																	
Analytical Method:			8260B																	
Contaminant of Concern			trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	4-Methyl-2-pentanone	Methyl bromide	Methyl chloride	Methylene chloride	Methyl ethyl ketone	Methyl tert Butyl ether	Styrene	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	Tetrachloroethene	Toluene	Trichloroethene	Vinyl chloride	Xylenes (total)
Sample ID	Date Collected	Sample Depth (ft bgs)																		
AS4159-002 Product Line next to QWS	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.703 J
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	0.0103 JB	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Soil to Groundwater MSCC (mg/kg)			0.0009	0.24	1.9	NS	NS	0.02	0.02	0.7	0.92	2.24	NS	0.001	NS	0.0074	7	0.0183	NS	5
Residential MSCC (mg/kg)			4	1560	625	NS	NS	49	85	9385	156	3128	NS	3	NS	12	3200	58	NS	32000
Industrial/Commercial MSCC (mg/kg)			33	40000	16352	NS	NS	440	763	245280	4088	81760	NS	28	NS	110	82000	520	NS	200000

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit
 MSCC = Maximum Soil Contamination Concentration

ft bgs = feet below ground surface

Results must be reported in mg/kg

mg/kg = milligrams per kilogram

NA = not applicable

NS = no standard

Table 3-2
AS-4159

VOC, SVOC, Metals and Pesticides Confirmation Soil Sample Analytical Results

Date: 9/13/2005			Project Number and Name: 109972 AS-4159																
Analytical Method:			8270C																
Contaminant of Concern			Benzoic acid	2-Chlorophenol	4-Chloro-3-methylphenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-o-cresol	2-Methylphenol	3&4-Methylphenol	2-Nitrophenol	4-Nitrophenol	Pentachlorophenol	Phenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	Acenaphthene	Acenaphthylene
Sample ID	Date Collected	Sample Depth (ft bgs)																	
AS4159-002 Product Line next to OWS	8/29/2005	4	ND	ND	ND	ND	ND	ND	<0.36	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Soil to Groundwater MSCC (mg/kg)			NS	NS	NS	NS	0.9	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	8	11
Residential MSCC (mg/kg)			NS	NS	NS	NS	312	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	940	469
Industrial/Commercial MSCC (mg/kg)			NS	NS	NS	NS	8176	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	24000	12264

Date: 9/13/2005			Project Number and Name: 109972 AS-4159																
Analytical Method:			8270C																
Contaminant of Concern			4-Chlorophenyl phenyl ether	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dinitrotoluene	2,6-Dinitrotoluene	3,3'-Dichlorobenzidine	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-butyl phthalate	Di-n-octyl phthalate	Diethyl phthalate	Dimethyl phthalate	Bis(2-ethylhexyl)phthalate	Fluoranthene	Fluorene	Hexachlorobenzene
Sample ID	Date Collected	Sample Depth (ft bgs)																	
AS4159-002 Product Line next to OWS	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.196 J	ND
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.446	ND	ND	ND
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Soil to Groundwater MSCC (mg/kg)			NS	7	24	1	NS	NS	NS	0.17	4.7	NS	NS	NS	NS	6.67	276	44	NS
Residential MSCC (mg/kg)			NS	1400	1400	27	NS	NS	NS	0.088	62	NS	NS	NS	NS	46	620	620	NS
Industrial/Commercial MSCC (mg/kg)			NS	36000	36000	240	NS	NS	NS	0.78	1635	NS	NS	NS	NS	410	16400	16400	NS

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)
List any contaminant detected above the method detection limit
MSCC = Maximum Soil Contamination Concentration
ft bgs = feet below ground surface
Results must be reported in mg/kg
mg/kg = milligrams per kilogram
NA = not applicable
NS = no standard

Table 3-2
AS-4159

VOC, SVOC, Metals and Pesticides Confirmation Soil Sample Analytical Results

Date: 9/13/2005			Project Number and Name: 109972 AS-4159															
Analytical Method:			8270C															
Contaminant of Concern			Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	4-Bromophenyl phenyl ether	Butyl benzyl phthalate	Benzyl alcohol	2-Chloronaphthalene	4-Chloroaniline	Carbazole	Chrysene	Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl)ether
Sample ID	Date Collected	Sample Depth (ft bgs)																
AS4159-002 Product Line next to QWS	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Soil to Groundwater MSCC (mg/kg)			995	0.34	0.091	1	6720	12	NS	NS	NS	NS	NS	NS	38	NS	0.0002	NS
Residential MSCC (mg/kg)			4800	0.88	0.088	0.88	489	9	NS	NS	NS	NS	NS	NS	88	NS	0.58	NS
Industrial/Commercial MSCC (mg/kg)			122000	8	0.78	8	12264	78	NS	NS	NS	NS	NS	NS	780	NS	5.2	NS

Date: 9/13/2005			Project Number and Name: 109972 AS-4159															
Analytical Method:			8270C															
Contaminant of Concern			Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	2-Methylnaphthalene	2-Nitroaniline	3-Nitroaniline	4-Nitroaniline	Naphthalene	Nitrobenzene	N-Nitroso-di-n-propylamine	N-Nitrosodiphenylamine	Phenanthrene	Pyrene	1,2,4-Trichlorobenzene
Sample ID	Date Collected	Sample Depth (ft bgs)																
AS4159-002 Product Line next to QWS	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	1.5	ND	ND	ND	0.311 J	ND	ND	ND	0.285 J	ND	ND
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Soil to Groundwater MSCC (mg/kg)			0.26	NS	NS	3	NS	3	NS	NS	NS	0.58	NS	NS	NS	60	286	2.6
Residential MSCC (mg/kg)			3.1	NS	NS	0.88	NS	63	NS	NS	NS	63	NS	NS	NS	469	489	156
Industrial/Commercial MSCC (mg/kg)			73	NS	NS	8	NS	1635	NS	NS	NS	1635	NS	NS	NS	12264	12264	4088

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

MSCC = Maximum Soil Contamination Concentration

ft bgs = feet below ground surface

Results must be reported in mg/kg

mg/kg = milligrams per kilogram

NA = not applicable

NS = no standard

Table 3-2
AS-4159

VOC, SVOC, Metals and Pesticides Confirmation Soil Sample Analytical Results

Date: 9/13/2005			Project Number and Name: 109972 AS-4159														
Analytical Method:			8081A														
Contaminant of Concern			Aldrin	alpha-BHC	beta-BHC	delta-BHC	gamma-BHC (Lindane)	alpha-Chlordane	gamma-Chlordane	Dieldrin	4,4'-DDD	4,4'-DDE	4,4'-DDT	Endrin	Endosulfan sulfate	Endrin aldehyde	Endrin ketone
Sample ID	Date Collected	Sample Depth (ft bgs)															
AS4159-002 Product Line next to OWS	8/29/2005	4	ND	ND	ND	ND	ND	0.0013 J	0.0029	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	0.00081 J	0.0015 J	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	0.0016 J	ND	ND	ND	ND	ND	ND	ND	ND
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Soil to Groundwater MSCC (mg/kg)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Residential MSCC (mg/kg)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Industrial/Commercial MSCC (mg/kg)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Date: 9/13/2005			Project Number and Name: 109972 AS-4159														
Analytical Method:			8081A						8082						6010B		
Contaminant of Concern			Endosulfan-I	Endosulfan-II	Heptachlor	Heptachlor epoxide	Methoxychlor	Toxaphene	Arochlor 1016	Arochlor 1221	Arochlor 1232	Arochlor 1242	Arochlor 1248	Arochlor 1254	Arochlor 1260	Chromium	Lead
Sample ID	Date Collected	Sample Depth (ft bgs)															
AS4159-002 Product Line next to OWS	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.7	3.7 B
AS4159-003 Product Line next to UST	8/29/2005	4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	2.8 B
AS4159-004 North End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.5	2.7 B
AS4159-005 South End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.2	4.2 B
AS4159-006 West End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4	4.2 B
AS4159-007 East End of UST	8/29/2005	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4	2.3 B
Soil to Groundwater MSCC (mg/kg)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	27	270
Residential MSCC (mg/kg)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	47	400
Industrial/Commercial MSCC (mg/kg)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1226	400

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

MSCC = Maximum Soil Contamination Concentration

ft bgs = feet below ground surface

Results must be reported in mg/kg

mg/kg = milligrams per kilogram

NA = not applicable

NS = no standard

Table 3.3
Building AS-4159
VOC and SVOC Groundwater Sample Analytical Results

Date: 8/25/2005			Project Number and Name: 109972 Building AS-4159																
Analytical Method:			8260B																
Contaminant of Concern			Acetone	Benzene	Bromodichloromethane	Bromoform	Chlorobenzene	Chloroethane	Chloroform	Carbon disulfide	Carbon tetrachloride	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Dichloroethane	1,2-Dichloropropane	Dibromodichloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	trans-1,2-Dichloroethene
Sample ID	Date Collected	Sample Depth (ft bgs)																	
AS4158-009 Temp Well UST Pit	10/3/2005	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GWQS (ug/L)			700	1	NS	NS	NS	NS	0.00019	700	NS	700	7	0.38	0.56	0.002	70	0.2	70
GCL (ug/L)			700000	5000	NS	NS	NS	NS	190	700000	NS	700000	7000	380	560	68	70000	200	70000

Date: 8/25/2005			Project Number and Name: 109972 Building AS-4159																
Analytical Method:			8260B																
Contaminant of Concern			trans-1,3-Dichloropropene	Ethylbenzene	2-Hexanone	4-Methyl-2-pentanone	Methyl bromide	Methyl chloride	Methylene chloride	Methyl ethyl ketone	Methyl Tert Butyl Ether	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-Trichloroethane	Tetrachloroethene	Toluene	Trichloroethene	Vinyl chloride	Xylenes (total)
Sample ID	Date Collected	Sample Depth (ft bgs)																	
AS4158-009 Temp Well UST Pit	10/3/2005	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GWQS (ug/L)			0.2	29	280	NS	NS	2.6	5	170	0.1	NS	0.17	NS	0.7	1000	2.8	0.015	530
GCL (ug/L)			200	29000	280000	NS	NS	2600	5000	170000	100000	NS	170	NS	700	257500	2800	15	87500

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

Detected concentration exceeds GWQS

GWQS = Groundwater Quality Standard

GCL = Groundwater Contamination Level

Results must be reported in ug/L

ug/L = micrograms per liter

J = detectable concentration below reporting limit

NA = not applicable

NS = no standard

Table 3.3
Building AS-4159
VOC and SVOC Groundwater Sample Analytical Results

Date: 8/25/2005			Project Number and Name: 109972 Building AS-4159																
Analytical Method:			8270C																
Contaminant of Concern			Benzoic acid	2-Chlorophenol	4-Chloro-3-methylphenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	4,6-Dinitro-o-cresol	2-Methylphenol	3&4-Methylphenol	2-Nitrophenol	4-Nitrophenol	Pentachlorophenol	Phenol	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	Acenaphthene	Acenaphthylene
Sample ID	Date Collected	Sample Depth (ft bgs)																	
AS4158-009 Temp Well UST Pit	10/3/2005	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GWQS (ug/L)			28000	NS	NS	NS	140	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	80	210
GCL (ug/L)			1450000	NS	NS	NS	140000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2120	1965

Date: 8/25/2005			Project Number and Name: 109972 Building AS-4159																
Analytical Method:			8270C																
Contaminant of Concern			4-Chlorophenyl phenyl ether	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2,4-Dinitrotoluene	2,6-Dinitrotoluene	3,3'-Dichlorobenzidine	Dibenzo(a,h)anthracene	Dibenzofuran	Di-n-butyl phthalate	Di-n-octyl phthalate	Diethyl phthalate	Dimethyl phthalate	Bis(2-ethylhexyl)phthalate	Fluoranthene	Fluorene	Hexachlorobenzene
Sample ID	Date Collected	Sample Depth (ft bgs)																	
AS4158-009 Temp Well UST Pit	10/3/2005	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
GWQS (ug/L)			NS	620	620	75	NS	NS	NS	0.0047	28	NS	NS	NS	NS	3	280	280	NS
GCL (ug/L)			NS	72500	61500	39500	NS	NS	NS	0.25	2800	NS	NS	NS	NS	3000	280	950	NS

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

Detected concentration exceeds GWQS

GWQS = Groundwater Quality Standard

GCL = Groundwater Contamination Level

Results must be reported in ug/L

ug/L = micrograms per liter

J = detectable concentration below reporting limit

NA = not applicable

NS = no standard

Table 3.3
Building AS-4159
VOC and SVOC Groundwater Sample Analytical Results

Date: 8/25/2005			Project Number and Name: 109972 Building AS-4159																	
Analytical Method:			8270C																Metals 6010B	
Contaminant of Concern			Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	4-Bromophenyl phenyl ether	Butyl benzyl phthalate	Benzyl alcohol	2-Chloronaphthalene	4-Chloroaniline	Carbazole	Chrysene	Bis(2-chloroethoxy)methane	Bis(2-chloroethyl)ether	Bis(2-chloroisopropyl)ether	Chromium	Lead
Sample ID	Date Collected	Sample Depth (ft bgs)																		
AS4158-009 Temp Well UST Pit	10/3/2005	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	52.5	33.1
GWQS (ug/L)			2100	0.05	0.0047	0.047	210	0.47	NS	NS	NS	NS	NS	NS	5	NS	0.031	NS	50	13
GCL (ug/L)			2100	22	1.5	0.6	210	0.47	NS	NS	NS	NS	NS	NS	5	NS	31	NS	NS	NS

Date: 8/25/2005			Project Number and Name: 109972 Building AS-4159																	
Analytical Method:			8270C																	
Contaminant of Concern			Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	2-Methylnaphthalene	2-Nitroaniline	3-Nitroaniline	4-Nitroaniline	Naphthalene	Nitrobenzene	N-Nitroso-di-n-propylamine	N-Nitrosodiphenylamine	Phenanthrene	Pyrene	1,2,4-Trichlorobenzene		
Sample ID	Date Collected	Sample Depth (ft bgs)																		
AS4158-009 Temp Well UST Pit	10/3/2005	N/A	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
GWQS (ug/L)			44	NS	NS	0.047	NS	28	NS	NS	NS	21	NS	NS	NS	210	210	70		
GCL (ug/L)			440	NS	NS	31	NS	12500	NS	NS	NS	15500	NS	NS	NS	410	210	9500		

Indicate method detection limit for contaminants when analyzed but not detected (i.e., <1.0)

List any contaminant detected above the method detection limit

Detected concentration exceeds GWQS

GWQS = Groundwater Quality Standard

GCL = Groundwater Contamination Level

Results must be reported in ug/L

ug/L = micrograms per liter

J = detectable concentration below reporting limit

NA = not applicable

NS = no standard

Table 3.4
Building AS-4159
MADEP-EPH/VPH Summary Groundwater Sample Analytical Results

Method for Ranges: MADEP-EPH/VPH		Sample Identification	AS4158-009
Hydrocarbon Ranges	Units of Measure	GWQS	
C9-C18 Aliphatics	ug/l	4,200	243
C19-C36 Aliphatics	ug/l	42,000	ND
C9-C22 Aromatics (Unadj.)	ug/l	210	443
C5-C8 Aliphatics	ug/l	420	109

Bold = Detected Above Laboratory Reporting Limit

Shaded = Above GWQS

APPENDIX A

**NOTIFICATION of INTENT: UST PERMANENT CLOSURE or CHANGE IN
SERVICE (UST-3 FORM)**

UST-3 Notice of Intent: UST Permanent Closure of Change-in-Service

FOR TANKS IN
NC

Return completed form to:

The DWM Regional Office located in the area where the facility is located. SEE MAP ON THE BACK OF THIS FORM FOR REGIONAL OFFICE ADDRESSES.

STATE USE ONLY

I.D. # _____

Date Received _____

INSTRUCTIONS

Complete and return at least five (5) working days prior to closure or change-in-service if a Professional Engineer (P.E.) or a Licensed Geologist (L.G.) provides supervision for closure or change-in-service site assessment activities and signs and seals all closure reports. Otherwise, a thirty (30) day notice is required.

I. OWNERSHIP OF TANKS

Commanding General, Marine Corps Base, Camp

Owner Name (Corporation, Individual, Public Agency, or Other Entity)

Bldg 1 Holcumb Blvd

Street Address

Camp Lejeune

Onslow

City

North Carolina

County

28542-0001

State

910 451-9660

Zip Code

Area Code Phone Number

II. LOCATION

MWSS 272, MAG 29

Facility Name or Company

X-002740

Facility ID # (If known)

Bldg AS4159, Perimeter Street

Street Address

MCAS New River

Onslow

28545

City

County

Zip Code

910 451-9660

Area Code Phone Number

III. CONTACT PERSONNEL

Name **Bruce Markwick**

Job Title **Environmental Protection Specialist**

Phone Number **910 451-9660**

IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN SERVICE

- Contact local fire marshal.
- Plan entire closure event.
- Conduct Site Soil Assessment.
- If removing tanks or closing in place, refer to API Publication 2015 *Cleaning Petroleum Storage Tanks* and 1604 *Removal and Disposal of Used Underground Petroleum Storage Tanks*.
- Provide a sketch locating piping, tanks and soil sampling locations.
- Submit a closure report in the format of UST-12 (including the form UST-2) within thirty (30) days following the site investigation.
- If a release from the tanks has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G. If a release has not occurred, the supervision, signature or seal of a P.E. or L.G. is not required.
- Keep closure records for three (3) years.

V. WORK TO BE PERFORMED BY

Contractor Name **Shaw Environmental and Infrastructure**

Address **11560 Great Oaks Way, Suite 500**

State **Georgia**

Zip Code **30022-2424**

Contact Person **Ronald Kenyon**

Phone No. **(770) 663-1453**

Primary Consultant **Shaw Environmental and Infrastructure**

Phone No. **(770) 663-1453**

VI. TANKS SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

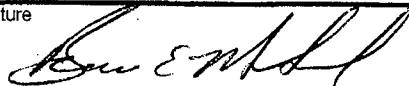
Tank ID #	Tank Capacity	Last Contents	Proposed Activity		
			Removal	Closure Abandonment in Place	Change-in-Service New Contents Stored
AS4159-2	1,000	Used Oil	☒	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	
			☐	☐	

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

I understand that I can be held responsible for environmental damage resulting from the improper disposal of my USTs. Read note on the back of this form before signing.

Print name and official title **Bruce Markwick, Environmental Protection Specialist**

Signature



Date Signed

8/22/05

SCHEDULED REMOVAL DATE

29 August 2005

Notify your DWM Regional Office 48 hours before this date if scheduled removal date changes

APPENDIX B

**SITE INVESTIGATION REPORT for PERMANENT CLOSURE or CHANGE in
SERVICE OF UST (UST-2 FORM)
24 HOUR RELEASE AND UST LEAK REPORTING FORM (UST FORM 61)**

UST-2

Site Investigation Report for Permanent Closure or Change-in-Service of UST

**FOR TANKS
IN
NC**

Return completed form to:

The DWM Regional office in the area the facility is located. SEE MAP ON THE BACK OF THIS FORM FOR REGIONAL OFFICE ADDRESSES. Return the yellow copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED".

STATE USE ONLY:

I.D. # _____

Date Received _____

I. OWNERSHIP OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity) Commanding General, Marine Corps Base
 Street Address Bldg 1 Holcomb Blvd
 City Camp Lejeune County Onslow
 State North Carolina Zip Code 28542-0001
 Area Code 910 Phone Number 451-9660

II. LOCATION OF TANKS

Facility Name or Company MWSS 272 MAB 29
 Facility ID # (If known) X-002740
 Street Address Bldg AS 4159 Perimeter St.
MCAS New River Onslow 28545
 City 910 County 451-9660 Zip Code
 Area Code Phone Number

III. CONTACT PERSONNEL

Name Bruce Markwick Job Title Env Protection Specialist Tel. No. 910-451-9660
 Closure Contractor Ron Kenyon Address Alpharetta, Ga Tel. No. 770-663-1453
 Primary Consultant Ron Kenyon Address Alpharetta, Ga Tel. No. 770-663-1453
 Lab Accutest Address Orlando, FL Tel. No. 407-925-6700

IV. UST INFORMATION

V. EXCAVATION CONDITION

VI. ADDITIONAL INFORMATION

Tank No.	Size in Gallons	Tank Dimensions	Last Contents	Water in excavation		Free product		Notable odor or visible soil contamination	
				Yes	No	Yes	No	Yes	No
<u>AS 4159-2</u>	<u>1,000</u>	<u>4.5' x 6'</u>	<u>used oil</u>	<u>X</u>			<u>X</u>	<u>X</u>	

See reverse side of pink copy (owner's copy) for additional information required by NC DWM in the written report and sketch.

NOTE: If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

VII. CHECKLIST (CHECK THE ACTIVITIES COMPLETED)

PERMANENT CLOSURE

(For Removal or Abandonment-in-Place)

- ☒ Contact local fire marshal
- ☒ Notify DWM Regional Office before abandonment
- ☒ Drain and flush piping into tank
- ☒ Remove all product and residuals from tank
- ☒ Excavate down to tank
- ☒ Clean and inspect tank
- ☒ Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps, and all other tank fixtures
- ☒ Cap or plug all lines except the vent and fill lines
- ☒ Purge the tank of all product and flammable vapors
- ☒ Cut one or more large holes in the tank
- ☒ Backfill the area

Date tank(s) Permanently Closed: 8/29/05

Date of Change in-service: 8/29/05

ABANDONMENT IN PLACE

- ☐ Fill tank until material overflows tank opening
- ☐ Plug or cap all openings
- ☐ Disconnect and cap or remove vent line
- ☐ Solid inert material used --specify _____

REMOVAL

- ☒ Create vent hole
- ☒ Label tank
- ☒ Dispose of tank in approved manner. Final tank destination:

J&E Salvage Co

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete

Print name and official title of owner or owner's authorized representative

Ronald B. Kenyon

Signature

Ronald B. Kenyon

Date Signed

11/1/05

24-Hour Release and UST Leak Reporting Form

This form should be completed and submitted to the UST Section's regional office following a known or suspected release from an underground storage tank (UST) system. This form is required to be submitted within 24 hours of discovery of a known or suspected release.

(DWM USE ONLY)		Suspected Contamination? (Y/N) <u>No</u> Confirmed GW Contamination? (Y/N) <u>No</u> Confirmed Soil Contamination? (Y/N) <u>Yes</u> Free Product? (Y/N) <u>No</u> If Yes, State Greatest Thickness _____	Facility ID Number <u>X-002740</u> Date Leak Discovered <u>09/20/05</u> Comm/Non-Commercial? <u>Comm.</u> Reg/Non-regulated? <u>Reg.</u>
Incident # _____	Risk (H,I,L,U) _____		
Received On _____	Received By _____		
Reported by (circle one): Phone, Fax or Report Region _____			

INCIDENT DESCRIPTION

Incident Name: AS4159-2

Address: Bldg AS4159 Perimeter Street County: Onslow

City/Town: MCAS New River Regional Office (circle one): Asheville, Mooresville, Fayetteville, Raleigh, Washington, Wilmington, Winston-Salem

Latitude (dd.mm.ssss): 34° 42' 35" N Longitude (ddd.mm.ssss): 77° 27' 30" W Confirmed by GPS? (Y/N) No

Briefly describe suspected or confirmed release: (including but not limited to: nature of release, date of release, amount of release, amount of free product present and recovery efforts, initial responses conducted, impacts to receptors)

During UST removal the required analyticals were taken. The results indicated TPH contamination above the NCDENR regulatory requirements. Ground water was encountered during UST removal procedures and a temporary well will be installed.

The excavation was backfilled using clean soil due to hurricane and further investigation will be required.

HOW RELEASE WAS DISCOVERED

(Check one)

- | | | |
|---|--|--|
| ☐ Release Detection Equipment or Methods | ☐ Visual/Odor | ☐ Groundwater Contamination |
| ☒ During UST Closure/Removal | ☐ Water in Tank | ☐ Surface Water Contamination |
| ☐ Property Transfer | ☐ Water Supply Well Contamination | ☐ Other (specify) _____ |

SOURCE OF CONTAMINATION

Primary Source of Contamination (Check one)	Primary Contaminant Type (Check one)	Location (Check one)	Setting (Check one)
☐ Suspected UST Release	☐ Gasoline/Diesel/Kerosene	☒ Facility	☐ Residential
☒ Confirmed UST Release (Also check one below):	☐ Heating Oil	☐ Residence	☒ Industrial
☐ A. Dispenser	☒ Other Petroleum Products	☐ Other	☐ Urban
☐ B. Line Release	☐ Metals		☐ Rural
☒ C. Tank Release	☐ Other Inorganics		
☐ D. Spill/Overfill	☐ Other Organics		
☐ E. Exact Failure Location Unknown or Multiple Failures			
☐ Unknown Source (Believed to be UST Source, explain in "Incident Description" above)			

Ownership

1. Municipal 2. Military 3. Unknown 4. Private 5. Federal 6. County 7. State

Operation Type

1. Public Service 2. Agricultural 3. Residential 4. Education/Relig. 5. Industrial 6. Commercial 7. Mining

IMPACT ON DRINKING WATER SUPPLIES

Water Supply Wells Affected? 1. Yes 2. No 3. Unknown

Number of Water Supply Wells Affected _____

Water Supply Wells Contaminated: *(Include Users Names, Addresses and Phone Numbers. Attach additional sheet if necessary)*

- 1.
- 2.
- 3.

UST SYSTEM OWNER

UST Owner/Company
Commanding General, Marine Corps Base, Camp Lejeune

Point of Contact
Bruce Markwick

Address
PSC Box 20004

City
Camp Lejeune

State
NC

Zip Code
28542-0004

Telephone Number
(910)451-9660

UST SYSTEM OPERATOR

UST Operator/Company
MWSS-272

Address
Bldg AS4159 Perimeter Street

City
MCAS New River

State
NC

Zip Code
28545

Telephone Number
(910)451-9660

LANDOWNER AT LOCATION OF UST INCIDENT

Landowner
United States Marine Corps

Address
PSC Box 20004

City
Camp Lejeune

State
NC

Zip Code
28542

Telephone Number
(910)451-9660

Draw Sketch of Area (showing two major road intersections) or Attach Map

See Attached Map

Person Reporting Incident
Bruce Markwick

Company
EQB, EMD, I & E Department

Telephone Number
(910)451-9660

Title
Environmental
Protection Specialist

Address
Bldg 12, Post Lane

Date
09/20/05

APPENDIX C

SOIL and UST DISPOSAL MANIFESTS

Tank Disposal Manifest

1. Tank Owner:
Commanding General, Marine Corps Base, Camp Lejeune, NC 28542
Attention: I & E Department, Environmental Management Division

2. Tank Owner/ Authorized Representative:
Contact: Bruce Markwick
Phone: 910 451-9660

3. Description of Tanks:

<u>Tank I.D. #</u>	<u>Capacity</u>	<u>Previous Contents</u>	<u>Comments</u>
AS 4159	1,000 RSB 500 gal	Used oil	
	Metall Tank	Cleaned / cutup	for disposal

4. Transporter:

The undersigned Certifies that the above named tank (s) have been demolished and transported to an approved landfill.

Charles Wallace
Print Name

[Signature]
Signature

8/29/05
Month/Day/Year

5. Disposal Certification:

The undersigned certifies that the above named storage tanks (s) have been cut into scrap and accepted by the facility.

Name of Landfill or receiving Facility:

J & E Salvage Co.

Received By:

Print Name

Signature

Month/Day/Year

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

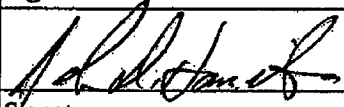
Document # BF-0060

Site: <u>A54159</u>		Page 1 of	
Generator's Name & Mailing Address: COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		US EPA ID Number: <u>NC6170022580</u>	
Generator's Telephone #: <u>(910) 451-1482</u>			
Transporter's Name, Mailing Address & Telephone Number: <u>ES&J Enterprises Inc.</u> <u>1555 Holland Rd, Antyrville, N.C.</u>		US EPA ID Number: <u>(910) 567-6138</u>	
Destination's Name, Mailing Address & Telephone Number: <u>ES&J Enterprises, Inc.</u> <u>1555 Holland Rd Antyrville N.C.</u>		US EPA ID Number: <u>(910) 567-6138</u>	
Waste Shipping Name and Description	Containers Number	Type	Total Quantity Units
<u>PH Contaminated Soils - Non Hazardous</u>	<u>001</u>	<u>DT</u>	<u>25.23</u> <u>44.08 TONS</u>
Container/Tag Number: Lab:	Profile #:		
Additional Information and Discrepancy Indication: <u>CDL# 3828321</u> <u>Truck# 163</u> <u>Tag# AT-99206</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>John D. Hamilton</u>	<u>[Signature]</u>	<u>14 SEP 05</u>	
Transporter's Name	Signature:	Date:	
<u>Mark Calbreth</u>	<u>[Signature]</u>	<u>9-16-05</u>	
Accepting Facility	Signature:	Date:	
<u>ES&J</u>	<u>[Signature]</u>	<u>9-16-05</u>	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document # **BF-0061**

Site: AS 4159		Page 1 of	
Generator's Name & Mailing Address:		US EPA ID Number:	
COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		NC6170022580	
Generator's Telephone #:			
(910) 451-1482			
Transporter's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
ESTJ Enterprises Inc 1555 Holland Rd Aulayville N.C.		(910) 567-6138	
Destination's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
ESTJ Enterprises Inc 1555 Holland Rd Aulayville N.C.		(910) 567-6138	
Waste Shipping Name and Description	Containers		Total Quantity
	Number	Type	
TPH Contaminated Soil - Non Hazardous	001	DT	24.53 tons
Container/Tag Number:	Profile #:		
Lab: CDT# W			
Additional Information and Discrepancy Indication:			
CDT# ZB30498 Truck # 8 Tag # PT-48664			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
John D. Hamilton		16 SEP 05	
Transporter's Name	Signature:	Date:	
DARRELL SMITH		9-16-05	
Accepting Facility	Signature:	Date:	
ES & J		9-16-05	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

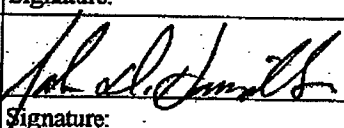
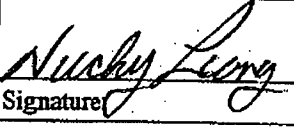
Document # BF-0062

Site: <u>AS 4159</u>		Page 1 of	
Generator's Name & Mailing Address:		US EPA ID Number:	
COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		NC6170022580	
Generator's Telephone #:			
(910) 451-1482			
Transporter's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
<u>EST Enterprises Inc</u> <u>1555 Holland Rd</u> <u>Autryville NC</u>		(910) 567-6138	
Destination's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
<u>EST Enterprises Inc</u> <u>1555 Holland Rd</u> <u>Autryville NC</u>		(910) 567-6138	
Waste Shipping Name and Description	Containers Number Type	Total Quantity	Units
TPH Contaminated Soil - Non Hazardous	001 DT	25.18	Tons
Container/Tag Number:	Profile #:		
Lab:			
Additional Information and Discrepancy Indication:			
<u>QPL # 5474447</u> <u>Truck # 7</u> <u>Tag # PT-59676</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>John D. Hamilton</u>	<u>[Signature]</u>	<u>1450505</u>	
Transporter's Name	Signature:	Date:	
<u>Bobby Rowe</u>	<u>[Signature]</u>	<u>9/16/05</u>	
Accepting Facility	Signature:	Date:	
<u>ES & J</u>	<u>[Signature]</u>	<u>9-16-05</u>	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: **BF-0063**

Site: AS 4159		Page 1 of	
Generator's Name & Mailing Address:		US EPA ID Number:	
COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		NC6170022580	
Generator's Telephone #:			
(910) 451-1482			
Transporter's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
EST Enterprises Inc 1555 Holland Rd, Autryville NC		(910) 567-6138	
Destination's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
EST Enterprises Inc 1555 Holland Rd Autryville NC		(910) 567-6138	
Waste Shipping Name and Description	Containers	Total Quantity	Units
	Number	Type	
TP# Contaminated Soil - Non Hazardous	001	DT	26.16 Tons
Container/Tag Number:	Profile #:		
Lab:			
Additional Information and Discrepancy Indication:			
CD# 5568854 Truck# KTT6 Tag# ZB29346			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
John D. Hamrick		16 SEP 05	
Transporter's Name	Signature:	Date:	
Nicky Long		9-16-05	
Accepting Facility	Signature:	Date:	
ES 9.5		9-16-05	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document # BF-0065

Site: <u>AS4159</u>		Page 1 of	
Generator's Name & Mailing Address: COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		US EPA ID Number: <u>NC6170022580</u>	
Generator's Telephone #: <u>(910) 451-1482</u>			
Transporter's Name, Mailing Address & Telephone Number: <u>ES+T Enterprises Inc</u> <u>7555 Holland Rd</u> <u>Antayville NC</u>		US EPA ID Number: <u>(910) 567-6138</u>	
Destination's Name, Mailing Address & Telephone Number: <u>ES+T Enterprises Inc</u> <u>1555 Holland Rd</u> <u>Antayville NC</u>		US EPA ID Number: <u>(910) 567-6138</u>	
Waste Shipping Name and Description	Containers Number	Type	Total Quantity Units
<u>PH Contaminated Soil - Non Hazardous</u>	<u>001</u>	<u>DT</u>	<u>24.26 TONS</u>
Container/Tag Number: Lab:		Profile #:	
Additional Information and Discrepancy Indication: <u>CDL# 2944183 NC</u> <u>Truck # 8</u> <u>Tag # 2B PT-48664</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>John D. Hamilton</u>	<u>J.D. Hamilton</u>	<u>14 SEP 05</u>	
Transporter's Name	Signature:	Date:	
<u>DARRELL SMITH</u>	<u>Darrell Smith</u>	<u>9-16-05</u>	
Accepting Facility	Signature:	Date:	
<u>ES&S</u>	<u>Reck Wynn</u>	<u>9-16-05</u>	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: BF-0066

Site: <u>AS 4159</u>		Page 1 of	
Generator's Name & Mailing Address:		US EPA ID Number:	
COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004		NC6170022580	
Generator's Telephone #:			
(910) 451-1482			
Transporter's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
<u>ES&T Enterprises Inc</u> <u>1535 Holland Rd, Anteyville NC</u>		(910) 567-6138	
Destination's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
<u>ES&T Enterprises Inc</u> <u>1535 Holland Rd, Anteyville NC</u>		(910) 567-6138	
Waste Shipping Name and Description	Containers	Total Quantity	Units
	Number Type		
<u>PH Contaminated Soil - Non Hazardous</u>	<u>001</u> <u>DT</u>	<u>25.87</u>	<u>Tons</u>
Container/Tag Number:		Profile #:	
Lab:			
Additional Information and Discrepancy Indication:			
<u>CDL# 3820321</u> <u>Truck # 163</u> <u>Tag # 26 19297</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>John D. Hamilton</u>	<u>J.D. Hamilton</u>	<u>17</u> <u>16 SEP 05</u>	
Transporter's Name	Signature:	Date:	
<u>Mack Culbreth</u>	<u>Mack Culbreth</u>	<u>9-17-05</u>	
Accepting Facility	Signature:	Date:	
<u>ES & I</u>	<u>Reed Wynn</u>	<u>9-17-05</u>	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: BF-0069

Site: <u>AS 4159</u>		Page 1 of	
Generator's Name & Mailing Address:		US EPA ID Number: <u>NC6170022580</u>	
COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004			
Generator's Telephone #:			
<u>(910) 451-1482</u>			
Transporter's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
<u>ES&V Enterprises Inc</u> <u>1555 Holland Rd Aulayville NC</u>		<u>(910) 567-6138</u>	
Destination's Name, Mailing Address & Telephone Number:		US EPA ID Number:	
<u>ES&V Enterprises Inc</u> <u>1555 Holland Rd Aulayville NC</u>		<u>(910) 567-6138</u>	
Waste Shipping Name and Description	Containers	Total Quantity	Units
	Number Type		
<u>PH Contaminated Soil - Non Hazardous</u>	<u>001</u> <u>DT</u>	<u>26.12</u>	<u>Tons</u>
Container/Tag Number:		Profile #:	
Lab:			
Additional Information and Discrepancy Indication:			
<u>ODL# 3820321</u> <u>Truck# 163</u> <u>Tag# 2B-19297</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>John D. Hamilton</u>	<u>[Signature]</u>	<u>10/27/05</u>	
Transporter's Name	Signature:	Date:	
<u>Mack Culbreth</u>	<u>[Signature]</u>	<u>9-17-05</u>	
Accepting Facility	Signature:	Date:	
<u>ES&V</u>	<u>[Signature]</u>	<u>9-17-05</u>	

Return Original form to Generator

Marine Corps Base, Camp Lejeune Non-Hazardous Waste Shipping Document

Document #: BF-0071

Site: <u>A5 4159</u>		Page 1 of	
Generator's Name & Mailing Address: <u>COMMANDING GENERAL AC/S, I&E (EMD) MARINE CORPS BASE PSC BOX 20004 CAMP LEJEUNE, NC 28542-0004</u>		US EPA ID Number: <u>NC6170022580</u>	
Generator's Telephone #: <u>(910) 451-1482</u>			
Transporter's Name, Mailing Address & Telephone Number: <u>EST Enterprises Inc 1555 Holland Rd, Aubynville NC</u>		US EPA ID Number: <u>(910) 567-6138</u>	
Destination's Name, Mailing Address & Telephone Number: <u>EST Enterprises Inc 1555 Holland Rd, Aubynville NC</u>		US EPA ID Number: <u>(910) 567-6138</u>	
Waste Shipping Name and Description	Containers		Total Quantity
	Number	Type	
<u>TPH Contaminated Soil - Non Hazardous</u>	<u>001</u>	<u>DT</u>	<u>22.68 Tons</u>
Container/Tag Number:		Profile #:	
Lab:			
Additional Information and Discrepancy Indication: <u>CDL # 3820321</u> <u>Truck # 163</u> <u>Tag # 28-19397</u>			
GENERATOR'S STATEMENT: The materials described above on this shipping document are not subject to federal regulations for proper disposal of hazardous waste. The determination of non-hazardous waste and the information on this form are based on the analysis provided by:			
Printed/Typed Name	Signature:	Date:	
<u>JOHN D. HAMMITT</u>	<u>[Signature]</u>	<u>19</u>	
Transporter's Name	Signature:	Date:	
<u>Mark Culbreth</u>	<u>[Signature]</u>	<u>9-19-05</u>	
Accepting Facility	Signature:	Date:	
<u>ES&J</u>	<u>[Signature]</u>	<u>9-19-05</u>	

Return Original form to Generator

APPENDIX D

CHAIN-OF-CUSTODY RECORDS

F34417

COC Number:
109972-AS4158-082905

Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bldg 626 - 910-451-2390										Receiving LAB: ACCUTEST										
Project Name CAMP LEJEUNE - AS-4146					Project Location CAMP LEJEUNE, NC					Analysis Desired										
Project Number 109972		Contact Mark Marlin			P.O. Number 74977			Reviewed by												
Client Rep US NAVY - LANTDIV					Project Manager Ron Kenyon															
Item No.	Sample Number	Date	Time	Corp	Grab	Sample Description	Number of Containers	TPH-DKQVRC05050300	8081 Pesticides	8082 PCB	Total Metals Chromium and Lead	50350260 W/ IPE 4MTH	MADEP VPH	8270	MADEP EPH					
1	AS4159-001	8/29/05	10:30		X	Under Oil Water Separator	2	X												
2	AS4159-002	8/29/05	11:00		X	Product Line Next to OWS	3		X	X	X	X	X	X	X					
3	AS4159-003	8/29/05	11:30		X	Product Line Next to AST	3		X	X	X	X	X	X	X					
4	AS4159-004	8/29/05	12:00		X	North End Of UST	3		X	X	X	X	X	X	X					
5	AS4159-005	8/29/05	14:00		X	South End Of UST	3		X	X	X	X	X	X	X					
6	AS4159-006	8/29/05	14:15		X	West End Of UST	3		X	X	X	X	X	X	X					
7	AS4159-007	8/29/05	14:30		X	East End Of UST	3		X	X	X	X	X	X	X					
8	AS4159-008	8/29/05	14:15		X	West End Of UST Dup	3		X	X	X	X	X	X	X					
9																				
10																				

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1-8	<i>[Signature]</i>	UPS 1Z 71V 098 15 9423 0963	8/29/05	16:00	Results Due 9/8/05
2		<i>[Signature]</i>	<i>[Signature]</i>	8/30/05	8:24	
3						

2.0 2-p

F34417: Chain of Custody

Page 1 of 2

CHAIN-OF-CUSTODY RECORD

COC Number:
109972-AS4158-100305

F35430
Shaw
Shaw Environmental & Infrastructure, Inc.

Shaw E & I - Piney Green Rd. Lot 203 Bldg 626 - 910-451-2390										Receiving LAB: ACCUTEST									
Project Name CAMP LEJEUNE - AS-4158					Project Location CAMP LEJEUNE, NC					Analysis Desired									
Project Number 109972			Contact Mark Martin		P.O. Number 74977			Reviewed by											
Client Rep US NAVY - LANTDIV					Project Manager Ron Kenyon														
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	MADEP VPH	MADEP EPH	8260	Total Metals Chromium and Lead	503016260 W/ IPE & MTSE	625						
1	AS4158-009	10/3/05	9:00		X	TEMP Well UST Location	11	X	X	X	X	X	X						
2	AS4158-TB-100305	10/3/05			X	Trip Blank	2			X									
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 - 2	<i>[Signature]</i>	FedEx 8530 7647 3544	10/3/05	16:00	14 Day TAT
2		<i>[Signature]</i>	<i>[Signature]</i>	10/4/05	09:10	
3						

2.2

COC Number:
109972-AS4158-090105



Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bldg 626 - 910-451-2390														Receiving LAB: ACCUTEST											
Project Name CAMP LEJEUNE - AS-4158				Project Location CAMP LEJEUNE, NC				Analysis Desired																	
Project Number 108972		Contact Mark Martin		P.O. Number 74977		Reviewed by		TPH-DRC-GR-00505000 Full TCLP IR/C																	
Client Rep US NAVY - LANTDIV				Project Manager Ron Kenyon																					
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description		Number of Containers																	
1	AS4158-TD-001	9/1/05	10:30	X		Composite Of StockPile		2	X	X	X														
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks 5 Day TAT 3-8 8.4
1	1	<i>[Signature]</i>	UPS IZ 71V 098 15 9223 3017	9/1/05	16:00	
2		UPS	<i>[Signature]</i>	9-2-05	8:00	
3						

F34530: Chain of Custody

Page 1 of 2

APPENDIX E

LABORATORY ANALYTICAL REPORTS



09/12/05

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-AS-4159

109972

Accutest Job Number: F34417

Sampling Date: 08/29/05

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 78



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Table of Contents

-1-

Sections:

1

2

3

Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: F34417-1: AS4159-01	4
2.2: F34417-2: AS4159-02	6
2.3: F34417-3: AS4159-03	16
2.4: F34417-4: AS4159-04	26
2.5: F34417-5: AS4159-05	36
2.6: F34417-6: AS4159-06	46
2.7: F34417-7: AS4159-07	56
2.8: F34417-8: AS4159-08	66
Section 3: Misc. Forms	76
3.1: Chain of Custody	77

Sample Summary

Shaw E & I, Inc.

Job No: F34417

Camp Lejeune-AS-4159
Project No: 109972

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F34417-1	08/29/05	10:30 RK	08/30/05	SO	Soil	AS4159-01
F34417-2	08/29/05	11:00 RK	08/30/05	SO	Soil	AS4159-02
F34417-3	08/29/05	11:30 RK	08/30/05	SO	Soil	AS4159-03
F34417-4	08/29/05	12:00 RK	08/30/05	SO	Soil	AS4159-04
F34417-5	08/29/05	14:00 RK	08/30/05	SO	Soil	AS4159-05
F34417-6	08/29/05	14:15 RK	08/30/05	SO	Soil	AS4159-06
F34417-7	08/29/05	14:30 RK	08/30/05	SO	Soil	AS4159-07
F34417-8	08/29/05	14:15 RK	08/30/05	SO	Soil	AS4159-08

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-01	Date Sampled:	08/29/05
Lab Sample ID:	F34417-1	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	87.4
Method:	SW846 8015		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	HH016115.D	1	09/02/05	AL	n/a	n/a	GHH722
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.62 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	2.53	5.0	2.5	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	4-Bromofluorobenzene	92%		62-135%		
98-08-8	aaa-Trifluorotoluene	90%		65-118%		

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.1
2

Client Sample ID: AS4159-01

Lab Sample ID: F34417-1

Matrix: SO - Soil

Method: SW846 8015 M SW846 3550B

Project: Camp Lejeune-AS-4159

Date Sampled: 08/29/05

Date Received: 08/30/05

Percent Solids: 87.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL05635.D	10	09/07/05	SD	09/05/05	OP14319	GLL222
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	384	95	57	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	72%		57-115%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	AS4159-02	Date Sampled:	08/29/05
Lab Sample ID:	F34417-2	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K022754.D	1	09/11/05	NAF	n/a	n/a	VK1033
Run #2							

Run #	Initial Weight
Run #1	5.73 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	48	24	ug/kg	
71-43-2	Benzene	ND	4.8	1.9	ug/kg	
75-27-4	Bromodichloromethane	ND	4.8	1.9	ug/kg	
75-25-2	Bromoform	ND	4.8	1.9	ug/kg	
108-90-7	Chlorobenzene	ND	4.8	1.9	ug/kg	
75-00-3	Chloroethane	ND	4.8	1.9	ug/kg	
67-66-3	Chloroform	ND	4.8	1.9	ug/kg	
75-15-0	Carbon disulfide	ND	4.8	1.9	ug/kg	
56-23-5	Carbon tetrachloride	ND	4.8	1.9	ug/kg	
75-34-3	1,1-Dichloroethane	ND	4.8	1.9	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	4.8	1.9	ug/kg	
107-06-2	1,2-Dichloroethane	ND	4.8	1.9	ug/kg	
78-87-5	1,2-Dichloropropane	ND	4.8	1.9	ug/kg	
108-20-3	Di-Isopropyl ether	ND	4.8	1.9	ug/kg	
124-48-1	Dibromochloromethane	ND	4.8	1.9	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	4.8	1.9	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	4.8	1.9	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	4.8	1.9	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	4.8	1.9	ug/kg	
100-41-4	Ethylbenzene	ND	4.8	1.9	ug/kg	
591-78-6	2-Hexanone	ND	24	9.5	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	24	9.5	ug/kg	
74-83-9	Methyl bromide	ND	4.8	1.9	ug/kg	
74-87-3	Methyl chloride	ND	4.8	1.9	ug/kg	
75-09-2	Methylene chloride	ND	9.5	4.8	ug/kg	
78-93-3	Methyl ethyl ketone	ND	24	9.5	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.8	1.9	ug/kg	
100-42-5	Styrene	ND	4.8	1.9	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	4.8	1.9	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.8	1.9	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	4.8	1.9	ug/kg	
127-18-4	Tetrachloroethylene	ND	4.8	1.9	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	AS4159-02	Date Sampled:	08/29/05
Lab Sample ID:	F34417-2	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	4.8	1.9	ug/kg	
79-01-6	Trichloroethylene	ND	4.8	1.9	ug/kg	
75-01-4	Vinyl chloride	ND	4.8	1.9	ug/kg	
1330-20-7	Xylene (total)	ND	14	4.3	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		78-123%
2037-26-5	Toluene-D8	108%		71-137%
460-00-4	4-Bromofluorobenzene	113%		61-157%
17060-07-0	1,2-Dichloroethane-D4	115%		74-125%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 3

Client Sample ID: AS4159-02

Lab Sample ID: F34417-2

Matrix: SO - Soil

Method: SW846 8270C SW846 3550B

Project: Camp Lejeune-AS-4159

Date Sampled: 08/29/05

Date Received: 08/30/05

Percent Solids: 91.5

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F011355.D	1	09/03/05	ME	08/30/05	OP14281	SF623
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	900	360	ug/kg	
95-57-8	2-Chlorophenol	ND	180	36	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	180	36	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	180	36	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	180	36	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	900	360	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	360	72	ug/kg	
95-48-7	2-Methylphenol	ND	180	36	ug/kg	
	3&4-Methylphenol	ND	180	36	ug/kg	
88-75-5	2-Nitrophenol	ND	180	36	ug/kg	
100-02-7	4-Nitrophenol	ND	900	360	ug/kg	
87-86-5	Pentachlorophenol	ND	900	360	ug/kg	
108-95-2	Phenol	ND	180	36	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	180	36	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	180	36	ug/kg	
83-32-9	Acenaphthene	ND	180	36	ug/kg	
208-96-8	Acenaphthylene	ND	180	36	ug/kg	
120-12-7	Anthracene	ND	180	36	ug/kg	
56-55-3	Benzo(a)anthracene	ND	180	36	ug/kg	
50-32-8	Benzo(a)pyrene	ND	180	36	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	180	36	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	180	72	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	180	36	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	180	36	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	360	90	ug/kg	
100-51-6	Benzyl Alcohol	ND	180	36	ug/kg	
91-58-7	2-Chloronaphthalene	ND	180	36	ug/kg	
106-47-8	4-Chloroaniline	ND	360	140	ug/kg	
86-74-8	Carbazole	ND	180	36	ug/kg	
218-01-9	Chrysene	ND	180	36	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	180	36	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	180	72	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 3

2.2
2

Client Sample ID:	AS4159-02		
Lab Sample ID:	F34417-2	Date Sampled:	08/29/05
Matrix:	SO - Soil	Date Received:	08/30/05
Method:	SW846 8270C SW846 3550B	Percent Solids:	91.5
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	180	36	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	180	36	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	180	36	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	180	36	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	180	36	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	180	72	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	180	72	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	360	180	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	180	72	ug/kg	
132-64-9	Dibenzofuran	ND	180	36	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	360	90	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	360	180	ug/kg	
84-66-2	Diethyl phthalate	ND	360	90	ug/kg	
131-11-3	Dimethyl phthalate	ND	360	90	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	360	180	ug/kg	
206-44-0	Fluoranthene	ND	180	36	ug/kg	
86-73-7	Fluorene	ND	180	36	ug/kg	
118-74-1	Hexachlorobenzene	ND	180	36	ug/kg	
87-68-3	Hexachlorobutadiene	ND	180	72	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	180	72	ug/kg	
67-72-1	Hexachloroethane	ND	180	72	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	180	72	ug/kg	
78-59-1	Isophorone	ND	180	36	ug/kg	
91-57-6	2-Methylnaphthalene	ND	180	36	ug/kg	
88-74-4	2-Nitroaniline	ND	360	90	ug/kg	
99-09-2	3-Nitroaniline	ND	360	90	ug/kg	
100-01-6	4-Nitroaniline	ND	360	130	ug/kg	
91-20-3	Naphthalene	ND	180	36	ug/kg	
98-95-3	Nitrobenzene	ND	180	36	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	180	72	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	180	36	ug/kg	
85-01-8	Phenanthrene	ND	180	36	ug/kg	
129-00-0	Pyrene	ND	180	72	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	180	36	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	70%		45-114%
4165-62-2	Phenol-d5	68%		44-124%
118-79-6	2,4,6-Tribromophenol	80%		50-128%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 3 of 3

2.2
2

Client Sample ID:	AS4159-02	Date Sampled:	08/29/05
Lab Sample ID:	F34417-2	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		41-123%
321-60-8	2-Fluorobiphenyl	71%		46-122%
1718-51-0	Terphenyl-d14	77%		45-135%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.2
2

Client Sample ID:	AS4159-02	Date Sampled:	08/29/05
Lab Sample ID:	F34417-2	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	MADEP VPH		
Project:	Camp Lejeune-AS-4159		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	UV018122.D	1	09/01/05	MM	n/a	n/a	GUV1058
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.40 g	5.0 ml	100 ul
Run #2			

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	4700	2500	ug/kg	
	C9- C12 Aliphatics (Unadj.)	ND	3400	1900	ug/kg	
	C9- C10 Aromatics (Unadj.)	ND	1200	620	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	BFB	90%		70-130%
460-00-4	BFB	90%		70-130%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-02	Date Sampled:	08/29/05
Lab Sample ID:	F34417-2	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	MADEP-EPH-98-1 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF18071.D	1	09/08/05	SD	08/31/05	OP14287	GZF849
Run #2							

Run #	Initial Weight	Final Volume
Run #1	31.9 g	2.0 ml
Run #2		

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	6900	6900	ug/kg	
	C9-C18 Aliphatics	ND	6900	6900	ug/kg	
	C19-C36 Aliphatics	ND	6900	6900	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane	47%		40-140%
580-13-2	2-Bromonaphthalene	63%		40-140%
84-15-1	o-Terphenyl	78%		40-140%
321-60-8	2-Fluorobiphenyl	83%		40-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-02	Date Sampled:	08/29/05
Lab Sample ID:	F34417-2	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8081A SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK09731.D	1	08/31/05	AA	08/30/05	OP14276	GKK359
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.6 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	1.8	0.71	ug/kg	
319-84-6	alpha-BHC	ND	1.8	0.71	ug/kg	
319-85-7	beta-BHC	ND	1.8	0.71	ug/kg	
319-86-8	delta-BHC	ND	1.8	0.71	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	1.8	0.71	ug/kg	
5103-71-9	alpha-Chlordane	1.3	1.8	0.71	ug/kg	J
5103-74-2	gamma-Chlordane	2.9	1.8	0.71	ug/kg	
60-57-1	Dieldrin	ND	1.8	0.71	ug/kg	
72-54-8	4,4'-DDD	ND	3.6	0.71	ug/kg	
72-55-9	4,4'-DDE	ND	3.6	0.71	ug/kg	
50-29-3	4,4'-DDT	ND	3.6	1.1	ug/kg	
72-20-8	Endrin	ND	3.6	0.71	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.6	0.71	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.6	1.4	ug/kg	
53494-70-5	Endrin ketone	ND	3.6	0.71	ug/kg	
959-98-8	Endosulfan-I	ND	1.8	0.71	ug/kg	
33213-65-9	Endosulfan-II	ND	3.6	0.71	ug/kg	
76-44-8	Heptachlor	ND	1.8	0.71	ug/kg	
1024-57-3	Heptachlor epoxide	ND	1.8	0.71	ug/kg	
72-43-5	Methoxychlor	ND	3.6	1.4	ug/kg	
8001-35-2	Toxaphene	ND	180	89	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		60-142%
2051-24-3	Decachlorobiphenyl	86%		61-153%

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-02	Date Sampled:	08/29/05
Lab Sample ID:	F34417-2	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	91.5
Method:	SW846 8082 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST38903.D	1	08/31/05	AG	08/30/05	OP14275	GST1199
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.6 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	18	8.9	ug/kg	
11104-28-2	Aroclor 1221	ND	18	14	ug/kg	
11141-16-5	Aroclor 1232	ND	18	14	ug/kg	
53469-21-9	Aroclor 1242	ND	18	8.9	ug/kg	
12672-29-6	Aroclor 1248	ND	18	8.9	ug/kg	
11097-69-1	Aroclor 1254	ND	18	8.9	ug/kg	
11096-82-5	Aroclor 1260	ND	18	8.9	ug/kg	
	Total PCBs	ND	36		ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	75%		52-136%
2051-24-3	Decachlorobiphenyl	71%		49-148%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.2
2

Client Sample ID: AS4159-02

Lab Sample ID: F34417-2

Matrix: SO - Soil

Project: Camp Lejeune-AS-4159

Date Sampled: 08/29/05

Date Received: 08/30/05

Percent Solids: 91.5

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	6.7	1.1	0.087	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²
Lead	3.7 B	11	0.15	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4551

(2) Prep QC Batch: MP8574

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Report of Analysis

Page 1 of 2

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K022734.D	1	09/10/05	NAF	n/a	n/a	VK1032
Run #2							

	Initial Weight
Run #1	5.85 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	45	22	ug/kg	
71-43-2	Benzene	ND	4.5	1.8	ug/kg	
75-27-4	Bromodichloromethane	ND	4.5	1.8	ug/kg	
75-25-2	Bromoform	ND	4.5	1.8	ug/kg	
108-90-7	Chlorobenzene	ND	4.5	1.8	ug/kg	
75-00-3	Chloroethane	ND	4.5	1.8	ug/kg	
67-66-3	Chloroform	ND	4.5	1.8	ug/kg	
75-15-0	Carbon disulfide	ND	4.5	1.8	ug/kg	
56-23-5	Carbon tetrachloride	ND	4.5	1.8	ug/kg	
75-34-3	1,1-Dichloroethane	ND	4.5	1.8	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	4.5	1.8	ug/kg	
107-06-2	1,2-Dichloroethane	ND	4.5	1.8	ug/kg	
78-87-5	1,2-Dichloropropane	ND	4.5	1.8	ug/kg	
108-20-3	Di-Isopropyl ether	ND	4.5	1.8	ug/kg	
124-48-1	Dibromochloromethane	ND	4.5	1.8	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	4.5	1.8	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	4.5	1.8	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	4.5	1.8	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	4.5	1.8	ug/kg	
100-41-4	Ethylbenzene	ND	4.5	1.8	ug/kg	
591-78-6	2-Hexanone	ND	22	8.9	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	22	8.9	ug/kg	
74-83-9	Methyl bromide	ND	4.5	1.8	ug/kg	
74-87-3	Methyl chloride	ND	4.5	1.8	ug/kg	
75-09-2	Methylene chloride	ND	8.9	4.5	ug/kg	
78-93-3	Methyl ethyl ketone	ND	22	8.9	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	4.5	1.8	ug/kg	
100-42-5	Styrene	ND	4.5	1.8	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	4.5	1.8	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	4.5	1.8	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	4.5	1.8	ug/kg	
127-18-4	Tetrachloroethylene	ND	4.5	1.8	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	4.5	1.8	ug/kg	
79-01-6	Trichloroethylene	ND	4.5	1.8	ug/kg	
75-01-4	Vinyl chloride	ND	4.5	1.8	ug/kg	
1330-20-7	Xylene (total)	ND	13	4.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		78-123%
2037-26-5	Toluene-D8	111%		71-137%
460-00-4	4-Bromofluorobenzene	109%		61-157%
17060-07-0	1,2-Dichloroethane-D4	124%		74-125%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 3

2.3
2

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F011356.D	1	09/03/05	ME	08/30/05	OP14281	SF623
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.6 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	850	340	ug/kg	
95-57-8	2-Chlorophenol	ND	170	34	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	34	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	34	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	34	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	850	340	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	340	68	ug/kg	
95-48-7	2-Methylphenol	ND	170	34	ug/kg	
	3&4-Methylphenol	ND	170	34	ug/kg	
88-75-5	2-Nitrophenol	ND	170	34	ug/kg	
100-02-7	4-Nitrophenol	ND	850	340	ug/kg	
87-86-5	Pentachlorophenol	ND	850	340	ug/kg	
108-95-2	Phenol	ND	170	34	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	34	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	34	ug/kg	
83-32-9	Acenaphthene	ND	170	34	ug/kg	
208-96-8	Acenaphthylene	ND	170	34	ug/kg	
120-12-7	Anthracene	ND	170	34	ug/kg	
56-55-3	Benzo(a)anthracene	ND	170	34	ug/kg	
50-32-8	Benzo(a)pyrene	ND	170	34	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	170	34	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	170	68	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	170	34	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	170	34	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	340	85	ug/kg	
100-51-6	Benzyl Alcohol	ND	170	34	ug/kg	
91-58-7	2-Chloronaphthalene	ND	170	34	ug/kg	
106-47-8	4-Chloroaniline	ND	340	140	ug/kg	
86-74-8	Carbazole	ND	170	34	ug/kg	
218-01-9	Chrysene	ND	170	34	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	170	34	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	170	68	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	170	34	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	170	34	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	170	34	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	170	34	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	170	34	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	170	68	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	170	68	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	340	170	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	170	68	ug/kg	
132-64-9	Dibenzofuran	ND	170	34	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	340	85	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	340	170	ug/kg	
84-66-2	Diethyl phthalate	ND	340	85	ug/kg	
131-11-3	Dimethyl phthalate	ND	340	85	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	340	170	ug/kg	
206-44-0	Fluoranthene	ND	170	34	ug/kg	
86-73-7	Fluorene	ND	170	34	ug/kg	
118-74-1	Hexachlorobenzene	ND	170	34	ug/kg	
87-68-3	Hexachlorobutadiene	ND	170	68	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	170	68	ug/kg	
67-72-1	Hexachloroethane	ND	170	68	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	170	68	ug/kg	
78-59-1	Isophorone	ND	170	34	ug/kg	
91-57-6	2-Methylnaphthalene	ND	170	34	ug/kg	
88-74-4	2-Nitroaniline	ND	340	85	ug/kg	
99-09-2	3-Nitroaniline	ND	340	85	ug/kg	
100-01-6	4-Nitroaniline	ND	340	120	ug/kg	
91-20-3	Naphthalene	ND	170	34	ug/kg	
98-95-3	Nitrobenzene	ND	170	34	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	170	68	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	34	ug/kg	
85-01-8	Phenanthrene	ND	170	34	ug/kg	
129-00-0	Pyrene	ND	170	68	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	170	34	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	74%		45-114%
4165-62-2	Phenol-d5	74%		44-124%
118-79-6	2,4,6-Tribromophenol	77%		50-128%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	74%		41-123%
321-60-8	2-Fluorobiphenyl	76%		46-122%
1718-51-0	Terphenyl-d14	80%		45-135%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	MADEP VPH		
Project:	Camp Lejeune-AS-4159		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	UV018123.D	1	09/01/05	MM	n/a	n/a	GUV1058
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.11 g	5.0 ml	100 ul
Run #2			

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	3800	2000	ug/kg	
	C9- C12 Aliphatics (Unadj.)	ND	2800	1500	ug/kg	
	C9- C10 Aromatics (Unadj.)	ND	1000	510	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	BFB	92%		70-130%
460-00-4	BFB	94%		70-130%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.3
2

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	MADEP-EPH-98-1 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF18072.D	1	09/08/05	SD	08/31/05	OP14287	GZF849
Run #2							

Run #	Initial Weight	Final Volume
Run #1	31.7 g	2.0 ml
Run #2		

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	6600	6600	ug/kg	
	C9-C18 Aliphatics	ND	6600	6600	ug/kg	
	C19-C36 Aliphatics	ND	6600	6600	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane	62%		40-140%
580-13-2	2-Bromonaphthalene	84%		40-140%
84-15-1	o-Terphenyl	83%		40-140%
321-60-8	2-Fluorobiphenyl	93%		40-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	SW846 8081A SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK09732.D	1	08/31/05	AA	08/30/05	OP14276	GKK359
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	1.7	0.69	ug/kg	
319-84-6	alpha-BHC	ND	1.7	0.69	ug/kg	
319-85-7	beta-BHC	ND	1.7	0.69	ug/kg	
319-86-8	delta-BHC	ND	1.7	0.69	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	1.7	0.69	ug/kg	
5103-71-9	alpha-Chlordane	ND	1.7	0.69	ug/kg	
5103-74-2	gamma-Chlordane	ND	1.7	0.69	ug/kg	
60-57-1	Dieldrin	ND	1.7	0.69	ug/kg	
72-54-8	4,4'-DDD	ND	3.5	0.69	ug/kg	
72-55-9	4,4'-DDE	ND	3.5	0.69	ug/kg	
50-29-3	4,4'-DDT	ND	3.5	1.0	ug/kg	
72-20-8	Endrin	ND	3.5	0.69	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.5	0.69	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.5	1.4	ug/kg	
53494-70-5	Endrin ketone	ND	3.5	0.69	ug/kg	
959-98-8	Endosulfan-I	ND	1.7	0.69	ug/kg	
33213-65-9	Endosulfan-II	ND	3.5	0.69	ug/kg	
76-44-8	Heptachlor	ND	1.7	0.69	ug/kg	
1024-57-3	Heptachlor epoxide	ND	1.7	0.69	ug/kg	
72-43-5	Methoxychlor	ND	3.5	1.4	ug/kg	
8001-35-2	Toxaphene	ND	170	86	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	91%		60-142%
2051-24-3	Decachlorobiphenyl	91%		61-153%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-03	Date Sampled:	08/29/05
Lab Sample ID:	F34417-3	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	95.8
Method:	SW846 8082 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST38904.D	1	08/31/05	AG	08/30/05	OP14275	GST1199
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	17	8.6	ug/kg	
11104-28-2	Aroclor 1221	ND	17	14	ug/kg	
11141-16-5	Aroclor 1232	ND	17	14	ug/kg	
53469-21-9	Aroclor 1242	ND	17	8.6	ug/kg	
12672-29-6	Aroclor 1248	ND	17	8.6	ug/kg	
11097-69-1	Aroclor 1254	ND	17	8.6	ug/kg	
11096-82-5	Aroclor 1260	ND	17	8.6	ug/kg	
	Total PCBs	ND	35		ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	84%		52-136%
2051-24-3	Decachlorobiphenyl	79%		49-148%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.3

2

Client Sample ID: AS4159-03

Lab Sample ID: F34417-3

Matrix: SO - Soil

Project: Camp Lejeune-AS-4159

Date Sampled: 08/29/05

Date Received: 08/30/05

Percent Solids: 95.8

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	5.5	1.0	0.084	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²
Lead	2.8 B	10	0.15	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4551

(2) Prep QC Batch: MP8574

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Report of Analysis

Page 1 of 2

Client Sample ID:	AS4159-04	Date Sampled:	08/29/05
Lab Sample ID:	F34417-4	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

Run #1 ^a	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	K022748.D	1	09/10/05	NAF	n/a	n/a	VK1032

Run #1	Initial Weight	Final Volume	Methanol Aliquot
Run #2	4.87 g	5.0 ml	100 ul

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	3500	1800	ug/kg	
71-43-2	Benzene	ND	350	140	ug/kg	
75-27-4	Bromodichloromethane	ND	350	140	ug/kg	
75-25-2	Bromoform	ND	350	140	ug/kg	
108-90-7	Chlorobenzene	ND	350	140	ug/kg	
75-00-3	Chloroethane	ND	350	140	ug/kg	
67-66-3	Chloroform	ND	350	140	ug/kg	
75-15-0	Carbon disulfide	ND	350	140	ug/kg	
56-23-5	Carbon tetrachloride	ND	350	140	ug/kg	
75-34-3	1,1-Dichloroethane	ND	350	140	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	350	140	ug/kg	
107-06-2	1,2-Dichloroethane	ND	350	140	ug/kg	
78-87-5	1,2-Dichloropropane	ND	350	140	ug/kg	
108-20-3	Di-Isopropyl ether	ND	350	140	ug/kg	
124-48-1	Dibromochloromethane	ND	350	140	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	350	140	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	350	140	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	350	140	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	350	140	ug/kg	
100-41-4	Ethylbenzene	ND	350	140	ug/kg	
591-78-6	2-Hexanone	ND	1800	700	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	1800	700	ug/kg	
74-83-9	Methyl bromide	ND	350	140	ug/kg	
74-87-3	Methyl chloride	ND	350	140	ug/kg	
75-09-2	Methylene chloride	ND	700	350	ug/kg	
78-93-3	Methyl ethyl ketone	ND	1800	700	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	350	140	ug/kg	
100-42-5	Styrene	ND	350	140	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	350	140	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	350	140	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	350	140	ug/kg	
127-18-4	Tetrachloroethylene	ND	350	140	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	AS4159-04	Date Sampled:	08/29/05
Lab Sample ID:	F34417-4	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	350	140	ug/kg	
79-01-6	Trichloroethylene	ND	350	140	ug/kg	
75-01-4	Vinyl chloride	ND	350	140	ug/kg	
1330-20-7	Xylene (total)	703	1100	320	ug/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		78-123%
2037-26-5	Toluene-D8	114%		71-137%
460-00-4	4-Bromofluorobenzene	128%		61-157%
17060-07-0	1,2-Dichloroethane-D4	99%		74-125%

(a) Methanol extract analysis required due to matrix interference (non-target analytes present above calibration range). Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 3

Client Sample ID: AS4159-04

Lab Sample ID: F34417-4

Date Sampled: 08/29/05

Matrix: SO - Soil

Date Received: 08/30/05

Method: SW846 8270C SW846 3550B

Percent Solids: 84.1

Project: Camp Lejeune-AS-4159

Run #1 ^a	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	F011357.D	4	09/03/05	ME	08/30/05	OP14281	SF623

Run #1	Initial Weight	Final Volume
Run #2	30.8 g	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	3900	1500	ug/kg	
95-57-8	2-Chlorophenol	ND	770	150	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	770	150	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	770	150	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	770	150	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	3900	1500	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	1500	310	ug/kg	
95-48-7	2-Methylphenol	ND	770	150	ug/kg	
	3&4-Methylphenol	ND	770	150	ug/kg	
88-75-5	2-Nitrophenol	ND	770	150	ug/kg	
100-02-7	4-Nitrophenol	ND	3900	1500	ug/kg	
87-86-5	Pentachlorophenol	ND	3900	1500	ug/kg	
108-95-2	Phenol	ND	770	150	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	770	150	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	770	150	ug/kg	
83-32-9	Acenaphthene	ND	770	150	ug/kg	
208-96-8	Acenaphthylene	ND	770	150	ug/kg	
120-12-7	Anthracene	ND	770	150	ug/kg	
56-55-3	Benzo(a)anthracene	ND	770	150	ug/kg	
50-32-8	Benzo(a)pyrene	ND	770	150	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	770	150	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	770	310	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	770	150	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	770	150	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	1500	390	ug/kg	
100-51-6	Benzyl Alcohol	ND	770	150	ug/kg	
91-58-7	2-Chloronaphthalene	ND	770	150	ug/kg	
106-47-8	4-Chloroaniline	ND	1500	620	ug/kg	
86-74-8	Carbazole	ND	770	150	ug/kg	
218-01-9	Chrysene	ND	770	150	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	770	150	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	770	310	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-04	Date Sampled:	08/29/05
Lab Sample ID:	F34417-4	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	770	150	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	770	150	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	770	150	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	770	150	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	770	150	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	770	310	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	770	310	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	1500	770	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	770	310	ug/kg	
132-64-9	Dibenzofuran	ND	770	150	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	1500	390	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	1500	770	ug/kg	
84-66-2	Diethyl phthalate	ND	1500	390	ug/kg	
131-11-3	Dimethyl phthalate	ND	1500	390	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	1500	770	ug/kg	
206-44-0	Fluoranthene	ND	770	150	ug/kg	
86-73-7	Fluorene	196	770	150	ug/kg	J
118-74-1	Hexachlorobenzene	ND	770	150	ug/kg	
87-68-3	Hexachlorobutadiene	ND	770	310	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	770	310	ug/kg	
67-72-1	Hexachloroethane	ND	770	310	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	770	310	ug/kg	
78-59-1	Isophorone	ND	770	150	ug/kg	
91-57-6	2-Methylnaphthalene	1500	770	150	ug/kg	
88-74-4	2-Nitroaniline	ND	1500	390	ug/kg	
99-09-2	3-Nitroaniline	ND	1500	390	ug/kg	
100-01-6	4-Nitroaniline	ND	1500	540	ug/kg	
91-20-3	Naphthalene	311	770	150	ug/kg	J
98-95-3	Nitrobenzene	ND	770	150	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	770	310	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	770	150	ug/kg	
85-01-8	Phenanthrene	285	770	150	ug/kg	J
129-00-0	Pyrene	ND	770	310	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	770	150	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	72%		45-114%
4165-62-2	Phenol-d5	70%		44-124%
118-79-6	2,4,6-Tribromophenol	80%		50-128%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-04	Date Sampled:	08/29/05
Lab Sample ID:	F34417-4	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	108%		41-123%
321-60-8	2-Fluorobiphenyl	74%		46-122%
1718-51-0	Terphenyl-d14	74%		45-135%

(a) Dilution required due to matrix interference.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: AS4159-04							
Lab Sample ID: F34417-4				Date Sampled: 08/29/05			
Matrix: SO - Soil				Date Received: 08/30/05			
Method: MADEP VPH				Percent Solids: 84.1			
Project: Camp Lejeune-AS-4159							
Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	UV018138.D	1	09/02/05	MM	n/a	n/a	GUV1059
Run #1	Initial Weight	Final Volume	Methanol Aliquot				
Run #2	5.00 g	5.0 ml	5.0 ul				

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	89000	48000	ug/kg	
	C9- C12 Aliphatics (Unadj.)	606000	65000	36000	ug/kg	
	C9- C10 Aromatics (Unadj.)	426000	24000	12000	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
460-00-4	BFB	17.6% ^a		70-130%		
460-00-4	BFB	111%		70-130%		

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.4
2

Client Sample ID:	AS4159-04	Date Sampled:	08/29/05
Lab Sample ID:	F34417-4	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	MADEP-EPH-98-1 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF18087.D	40	09/09/05	SD	08/31/05	OP14287	GZF850
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.7 g	2.0 ml
Run #2		

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	764000	310000	310000	ug/kg	
	C9-C18 Aliphatics	1750000	310000	310000	ug/kg	
	C19-C36 Aliphatics	ND	310000	310000	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane	0% ^a		40-140%
580-13-2	2-Bromonaphthalene	0% ^a		40-140%
84-15-1	o-Terphenyl	0% ^a		40-140%
321-60-8	2-Fluorobiphenyl	0% ^a		40-140%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-04	Date Sampled:	08/29/05
Lab Sample ID:	F34417-4	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8081A SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK09790.D	1	09/07/05	AA	09/01/05	OP14306	GKK362
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.3 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	2.0	0.78	ug/kg	
319-84-6	alpha-BHC	ND	2.0	0.78	ug/kg	
319-85-7	beta-BHC	ND	2.0	0.78	ug/kg	
319-86-8	delta-BHC	ND	2.0	0.78	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	2.0	0.78	ug/kg	
5103-71-9	alpha-Chlordane	ND	2.0	0.78	ug/kg	
5103-74-2	gamma-Chlordane	ND	2.0	0.78	ug/kg	
60-57-1	Dieldrin	ND	2.0	0.78	ug/kg	
72-54-8	4,4'-DDD	ND	3.9	0.78	ug/kg	
72-55-9	4,4'-DDE	ND	3.9	0.78	ug/kg	
50-29-3	4,4'-DDT	ND	3.9	1.2	ug/kg	
72-20-8	Endrin	ND	3.9	0.78	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.9	0.78	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.9	1.6	ug/kg	
53494-70-5	Endrin ketone	ND	3.9	0.78	ug/kg	
959-98-8	Endosulfan-I	ND	2.0	0.78	ug/kg	
33213-65-9	Endosulfan-II	ND	3.9	0.78	ug/kg	
76-44-8	Heptachlor	ND	2.0	0.78	ug/kg	
1024-57-3	Heptachlor epoxide	ND	2.0	0.78	ug/kg	
72-43-5	Methoxychlor	ND	3.9	1.6	ug/kg	
8001-35-2	Toxaphene	ND	200	98	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	65%		60-142%
2051-24-3	Decachlorobiphenyl	97%		61-153%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-04	Date Sampled:	08/29/05
Lab Sample ID:	F34417-4	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	84.1
Method:	SW846 8082 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST38905.D	1	08/31/05	AG	08/30/05	OP14275	GST1199
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.4 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	9.8	ug/kg	
11104-28-2	Aroclor 1221	ND	20	16	ug/kg	
11141-16-5	Aroclor 1232	ND	20	16	ug/kg	
53469-21-9	Aroclor 1242	ND	20	9.8	ug/kg	
12672-29-6	Aroclor 1248	ND	20	9.8	ug/kg	
11097-69-1	Aroclor 1254	ND	20	9.8	ug/kg	
11096-82-5	Aroclor 1260	ND	20	9.8	ug/kg	
	Total PCBs	ND	39		ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	52%		52-136%
2051-24-3	Decachlorobiphenyl	75%		49-148%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: AS4159-04

Lab Sample ID: F34417-4

Matrix: SO - Soil

Date Sampled: 08/29/05

Date Received: 08/30/05

Percent Solids: 84.1

Project: Camp Lejeune-AS-4159

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	7.5	1.1	0.091	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²
Lead	2.7 B	11	0.16	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4551

(2) Prep QC Batch: MP8574

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Report of Analysis

Page 1 of 2

Client Sample ID: AS4159-05							
Lab Sample ID: F34417-5				Date Sampled: 08/29/05			
Matrix: SO - Soil				Date Received: 08/30/05			
Method: SW846 8260B				Percent Solids: 85.0			
Project: Camp Lejeune-AS-4159							
Run #1 ^a	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	K022749.D	1	09/10/05	NAF	n/a	n/a	VK1032
Run #1	Initial Weight	Final Volume	Methanol Aliquot				
Run #2	4.05 g	5.0 ml	100 ul				

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	4100	2000	ug/kg	
71-43-2	Benzene	ND	410	160	ug/kg	
75-27-4	Bromodichloromethane	ND	410	160	ug/kg	
75-25-2	Bromoform	ND	410	160	ug/kg	
108-90-7	Chlorobenzene	ND	410	160	ug/kg	
75-00-3	Chloroethane	ND	410	160	ug/kg	
67-66-3	Chloroform	ND	410	160	ug/kg	
75-15-0	Carbon disulfide	ND	410	160	ug/kg	
56-23-5	Carbon tetrachloride	ND	410	160	ug/kg	
75-34-3	1,1-Dichloroethane	ND	410	160	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	410	160	ug/kg	
107-06-2	1,2-Dichloroethane	ND	410	160	ug/kg	
78-87-5	1,2-Dichloropropane	ND	410	160	ug/kg	
108-20-3	Di-Isopropyl ether	ND	410	160	ug/kg	
124-48-1	Dibromochloromethane	ND	410	160	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	410	160	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	410	160	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	410	160	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	410	160	ug/kg	
100-41-4	Ethylbenzene	ND	410	160	ug/kg	
591-78-6	2-Hexanone	ND	2000	810	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	2000	810	ug/kg	
74-83-9	Methyl bromide	ND	410	160	ug/kg	
74-87-3	Methyl chloride	ND	410	160	ug/kg	
75-09-2	Methylene chloride	ND	810	410	ug/kg	
78-93-3	Methyl ethyl ketone	ND	2000	810	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	410	160	ug/kg	
100-42-5	Styrene	ND	410	160	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	410	160	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	410	160	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	410	160	ug/kg	
127-18-4	Tetrachloroethylene	ND	410	160	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	AS4159-05	Date Sampled:	08/29/05
Lab Sample ID:	F34417-5	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	410	160	ug/kg	
79-01-6	Trichloroethylene	ND	410	160	ug/kg	
75-01-4	Vinyl chloride	ND	410	160	ug/kg	
1330-20-7	Xylene (total)	ND	1200	370	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		78-123%
2037-26-5	Toluene-D8	101%		71-137%
460-00-4	4-Bromofluorobenzene	96%		61-157%
17060-07-0	1,2-Dichloroethane-D4	105%		74-125%

(a) Methanol extract analysis required due to matrix interference (non-target analytes present above calibration range). Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 3

Client Sample ID: AS4159-05		Date Sampled: 08/29/05	
Lab Sample ID: F34417-5		Date Received: 08/30/05	
Matrix: SO - Soil		Percent Solids: 85.0	
Method: SW846 8270C SW846 3550B			
Project: Camp Lejeune-AS-4159			

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F011358.D	1	09/03/05	ME	08/30/05	OP14281	SF623
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.8 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	950	380	ug/kg	
95-57-8	2-Chlorophenol	ND	190	38	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	38	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	38	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	38	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	950	380	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	380	76	ug/kg	
95-48-7	2-Methylphenol	ND	190	38	ug/kg	
	3&4-Methylphenol	ND	190	38	ug/kg	
88-75-5	2-Nitrophenol	ND	190	38	ug/kg	
100-02-7	4-Nitrophenol	ND	950	380	ug/kg	
87-86-5	Pentachlorophenol	ND	950	380	ug/kg	
108-95-2	Phenol	ND	190	38	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	38	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	38	ug/kg	
83-32-9	Acenaphthene	ND	190	38	ug/kg	
208-96-8	Acenaphthylene	ND	190	38	ug/kg	
120-12-7	Anthracene	ND	190	38	ug/kg	
56-55-3	Benzo(a)anthracene	ND	190	38	ug/kg	
50-32-8	Benzo(a)pyrene	ND	190	38	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	190	38	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	190	76	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	190	38	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	190	38	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	380	95	ug/kg	
100-51-6	Benzyl Alcohol	ND	190	38	ug/kg	
91-58-7	2-Chloronaphthalene	ND	190	38	ug/kg	
106-47-8	4-Chloroaniline	ND	380	150	ug/kg	
86-74-8	Carbazole	ND	190	38	ug/kg	
218-01-9	Chrysene	ND	190	38	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	190	38	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	190	76	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-05	Date Sampled:	08/29/05
Lab Sample ID:	F34417-5	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	190	38	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	190	38	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	190	38	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	190	38	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	38	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	190	76	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	190	76	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	380	190	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	190	76	ug/kg	
132-64-9	Dibenzofuran	ND	190	38	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	380	95	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	380	190	ug/kg	
84-66-2	Diethyl phthalate	ND	380	95	ug/kg	
131-11-3	Dimethyl phthalate	ND	380	95	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	446	380	190	ug/kg	
206-44-0	Fluoranthene	ND	190	38	ug/kg	
86-73-7	Fluorene	ND	190	38	ug/kg	
118-74-1	Hexachlorobenzene	ND	190	38	ug/kg	
87-68-3	Hexachlorobutadiene	ND	190	76	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	190	76	ug/kg	
67-72-1	Hexachloroethane	ND	190	76	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	190	76	ug/kg	
78-59-1	Isophorone	ND	190	38	ug/kg	
91-57-6	2-Methylnaphthalene	ND	190	38	ug/kg	
88-74-4	2-Nitroaniline	ND	380	95	ug/kg	
99-09-2	3-Nitroaniline	ND	380	95	ug/kg	
100-01-6	4-Nitroaniline	ND	380	130	ug/kg	
91-20-3	Naphthalene	ND	190	38	ug/kg	
98-95-3	Nitrobenzene	ND	190	38	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	190	76	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	38	ug/kg	
85-01-8	Phenanthrene	ND	190	38	ug/kg	
129-00-0	Pyrene	ND	190	76	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	190	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	71%		45-114%
4165-62-2	Phenol-d5	71%		44-124%
118-79-6	2,4,6-Tribromophenol	82%		50-128%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 3 of 3

2.5
2

Client Sample ID:	AS4159-05	Date Sampled:	08/29/05
Lab Sample ID:	F34417-5	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	69%		41-123%
321-60-8	2-Fluorobiphenyl	73%		46-122%
1718-51-0	Terphenyl-d14	77%		45-135%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-05	Date Sampled:	08/29/05
Lab Sample ID:	F34417-5	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	MADEP VPH		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	UV018166.D	1	09/06/05	MM	n/a	n/a	GUV1062
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.93 g	5.0 ml	10.0 ul
Run #2			

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	37000	20000	ug/kg	
	C9- C12 Aliphatics (Unadj.)	110000	27000	15000	ug/kg	
	C9- C10 Aromatics (Unadj.)	62800	9900	5000	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	BFB	0% ^b		70-130%
460-00-4	BFB	0% ^b		70-130%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

(b) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-05	Date Sampled:	08/29/05
Lab Sample ID:	F34417-5	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	MADEP-EPH-98-1 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF18089.D	2	09/09/05	SD	08/31/05	OP14287	GZF850
Run #2							

Run #	Initial Weight	Final Volume
Run #1	31.4 g	2.0 ml
Run #2		

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	39400	15000	15000	ug/kg	
	C9-C18 Aliphatics	169000	15000	15000	ug/kg	
	C19-C36 Aliphatics	16200	15000	15000	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane	62%		40-140%
580-13-2	2-Bromonaphthalene	57%		40-140%
84-15-1	o-Terphenyl	71%		40-140%
321-60-8	2-Fluorobiphenyl	76%		40-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-05	Date Sampled:	08/29/05
Lab Sample ID:	F34417-5	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	SW846 8081A SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK09734.D	1	08/31/05	AA	08/30/05	OP14276	GKK359
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	2.0	0.78	ug/kg	
319-84-6	alpha-BHC	ND	2.0	0.78	ug/kg	
319-85-7	beta-BHC	ND	2.0	0.78	ug/kg	
319-86-8	delta-BHC	ND	2.0	0.78	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	2.0	0.78	ug/kg	
5103-71-9	alpha-Chlordane	0.81	2.0	0.78	ug/kg	J
5103-74-2	gamma-Chlordane	1.5	2.0	0.78	ug/kg	J
60-57-1	Dieldrin	ND	2.0	0.78	ug/kg	
72-54-8	4,4'-DDD	ND	3.9	0.78	ug/kg	
72-55-9	4,4'-DDE	ND	3.9	0.78	ug/kg	
50-29-3	4,4'-DDT	ND	3.9	1.2	ug/kg	
72-20-8	Endrin	ND	3.9	0.78	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.9	0.78	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.9	1.6	ug/kg	
53494-70-5	Endrin ketone	ND	3.9	0.78	ug/kg	
959-98-8	Endosulfan-I	ND	2.0	0.78	ug/kg	
33213-65-9	Endosulfan-II	ND	3.9	0.78	ug/kg	
76-44-8	Heptachlor	ND	2.0	0.78	ug/kg	
1024-57-3	Heptachlor epoxide	ND	2.0	0.78	ug/kg	
72-43-5	Methoxychlor	ND	3.9	1.6	ug/kg	
8001-35-2	Toxaphene	ND	200	98	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	64%		60-142%
2051-24-3	Decachlorobiphenyl	88%		61-153%

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-05	Date Sampled:	08/29/05
Lab Sample ID:	F34417-5	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	85.0
Method:	SW846 8082 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST38907.D	1	08/31/05	AG	08/30/05	OP14275	GST1199
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	9.8	ug/kg	
11104-28-2	Aroclor 1221	ND	20	16	ug/kg	
11141-16-5	Aroclor 1232	ND	20	16	ug/kg	
53469-21-9	Aroclor 1242	ND	20	9.8	ug/kg	
12672-29-6	Aroclor 1248	ND	20	9.8	ug/kg	
11097-69-1	Aroclor 1254	ND	20	9.8	ug/kg	
11096-82-5	Aroclor 1260	ND	20	9.8	ug/kg	
	Total PCBs	ND	39		ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	69%		52-136%
2051-24-3	Decachlorobiphenyl	74%		49-148%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.5
2

Client Sample ID: AS4159-05

Lab Sample ID: F34417-5

Matrix: SO - Soil

Project: Camp Lejeune-AS-4159

Date Sampled: 08/29/05

Date Received: 08/30/05

Percent Solids: 85.0

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	7.2	1.2	0.094	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²
Lead	4.2 B	12	0.16	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4551

(2) Prep QC Batch: MP8574

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Report of Analysis

Page 1 of 2

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K022735.D	1	09/10/05	NAF	n/a	n/a	VK1032
Run #2							

	Initial Weight
Run #1	4.52 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	68	34	ug/kg	
71-43-2	Benzene	ND	6.8	2.7	ug/kg	
75-27-4	Bromodichloromethane	ND	6.8	2.7	ug/kg	
75-25-2	Bromoform	ND	6.8	2.7	ug/kg	
108-90-7	Chlorobenzene	ND	6.8	2.7	ug/kg	
75-00-3	Chloroethane	ND	6.8	2.7	ug/kg	
67-66-3	Chloroform	ND	6.8	2.7	ug/kg	
75-15-0	Carbon disulfide	ND	6.8	2.7	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.8	2.7	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.8	2.7	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.8	2.7	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.8	2.7	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.8	2.7	ug/kg	
108-20-3	Di-Isopropyl ether	ND	6.8	2.7	ug/kg	
124-48-1	Dibromochloromethane	ND	6.8	2.7	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.8	2.7	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.8	2.7	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.8	2.7	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.8	2.7	ug/kg	
100-41-4	Ethylbenzene	ND	6.8	2.7	ug/kg	
591-78-6	2-Hexanone	ND	34	14	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	34	14	ug/kg	
74-83-9	Methyl bromide	ND	6.8	2.7	ug/kg	
74-87-3	Methyl chloride	ND	6.8	2.7	ug/kg	
75-09-2	Methylene chloride	ND	14	6.8	ug/kg	
78-93-3	Methyl ethyl ketone	ND	34	14	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.8	2.7	ug/kg	
100-42-5	Styrene	ND	6.8	2.7	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.8	2.7	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.8	2.7	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.8	2.7	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.8	2.7	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	6.8	2.7	ug/kg	
79-01-6	Trichloroethylene	ND	6.8	2.7	ug/kg	
75-01-4	Vinyl chloride	ND	6.8	2.7	ug/kg	
1330-20-7	Xylene (total)	ND	20	6.1	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		78-123%
2037-26-5	Toluene-D8	113%		71-137%
460-00-4	4-Bromofluorobenzene	123%		61-157%
17060-07-0	1,2-Dichloroethane-D4	108%		74-125%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 3

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F011371.D	1	09/03/05	ME	08/30/05	OP14281	SF624
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1000	400	ug/kg	
95-57-8	2-Chlorophenol	ND	200	40	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	200	40	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	200	40	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	40	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1000	400	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	400	81	ug/kg	
95-48-7	2-Methylphenol	ND	200	40	ug/kg	
	3&4-Methylphenol	ND	200	40	ug/kg	
88-75-5	2-Nitrophenol	ND	200	40	ug/kg	
100-02-7	4-Nitrophenol	ND	1000	400	ug/kg	
87-86-5	Pentachlorophenol	ND	1000	400	ug/kg	
108-95-2	Phenol	ND	200	40	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	200	40	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	200	40	ug/kg	
83-32-9	Acenaphthene	ND	200	40	ug/kg	
208-96-8	Acenaphthylene	ND	200	40	ug/kg	
120-12-7	Anthracene	ND	200	40	ug/kg	
56-55-3	Benzo(a)anthracene	ND	200	40	ug/kg	
50-32-8	Benzo(a)pyrene	ND	200	40	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	40	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	200	81	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	200	40	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	200	40	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	400	100	ug/kg	
100-51-6	Benzyl Alcohol	ND	200	40	ug/kg	
91-58-7	2-Chloronaphthalene	ND	200	40	ug/kg	
106-47-8	4-Chloroaniline	ND	400	160	ug/kg	
86-74-8	Carbazole	ND	200	40	ug/kg	
218-01-9	Chrysene	ND	200	40	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	200	40	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	200	81	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	200	40	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	200	40	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	200	40	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	200	40	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	200	40	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	200	81	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	200	81	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	400	200	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	200	81	ug/kg	
132-64-9	Dibenzofuran	ND	200	40	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	400	100	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	400	200	ug/kg	
84-66-2	Diethyl phthalate	ND	400	100	ug/kg	
131-11-3	Dimethyl phthalate	ND	400	100	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	400	200	ug/kg	
206-44-0	Fluoranthene	ND	200	40	ug/kg	
86-73-7	Fluorene	ND	200	40	ug/kg	
118-74-1	Hexachlorobenzene	ND	200	40	ug/kg	
87-68-3	Hexachlorobutadiene	ND	200	81	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	200	81	ug/kg	
67-72-1	Hexachloroethane	ND	200	81	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	200	81	ug/kg	
78-59-1	Isophorone	ND	200	40	ug/kg	
91-57-6	2-Methylnaphthalene	ND	200	40	ug/kg	
88-74-4	2-Nitroaniline	ND	400	100	ug/kg	
99-09-2	3-Nitroaniline	ND	400	100	ug/kg	
100-01-6	4-Nitroaniline	ND	400	140	ug/kg	
91-20-3	Naphthalene	ND	200	40	ug/kg	
98-95-3	Nitrobenzene	ND	200	40	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	81	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	200	40	ug/kg	
85-01-8	Phenanthrene	ND	200	40	ug/kg	
129-00-0	Pyrene	ND	200	81	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	40	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	80%		45-114%
4165-62-2	Phenol-d5	80%		44-124%
118-79-6	2,4,6-Tribromophenol	86%		50-128%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 3 of 3

2.6
2

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		41-123%
321-60-8	2-Fluorobiphenyl	76%		46-122%
1718-51-0	Terphenyl-d14	87%		45-135%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.6
2

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	MADEP VPH		
Project:	Camp Lejeune-AS-4159		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	UV018127.D	1	09/01/05	MM	n/a	n/a	GUV1058
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.40 g	5.0 ml	100 ul
Run #2			

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	3600	1900	ug/kg	
	C9- C12 Aliphatics (Unadj.)	ND	2600	1400	ug/kg	
	C9- C10 Aromatics (Unadj.)	ND	950	480	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	BFB	77%		70-130%
460-00-4	BFB	78%		70-130%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: AS4159-06							
Lab Sample ID: F34417-6				Date Sampled: 08/29/05			
Matrix: SO - Soil				Date Received: 08/30/05			
Method: MADEP-EPH-98-1 SW846 3550B				Percent Solids: 81.9			
Project: Camp Lejeune-AS-4159							

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	ZF18078.D	1	09/08/05	SD	08/31/05	OP14287	GZF849

Run #1	Initial Weight	Final Volume
Run #2	30.4 g	2.0 ml

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	8000	8000	ug/kg	
	C9-C18 Aliphatics	ND	8000	8000	ug/kg	
	C19-C36 Aliphatics	ND	8000	8000	ug/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
3386-33-2	1-Chlorooctadecane	56%		40-140%		
580-13-2	2-Bromonaphthalene	73%		40-140%		
84-15-1	o-Terphenyl	70%		40-140%		
321-60-8	2-Fluorobiphenyl	81%		40-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8081A SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	KK09735.D	1	09/01/05	AA	08/30/05	OP14276	GKK359
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.8 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	2.0	0.79	ug/kg	
319-84-6	alpha-BHC	ND	2.0	0.79	ug/kg	
319-85-7	beta-BHC	ND	2.0	0.79	ug/kg	
319-86-8	delta-BHC	ND	2.0	0.79	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	2.0	0.79	ug/kg	
5103-71-9	alpha-Chlordane	ND	2.0	0.79	ug/kg	
5103-74-2	gamma-Chlordane	1.6	2.0	0.79	ug/kg	J
60-57-1	Dieldrin	ND	2.0	0.79	ug/kg	
72-54-8	4,4'-DDD	ND	4.0	0.79	ug/kg	
72-55-9	4,4'-DDE	ND	4.0	0.79	ug/kg	
50-29-3	4,4'-DDT	ND	4.0	1.2	ug/kg	
72-20-8	Endrin	ND	4.0	0.79	ug/kg	
1031-07-8	Endosulfan sulfate	ND	4.0	0.79	ug/kg	
7421-93-4	Endrin aldehyde	ND	4.0	1.6	ug/kg	
53494-70-5	Endrin ketone	ND	4.0	0.79	ug/kg	
959-98-8	Endosulfan-I	ND	2.0	0.79	ug/kg	
33213-65-9	Endosulfan-II	ND	4.0	0.79	ug/kg	
76-44-8	Heptachlor	ND	2.0	0.79	ug/kg	
1024-57-3	Heptachlor epoxide	ND	2.0	0.79	ug/kg	
72-43-5	Methoxychlor	ND	4.0	1.6	ug/kg	
8001-35-2	Toxaphene	ND	200	99	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	86%		60-142%
2051-24-3	Decachlorobiphenyl	87%		61-153%

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Method:	SW846 8082 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST38908.D	1	08/31/05	AG	08/30/05	OP14275	GST1199
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	9.9	ug/kg	
11104-28-2	Aroclor 1221	ND	20	16	ug/kg	
11141-16-5	Aroclor 1232	ND	20	16	ug/kg	
53469-21-9	Aroclor 1242	ND	20	9.9	ug/kg	
12672-29-6	Aroclor 1248	ND	20	9.9	ug/kg	
11097-69-1	Aroclor 1254	ND	20	9.9	ug/kg	
11096-82-5	Aroclor 1260	ND	20	9.9	ug/kg	
	Total PCBs	ND	40		ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	81%		52-136%
2051-24-3	Decachlorobiphenyl	76%		49-148%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.6

2

Client Sample ID:	AS4159-06	Date Sampled:	08/29/05
Lab Sample ID:	F34417-6	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.9
Project:	Camp Lejeune-AS-4159		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	4.0	1.2	0.098	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²
Lead	4.2 B	12	0.17	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4551

(2) Prep QC Batch: MP8574

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Report of Analysis

Page 1 of 2

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K022736.D	1	09/10/05	NAF	n/a	n/a	VK1032
Run #2							

Run #	Initial Weight
Run #1	4.70 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	65	33	ug/kg	
71-43-2	Benzene	ND	6.5	2.6	ug/kg	
75-27-4	Bromodichloromethane	ND	6.5	2.6	ug/kg	
75-25-2	Bromoform	ND	6.5	2.6	ug/kg	
108-90-7	Chlorobenzene	ND	6.5	2.6	ug/kg	
75-00-3	Chloroethane	ND	6.5	2.6	ug/kg	
67-66-3	Chloroform	ND	6.5	2.6	ug/kg	
75-15-0	Carbon disulfide	ND	6.5	2.6	ug/kg	
56-23-5	Carbon tetrachloride	ND	6.5	2.6	ug/kg	
75-34-3	1,1-Dichloroethane	ND	6.5	2.6	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	6.5	2.6	ug/kg	
107-06-2	1,2-Dichloroethane	ND	6.5	2.6	ug/kg	
78-87-5	1,2-Dichloropropane	ND	6.5	2.6	ug/kg	
108-20-3	Di-Isopropyl ether	ND	6.5	2.6	ug/kg	
124-48-1	Dibromochloromethane	ND	6.5	2.6	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	6.5	2.6	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	6.5	2.6	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	6.5	2.6	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	6.5	2.6	ug/kg	
100-41-4	Ethylbenzene	ND	6.5	2.6	ug/kg	
591-78-6	2-Hexanone	ND	33	13	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	33	13	ug/kg	
74-83-9	Methyl bromide	ND	6.5	2.6	ug/kg	
74-87-3	Methyl chloride	ND	6.5	2.6	ug/kg	
75-09-2	Methylene chloride ^b	10.3	13	6.5	ug/kg	JB
78-93-3	Methyl ethyl ketone	ND	33	13	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	6.5	2.6	ug/kg	
100-42-5	Styrene	ND	6.5	2.6	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	6.5	2.6	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	6.5	2.6	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	6.5	2.6	ug/kg	
127-18-4	Tetrachloroethylene	ND	6.5	2.6	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	6.5	2.6	ug/kg	
79-01-6	Trichloroethylene	ND	6.5	2.6	ug/kg	
75-01-4	Vinyl chloride	ND	6.5	2.6	ug/kg	
1330-20-7	Xylene (total)	ND	20	5.9	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		78-123%
2037-26-5	Toluene-D8	109%		71-137%
460-00-4	4-Bromofluorobenzene	105%		61-157%
17060-07-0	1,2-Dichloroethane-D4	108%		74-125%

- (a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.
 (b) Suspected laboratory contaminant.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 3

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F011372.D	1	09/03/05	ME	08/30/05	OP14281	SF624
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.1 g	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	1000	410	ug/kg	
95-57-8	2-Chlorophenol	ND	200	41	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	200	41	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	200	41	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	200	41	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	1000	410	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	410	82	ug/kg	
95-48-7	2-Methylphenol	ND	200	41	ug/kg	
	3&4-Methylphenol	ND	200	41	ug/kg	
88-75-5	2-Nitrophenol	ND	200	41	ug/kg	
100-02-7	4-Nitrophenol	ND	1000	410	ug/kg	
87-86-5	Pentachlorophenol	ND	1000	410	ug/kg	
108-95-2	Phenol	ND	200	41	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	200	41	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	200	41	ug/kg	
83-32-9	Acenaphthene	ND	200	41	ug/kg	
208-96-8	Acenaphthylene	ND	200	41	ug/kg	
120-12-7	Anthracene	ND	200	41	ug/kg	
56-55-3	Benzo(a)anthracene	ND	200	41	ug/kg	
50-32-8	Benzo(a)pyrene	ND	200	41	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	200	41	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	200	82	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	200	41	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	200	41	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	410	100	ug/kg	
100-51-6	Benzyl Alcohol	ND	200	41	ug/kg	
91-58-7	2-Chloronaphthalene	ND	200	41	ug/kg	
106-47-8	4-Chloroaniline	ND	410	160	ug/kg	
86-74-8	Carbazole	ND	200	41	ug/kg	
218-01-9	Chrysene	ND	200	41	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	200	41	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	200	82	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 3

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	200	41	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	200	41	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	200	41	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	200	41	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	200	41	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	200	82	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	200	82	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	410	200	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	200	82	ug/kg	
132-64-9	Dibenzofuran	ND	200	41	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	410	100	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	410	200	ug/kg	
84-66-2	Diethyl phthalate	ND	410	100	ug/kg	
131-11-3	Dimethyl phthalate	ND	410	100	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	410	200	ug/kg	
206-44-0	Fluoranthene	ND	200	41	ug/kg	
86-73-7	Fluorene	ND	200	41	ug/kg	
118-74-1	Hexachlorobenzene	ND	200	41	ug/kg	
87-68-3	Hexachlorobutadiene	ND	200	82	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	200	82	ug/kg	
67-72-1	Hexachloroethane	ND	200	82	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	200	82	ug/kg	
78-59-1	Isophorone	ND	200	41	ug/kg	
91-57-6	2-Methylnaphthalene	ND	200	41	ug/kg	
88-74-4	2-Nitroaniline	ND	410	100	ug/kg	
99-09-2	3-Nitroaniline	ND	410	100	ug/kg	
100-01-6	4-Nitroaniline	ND	410	140	ug/kg	
91-20-3	Naphthalene	ND	200	41	ug/kg	
98-95-3	Nitrobenzene	ND	200	41	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	200	82	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	200	41	ug/kg	
85-01-8	Phenanthrene	ND	200	41	ug/kg	
129-00-0	Pyrene	ND	200	82	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	200	41	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	78%		45-114%
4165-62-2	Phenol-d5	77%		44-124%
118-79-6	2,4,6-Tribromophenol	86%		50-128%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 3 of 3

2.7
2

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	77%		41-123%
321-60-8	2-Fluorobiphenyl	78%		46-122%
1718-51-0	Terphenyl-d14	86%		45-135%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.7
2

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	MADEP VPH		
Project:	Camp Lejeune-AS-4159		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	UV018128.D	1	09/02/05	MM	n/a	n/a	GUV1058
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.17 g	5.0 ml	100 ul
Run #2			

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	4400	2400	ug/kg	
	C9- C12 Aliphatics (Unadj.)	ND	3300	1800	ug/kg	
	C9- C10 Aromatics (Unadj.)	ND	1200	590	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	BFB	78%		70-130%
460-00-4	BFB	79%		70-130%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.7
2

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	MADEP-EPH-98-1 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF18080.D	1	09/08/05	SD	08/31/05	OP14287	GZF849
Run #2							

Run #	Initial Weight	Final Volume
Run #1	32.1 g	2.0 ml
Run #2		

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	7600	7600	ug/kg	
	C9-C18 Aliphatics	ND	7600	7600	ug/kg	
	C19-C36 Aliphatics	ND	7600	7600	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane	62%		40-140%
580-13-2	2-Bromonaphthalene	80%		40-140%
84-15-1	o-Terphenyl	87%		40-140%
321-60-8	2-Fluorobiphenyl	83%		40-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	SW846 8081A SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK09736.D	1	09/01/05	AA	08/30/05	OP14276	GKK359
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	2.0	0.81	ug/kg	
319-84-6	alpha-BHC	ND	2.0	0.81	ug/kg	
319-85-7	beta-BHC	ND	2.0	0.81	ug/kg	
319-86-8	delta-BHC	ND	2.0	0.81	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	2.0	0.81	ug/kg	
5103-71-9	alpha-Chlordane	ND	2.0	0.81	ug/kg	
5103-74-2	gamma-Chlordane	ND	2.0	0.81	ug/kg	
60-57-1	Dieldrin	ND	2.0	0.81	ug/kg	
72-54-8	4,4'-DDD	ND	4.1	0.81	ug/kg	
72-55-9	4,4'-DDE	ND	4.1	0.81	ug/kg	
50-29-3	4,4'-DDT	ND	4.1	1.2	ug/kg	
72-20-8	Endrin	ND	4.1	0.81	ug/kg	
1031-07-8	Endosulfan sulfate	ND	4.1	0.81	ug/kg	
7421-93-4	Endrin aldehyde	ND	4.1	1.6	ug/kg	
53494-70-5	Endrin ketone	ND	4.1	0.81	ug/kg	
959-98-8	Endosulfan-I	ND	2.0	0.81	ug/kg	
33213-65-9	Endosulfan-II	ND	4.1	0.81	ug/kg	
76-44-8	Heptachlor	ND	2.0	0.81	ug/kg	
1024-57-3	Heptachlor epoxide	ND	2.0	0.81	ug/kg	
72-43-5	Methoxychlor	ND	4.1	1.6	ug/kg	
8001-35-2	Toxaphene	ND	200	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	87%		60-142%
2051-24-3	Decachlorobiphenyl	93%		61-153%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Method:	SW846 8082 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST38909.D	1	08/31/05	AG	08/30/05	OP14275	GST1199
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	20	10	ug/kg	
11104-28-2	Aroclor 1221	ND	20	16	ug/kg	
11141-16-5	Aroclor 1232	ND	20	16	ug/kg	
53469-21-9	Aroclor 1242	ND	20	10	ug/kg	
12672-29-6	Aroclor 1248	ND	20	10	ug/kg	
11097-69-1	Aroclor 1254	ND	20	10	ug/kg	
11096-82-5	Aroclor 1260	ND	20	10	ug/kg	
	Total PCBs	ND	41		ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	83%		52-136%
2051-24-3	Decachlorobiphenyl	77%		49-148%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.7
2

Client Sample ID:	AS4159-07	Date Sampled:	08/29/05
Lab Sample ID:	F34417-7	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	81.5
Project:	Camp Lejeune-AS-4159		

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	3.4	1.2	0.098	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²
Lead	2.3 B	12	0.17	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4551

(2) Prep QC Batch: MP8574

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL

Report of Analysis

Page 1 of 2

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	K022737.D	1	09/10/05	NAF	n/a	n/a	VK1032
Run #2							

	Initial Weight
Run #1	5.21 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	56	28	ug/kg	
71-43-2	Benzene	ND	5.6	2.2	ug/kg	
75-27-4	Bromodichloromethane	ND	5.6	2.2	ug/kg	
75-25-2	Bromoform	ND	5.6	2.2	ug/kg	
108-90-7	Chlorobenzene	ND	5.6	2.2	ug/kg	
75-00-3	Chloroethane	ND	5.6	2.2	ug/kg	
67-66-3	Chloroform	ND	5.6	2.2	ug/kg	
75-15-0	Carbon disulfide	ND	5.6	2.2	ug/kg	
56-23-5	Carbon tetrachloride	ND	5.6	2.2	ug/kg	
75-34-3	1,1-Dichloroethane	ND	5.6	2.2	ug/kg	
75-35-4	1,1-Dichloroethylene	ND	5.6	2.2	ug/kg	
107-06-2	1,2-Dichloroethane	ND	5.6	2.2	ug/kg	
78-87-5	1,2-Dichloropropane	ND	5.6	2.2	ug/kg	
108-20-3	Di-Isopropyl ether	ND	5.6	2.2	ug/kg	
124-48-1	Dibromochloromethane	ND	5.6	2.2	ug/kg	
156-59-2	cis-1,2-Dichloroethylene	ND	5.6	2.2	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	5.6	2.2	ug/kg	
156-60-5	trans-1,2-Dichloroethylene	ND	5.6	2.2	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	5.6	2.2	ug/kg	
100-41-4	Ethylbenzene	ND	5.6	2.2	ug/kg	
591-78-6	2-Hexanone	ND	28	11	ug/kg	
108-10-1	4-Methyl-2-pentanone	ND	28	11	ug/kg	
74-83-9	Methyl bromide	ND	5.6	2.2	ug/kg	
74-87-3	Methyl chloride	ND	5.6	2.2	ug/kg	
75-09-2	Methylene chloride	ND	11	5.6	ug/kg	
78-93-3	Methyl ethyl ketone	ND	28	11	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	5.6	2.2	ug/kg	
100-42-5	Styrene	ND	5.6	2.2	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	5.6	2.2	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	5.6	2.2	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	5.6	2.2	ug/kg	
127-18-4	Tetrachloroethylene	ND	5.6	2.2	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4159		

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-88-3	Toluene	ND	5.6	2.2	ug/kg	
79-01-6	Trichloroethylene	ND	5.6	2.2	ug/kg	
75-01-4	Vinyl chloride	ND	5.6	2.2	ug/kg	
1330-20-7	Xylene (total)	ND	17	5.0	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		78-123%
2037-26-5	Toluene-D8	114%		71-137%
460-00-4	4-Bromofluorobenzene	132%		61-157%
17060-07-0	1,2-Dichloroethane-D4	113%		74-125%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 3

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	F011373.D	1	09/03/05	ME	08/30/05	OP14281	SF624

Run #1	Initial Weight	Final Volume
Run #2	30.9 g	1.0 ml

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic acid	ND	940	380	ug/kg	
95-57-8	2-Chlorophenol	ND	190	38	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	38	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	38	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	38	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	940	380	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	380	75	ug/kg	
95-48-7	2-Methylphenol	ND	190	38	ug/kg	
	3&4-Methylphenol	ND	190	38	ug/kg	
88-75-5	2-Nitrophenol	ND	190	38	ug/kg	
100-02-7	4-Nitrophenol	ND	940	380	ug/kg	
87-86-5	Pentachlorophenol	ND	940	380	ug/kg	
108-95-2	Phenol	ND	190	38	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	38	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	38	ug/kg	
83-32-9	Acenaphthene	ND	190	38	ug/kg	
208-96-8	Acenaphthylene	ND	190	38	ug/kg	
120-12-7	Anthracene	ND	190	38	ug/kg	
56-55-3	Benzo(a)anthracene	ND	190	38	ug/kg	
50-32-8	Benzo(a)pyrene	ND	190	38	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	190	38	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	190	75	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	190	38	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	190	38	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	380	94	ug/kg	
100-51-6	Benzyl Alcohol	ND	190	38	ug/kg	
91-58-7	2-Chloronaphthalene	ND	190	38	ug/kg	
106-47-8	4-Chloroaniline	ND	380	150	ug/kg	
86-74-8	Carbazole	ND	190	38	ug/kg	
218-01-9	Chrysene	ND	190	38	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	190	38	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	190	75	ug/kg	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	190	38	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	190	38	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	190	38	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	190	38	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	190	38	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	190	75	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	190	75	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	380	190	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	190	75	ug/kg	
132-64-9	Dibenzofuran	ND	190	38	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	380	94	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	380	190	ug/kg	
84-66-2	Diethyl phthalate	ND	380	94	ug/kg	
131-11-3	Dimethyl phthalate	ND	380	94	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	380	190	ug/kg	
206-44-0	Fluoranthene	ND	190	38	ug/kg	
86-73-7	Fluorene	ND	190	38	ug/kg	
118-74-1	Hexachlorobenzene	ND	190	38	ug/kg	
87-68-3	Hexachlorobutadiene	ND	190	75	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	190	75	ug/kg	
67-72-1	Hexachloroethane	ND	190	75	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	190	75	ug/kg	
78-59-1	Isophorone	ND	190	38	ug/kg	
91-57-6	2-Methylnaphthalene	ND	190	38	ug/kg	
88-74-4	2-Nitroaniline	ND	380	94	ug/kg	
99-09-2	3-Nitroaniline	ND	380	94	ug/kg	
100-01-6	4-Nitroaniline	ND	380	130	ug/kg	
91-20-3	Naphthalene	ND	190	38	ug/kg	
98-95-3	Nitrobenzene	ND	190	38	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	190	75	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	38	ug/kg	
85-01-8	Phenanthrene	ND	190	38	ug/kg	
129-00-0	Pyrene	ND	190	75	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	190	38	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	73%		45-114%
4165-62-2	Phenol-d5	74%		44-124%
118-79-6	2,4,6-Tribromophenol	80%		50-128%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	SW846 8270C SW846 3550B		
Project:	Camp Lejeune-AS-4159		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	71%		41-123%
321-60-8	2-Fluorobiphenyl	71%		46-122%
1718-51-0	Terphenyl-d14	79%		45-135%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.8

2

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	MADEP VPH		
Project:	Camp Lejeune-AS-4159		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	UV018129.D	1	09/02/05	MM	n/a	n/a	GUV1058
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.17 g	5.0 ml	100 ul
Run #2			

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	ND	5200	2800	ug/kg	
	C9- C12 Aliphatics (Unadj.)	ND	3800	2100	ug/kg	
	C9- C10 Aromatics (Unadj.)	ND	1400	700	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	BFB	74%		70-130%
460-00-4	BFB	73%		70-130%

(a) Sample was received in a bulk container but was not preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.8

2

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	MADEP-EPH-98-1 SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF18086.D	1	09/09/05	SD	08/31/05	OP14287	GZF850
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.8 g	2.0 ml
Run #2		

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	ND	7600	7600	ug/kg	
	C9-C18 Aliphatics	ND	7600	7600	ug/kg	
	C19-C36 Aliphatics	ND	7600	7600	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane	84%		40-140%
580-13-2	2-Bromonaphthalene	73%		40-140%
84-15-1	o-Terphenyl	95%		40-140%
321-60-8	2-Fluorobiphenyl	103%		40-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4159-08	Date Sampled:	08/29/05
Lab Sample ID:	F34417-8	Date Received:	08/30/05
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	SW846 8081A SW846 3550B		
Project:	Camp Lejeune-AS-4159		

Run #1 ^a	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	KK09737.D	1	09/01/05	AA	08/30/05	OP14276	GKK359

Run #1	Initial Weight	Final Volume
Run #2	30.8 g	10.0 ml

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	1.9	0.76	ug/kg	
319-84-6	alpha-BHC	ND	1.9	0.76	ug/kg	
319-85-7	beta-BHC	ND	1.9	0.76	ug/kg	
319-86-8	delta-BHC	ND	1.9	0.76	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	1.9	0.76	ug/kg	
5103-71-9	alpha-Chlordane	1.0	1.9	0.76	ug/kg	J
5103-74-2	gamma-Chlordane	2.2	1.9	0.76	ug/kg	
60-57-1	Dieldrin	ND	1.9	0.76	ug/kg	
72-54-8	4,4'-DDD	ND	3.8	0.76	ug/kg	
72-55-9	4,4'-DDE	ND	3.8	0.76	ug/kg	
50-29-3	4,4'-DDT	ND	3.8	1.1	ug/kg	
72-20-8	Endrin	ND	3.8	0.76	ug/kg	
1031-07-8	Endosulfan sulfate	ND	3.8	0.76	ug/kg	
7421-93-4	Endrin aldehyde	ND	3.8	1.5	ug/kg	
53494-70-5	Endrin ketone	ND	3.8	0.76	ug/kg	
959-98-8	Endosulfan-I	ND	1.9	0.76	ug/kg	
33213-65-9	Endosulfan-II	ND	3.8	0.76	ug/kg	
76-44-8	Heptachlor	ND	1.9	0.76	ug/kg	
1024-57-3	Heptachlor epoxide	ND	1.9	0.76	ug/kg	
72-43-5	Methoxychlor	ND	3.8	1.5	ug/kg	
8001-35-2	Toxaphene	ND	190	94	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	80%		60-142%
2051-24-3	Decachlorobiphenyl	89%		61-153%

(a) All hits confirmed by dual column analysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: AS4159-08

Lab Sample ID: F34417-8

Date Sampled: 08/29/05

Matrix: SO - Soil

Date Received: 08/30/05

Method: SW846 8082 SW846 3550B

Percent Solids: 86.0

Project: Camp Lejeune-AS-4159

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ST38910.D	1	08/31/05	AG	08/30/05	OP14275	GST1199
Run #2							

	Initial Weight	Final Volume
Run #1	30.8 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	19	9.4	ug/kg	
11104-28-2	Aroclor 1221	ND	19	15	ug/kg	
11141-16-5	Aroclor 1232	ND	19	15	ug/kg	
53469-21-9	Aroclor 1242	ND	19	9.4	ug/kg	
12672-29-6	Aroclor 1248	ND	19	9.4	ug/kg	
11097-69-1	Aroclor 1254	ND	19	9.4	ug/kg	
11096-82-5	Aroclor 1260	ND	19	9.4	ug/kg	
	Total PCBs	ND	38		ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	71%		52-136%
2051-24-3	Decachlorobiphenyl	77%		49-148%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: AS4159-08

Lab Sample ID: F34417-8

Matrix: SO - Soil

Project: Camp Lejeune-AS-4159

Date Sampled: 08/29/05

Date Received: 08/30/05

Percent Solids: 86.0

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	3.7	1.1	0.085	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²
Lead	3.3 B	11	0.15	mg/kg	1	09/08/05	09/09/05 RS	SW846 6010B ¹	SW846 3050B ²

(1) Instrument QC Batch: MA4551

(2) Prep QC Batch: MP8574

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

COC Number:
109972-AS4158-082905



Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bldg 626 - 910-451-2390										Receiving LAB: ACCUTEST											
Project Name CAMP LEJEUNE - AS-4146				Project Location CAMP LEJEUNE, NC				Analysis Desired													
Project Number 109972		Contact Mark Martin		P.O. Number 74977		Reviewed by		TPH-DRO/GRO/C3550/5030	8081 Pesticides	8082 PCB	Total Metals Chromium and Lead	5035/8260 W/ PPE & MTBE	MADEP VPH	8270	MADEP EPH						
Client Rep US NAVY - LANTDIV				Project Manager Ron Kenyon																	
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers														
(1)	AS4159-001	8/29/05	10:30		X	Under Oil Water Separator	2	X													
(2)	AS4159-002	8/29/05	11:00		X	Product Line Next to OWS	3		X	X	X	X	X	X	X						
(3)	AS4159-003	8/29/05	11:30		X	Product Line Next to AST	3		X	X	X	X	X	X	X						
(4)	AS4159-004	8/29/05	12:00		X	North End Of UST	3		X	X	X	X	X	X	X						
(5)	AS4159-005	8/29/05	14:00		X	South End OF UST	3		X	X	X	X	X	X	X						
(6)	AS4159-006	8/29/05	14:15		X	West End Of UST	3		X	X	X	X	X	X	X						
(7)	AS4159-007	8/29/05	14:30		X	East End Of UST	3		X	X	X	X	X	X	X						
(8)	AS4159-008	8/29/05	14:15		X	West End OF UST Dup	3		X	X	X	X	X	X	X						
9																					
10																					

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 - 8	<i>[Signature]</i>	UPS 1Z 71V 096 15 9423 0963	8/29/05	16:00	Results Due 9/8/05
2		<i>[Signature]</i>	<i>[Signature]</i>	8/30/05	8:00	
3						

2.0 2-f

F34417: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F34417 CLIENT: SHAW ERI PROJECT: 109972
DATE/TIME RECEIVED: 8/30/05 08:15 # OF COOLERS RECEIVED: 2 COOLER TEMPS: 2.0 2.4
METHOD OF DELIVERY: FEDEX ☒ UPS ☐ ACCUTEST COURIER ☐ GREYHOUND ☐ DELIVERY ☐ OTHER ☐
AIRBILL NUMBERS: 1271009815 9138 0155

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ NO COC RECEIVED
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- ☒ TRIP BLANK NOT PROVIDED
- ☐ TRIP BLANK NOT ON COC
- ☐ TRIP BLANK INTACT
- ☐ TRIP BLANK NOT INTACT
- ☐ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- ☐ SAMPLE LABELS PRESENT ON ALL BOTTLES
- ☐ CORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ TIMES ON COC DON'T MATCH LABEL
- ☐ ID'S ON COC DON'T MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING INSTRUCTIONS
- ☐ UNCLEAR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE(S) RECEIVED BROKEN
- ☐ % SOLIDS JAR NOT RECEIVED

SOIL INFORMATION

NUMBER OF ENCORES ? 0
NUMBER OF 5035 FIELD KITS ? 0

SUMMARY OF COMMENTS: _____

TECHNICIAN SIGNATURE/DATE ap 8/30/05 TECHNICIAN SIGNATURE/DATE Shawn Brown / 8-30-05

ASBD06/22/05

F34417: Chain of Custody

Page 2 of 2



Southeast

09/12/05

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-AS 4158

824603

Accutest Job Number: F34530

Sampling Date: 09/01/05

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 14



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.


Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Table of Contents

Sections:



Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: F34530-1: AS4158-TD-001	4
2.2: F34530-1A: AS4158-TD-001	7
Section 3: Misc. Forms	12
3.1: Chain of Custody	13



Sample Summary

Shaw E & I, Inc.

Job No: F34530

Camp Lejeune-AS 4158
Project No: 824603

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
F34530-1	09/01/05	10:30 RK	09/02/05	SO Soil	AS4158-TD-001
F34530-1A	09/01/05	10:30 RK	09/02/05	SO Soil	AS4158-TD-001

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Page 1 of 1

2.1
2

Client Sample ID: AS4158-TD-001
 Lab Sample ID: F34530-1
 Matrix: SO - Soil
 Method: SW846 8015
 Project: Camp Lejeune-AS 4158

Date Sampled: 09/01/05
 Date Received: 09/02/05
 Percent Solids: 89.4

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	HH016167.D	1	09/08/05	AL	n/a	n/a	GHH726
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.15 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.0	3.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	88%		62-135%
98-08-8	aaa-Trifluorotoluene	86%		65-118%

(a) Sample was received in a bulk container and preserved within 48 hours of sampling.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.1

2

Client Sample ID:	AS4158-TD-001	Date Sampled:	09/01/05
Lab Sample ID:	F34530-1	Date Received:	09/02/05
Matrix:	SO - Soil	Percent Solids:	89.4
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 4158		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL05623.D	1	09/06/05	SD	09/05/05	OP14319	GLL221
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	9.3	5.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	66%		57-115%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.1
2

Client Sample ID:	AS4158-TD-001	Date Sampled:	09/01/05
Lab Sample ID:	F34530-1	Date Received:	09/02/05
Matrix:	SO - Soil	Percent Solids:	89.4
Project:	Camp Lejeune-AS 4158		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Corrosivity as pH	5.2			1	09/06/05	SR	SW846 CHAP7
Cyanide Reactivity	<1.7	1.7	mg/kg	1	09/12/05	SJL	SW846 CHAP7
Ignitability (Flashpoint)	>200		Deg. F	1	09/08/05	RS	SW846 1010
Solids, Percent	89.4		%	1	09/02/05	EM	EPA 160.3 M
Sulfide Reactivity	<50	50	mg/kg	1	09/12/05	LE	SW846 CHAP7

RL = Reporting Limit

Report of Analysis

Page 1 of 1

2.2
2

Client Sample ID: AS4158-TD-001

Lab Sample ID: F34530-1A

Date Sampled: 09/01/05

Matrix: SO - Soil

Date Received: 09/02/05

Method: SW846 8260B SW846 1311

Percent Solids: 89.4

Project: Camp Lejeune-AS 4158

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B033076.D	10	09/09/05	KW	09/06/05	OP14328	VB1397
Run #2							

Run #	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TCLP Leachate

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
71-43-2	Benzene	ND	D018	0.50	0.010	0.0050	mg/l	
108-90-7	Chlorobenzene	ND	D021	100	0.020	0.0050	mg/l	
67-66-3	Chloroform	ND	D022	6.0	0.020	0.0050	mg/l	
56-23-5	Carbon tetrachloride	ND	D019	0.50	0.020	0.0050	mg/l	
75-35-4	1,1-Dichloroethylene	ND	D029	0.70	0.020	0.0050	mg/l	
107-06-2	1,2-Dichloroethane	ND	D028	0.50	0.020	0.0050	mg/l	
106-46-7	p-Dichlorobenzene	ND	D027	7.5	0.020	0.0050	mg/l	
78-93-3	Methyl ethyl ketone	ND	D035	200	0.10	0.025	mg/l	
127-18-4	Tetrachloroethylene	ND	D039	0.70	0.020	0.0050	mg/l	
79-01-6	Trichloroethylene	ND	D040	0.50	0.020	0.0050	mg/l	
75-01-4	Vinyl chloride	ND	D043	0.20	0.010	0.0050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		86-115%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	112%		83-119%
17060-07-0	1,2-Dichloroethane-D4	92%		73-126%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261.6/96)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: AS4158-TD-001

Lab Sample ID: F34530-1A

Date Sampled: 09/01/05

Matrix: SO - Soil

Date Received: 09/02/05

Method: SW846 8270C SW846 3510C

Percent Solids: 89.4

Project: Camp Lejeune-AS 4158

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L027724.D	1	09/07/05	NJ	09/07/05	OP14340	SL1454
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	1.0 ml
Run #2		

ABN TCLP Leachate

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
95-48-7	2-Methylphenol	ND	D023	200	0.050	0.020	mg/l	
	3&4-Methylphenol	ND	D024	200	0.050	0.020	mg/l	
87-86-5	Pentachlorophenol	ND	D037	100	0.25	0.10	mg/l	
95-95-4	2,4,5-Trichlorophenol	ND	D041	400	0.050	0.020	mg/l	
88-06-2	2,4,6-Trichlorophenol	ND	D042	2.0	0.050	0.020	mg/l	
106-46-7	1,4-Dichlorobenzene	ND	D027	7.5	0.050	0.010	mg/l	
121-14-2	2,4-Dinitrotoluene	ND	D030	0.13	0.050	0.020	mg/l	
118-74-1	Hexachlorobenzene	ND	D032	0.13	0.050	0.010	mg/l	
87-68-3	Hexachlorobutadiene	ND	D033	0.50	0.050	0.020	mg/l	
67-72-1	Hexachloroethane	ND	D034	3.0	0.050	0.020	mg/l	
98-95-3	Nitrobenzene	ND	D036	2.0	0.050	0.010	mg/l	
110-86-1	Pyridine	ND	D038	5.0	0.10	0.030	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	42%		19-90%
4165-62-2	Phenol-d5	25%		10-68%
118-79-6	2,4,6-Tribromophenol	82%		36-137%
4165-60-0	Nitrobenzene-d5	76%		49-119%
321-60-8	2-Fluorobiphenyl	76%		45-118%
1718-51-0	Terphenyl-d14	77%		46-135%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261.6/96)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4158-TD-001	Date Sampled:	09/01/05
Lab Sample ID:	F34530-1A	Date Received:	09/02/05
Matrix:	SO - Soil	Percent Solids:	89.4
Method:	SW846 8081A SW846 3510C		
Project:	Camp Lejeune-AS 4158		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	KK09780.D	1	09/07/05	AA	09/07/05	OP14341	GKK362
Run #2							

Run #	Initial Volume	Final Volume
Run #1	100 ml	10.0 ml
Run #2		

Pesticide TCLP Leachate

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
58-89-9	gamma-BHC (Lindane)	ND	D013	0.40	0.00050	0.00020	mg/l	
12789-03-6	Chlordane	ND	D020	0.030	0.0050	0.0025	mg/l	
72-20-8	Endrin	ND	D012	0.020	0.0010	0.00040	mg/l	
76-44-8	Heptachlor	ND	D031	0.0080	0.00050	0.00020	mg/l	
1024-57-3	Heptachlor epoxide	ND	D031	0.0080	0.00050	0.00010	mg/l	
72-43-5	Methoxychlor	ND	D014	10	0.0010	0.00040	mg/l	
8001-35-2	Toxaphene	ND	D015	0.50	0.025	0.015	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	91%		60-138%
2051-24-3	Decachlorobiphenyl	89%		31-148%

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.2
2

Client Sample ID:	AS4158-TD-001	Date Sampled:	09/01/05
Lab Sample ID:	F34530-1A	Date Received:	09/02/05
Matrix:	SO - Soil	Percent Solids:	89.4
Method:	SW846 8151 SW846 3510C		
Project:	Camp Lejeune-AS 4158		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	GG23686.D	1	09/08/05	ATX	09/07/05	T:OP4969	T:GGG751
Run #2							

	Initial Volume	Final Volume
Run #1	100 ml	10.0 ml
Run #2		

Herbicide TCLP Leachate

CAS No.	Compound	Result	HW#	MCL	RL	MDL	Units	Q
94-75-7	2,4-D	ND	D016	10	0.015	0.011	mg/l	
93-72-1	2,4,5-TP (Silvex)	ND	D017	1.0	0.0020	0.00060	mg/l	
93-76-5	2,4,5-T	ND			0.0020	0.00090	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	117%		23-171%

(a) Analysis performed at Accutest Laboratories, Houston, TX.

ND = Not detected MDL - Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261.6(g))
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AS4158-TD-001	Date Sampled: 09/01/05
Lab Sample ID: F34530-1A	Date Received: 09/02/05
Matrix: SO - Soil	Percent Solids: 89.4
Project: Camp Lejeune-AS 4158	

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	MDL	Units	DF	Prep	Analyzed By	Method
Arsenic	0.0053 B	D004	5.0	0.010	0.0029	mg/l	1	09/07/05	09/08/05 RS	SW846 6010B ¹
Barium	0.20 U	D005	100	1.0	0.20	mg/l	1	09/07/05	09/08/05 RS	SW846 6010B ¹
Cadmium	0.00060 U	D006	1.0	0.0050	0.00060	mg/l	1	09/07/05	09/08/05 RS	SW846 6010B ¹
Chromium	0.0013 B	D007	5.0	0.010	0.00050	mg/l	1	09/07/05	09/08/05 RS	SW846 6010B ¹
Lead	0.012 B	D008	5.0	0.050	0.0012	mg/l	1	09/07/05	09/08/05 RS	SW846 6010B ¹
Mercury	0.00080 U	D009	0.20	0.010	0.00080	mg/l	1	09/12/05	09/12/05 JM	SW846 7470A ²
Selenium	0.020 U	D010	1.0	0.050	0.020	mg/l	1	09/07/05	09/08/05 RS	SW846 6010B ¹
Silver	0.00090 U	D011	5.0	0.010	0.00090	mg/l	1	09/07/05	09/08/05 RS	SW846 6010B ¹

(1) Instrument QC Batch: MA4549

(2) Instrument QC Batch: MA4552

(3) Prep QC Batch: MP8563

(4) Prep QC Batch: MP8581

RL = Reporting Limit MDL = Method Detection Limit
MCL = Maximum Contamination Level (40 CFR 261 6/96)

U = Indicates a result < MDL
B = Indicates a result >= MDL but < RL



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F34530

COC Number:
109972-AS4158-090105


Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bldg 626 - 910-451-2390										Receiving LAB: ACCUTEST										
Project Name					Project Location					Analysis Desired										
CAMP LEJEUNE - AS-4158					CAMP LEJEUNE, NC															
Project Number		Contact			P.O. Number			Reviewed by												
109972		Mark Martin			74977															
Client Rep					Project Manager															
US NAVY - LANTDIV					Ron Kenyon															
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	TPH-DROG-ORC-0505030	Full TOLP	IR/C										
1	AS4158-TD-001	9/1/05	10:30	X		Composite Of StockPile	2	X	X	X										
2																				
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1	<i>[Signature]</i>	UPS 1Z 71V 098 15 9223 3017	9/1/05	16:00	5 Day TAT 3:45 8.4
2		UPS	<i>[Signature]</i>	9-2-05	8:00	
3						

F34530: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: **F34530** CLIENT: Shaw E&I PROJECT: Camp Lakeview-A5-4158
 DATE/TIME RECEIVED: 9-2-05 8:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 5.5 2.4
 METHOD OF DELIVERY: FEDEX ☒ UPS ☒ ACCUTEST COURIER ☐ GREYHOUND ☐ DELIVERY ☐ OTHER ☐
 AIRBILL NUMBERS: 12-71V-0946-15-9223-3017

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ NO COC RECEIVED
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- ☒ TRIP BLANK NOT PROVIDED
- ☒ TRIP BLANK NOT ON COC
- ☐ TRIP BLANK INTACT
- ☐ TRIP BLANK NOT INTACT
- ☐ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- ☐ SAMPLE LABELS PRESENT ON ALL BOTTLES
- ☐ CORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ TIMES ON COC DON'T MATCH LABEL
- ☐ ID'S ON COC DON'T MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING INSTRUCTIONS
- ☐ UNCLEAR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE(S) RECEIVED BROKEN
- ☐ % SOLIDS JAR NOT RECEIVED

SOIL INFORMATION

NUMBER OF ENCORES ? 80
 NUMBER OF 5035 FIELD KITS ? 80

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE Shawn Erwin 9-2-05 TECHNICIAN SIGNATURE/DATE _____

ASBD06/22/05

F34530: Chain of Custody

Page 2 of 2



10/20/05

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-AS-4158

109972

Accutest Job Number: F35430

Sampling Date: 10/03/05

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 59



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi
Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK
This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Table of Contents

Sections:

1

2

3

4

5

6

7

8

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: F35430-1: AS4158-009	4
2.2: F35430-2: AS4158-TB-100305	12
Section 3: Misc. Forms	14
3.1: Chain of Custody	15
Section 4: GC/MS Volatiles - QC Data Summaries	17
4.1: Method Blank Summary	18
4.2: Blank Spike Summary	22
4.3: Matrix Spike/Matrix Spike Duplicate Summary	26
Section 5: GC/MS Semi-volatiles - QC Data Summaries	30
5.1: Method Blank Summary	31
5.2: Blank Spike Summary	37
5.3: Matrix Spike/Matrix Spike Duplicate Summary	40
Section 6: GC Volatiles - QC Data Summaries	43
6.1: Method Blank Summary	44
6.2: Blank Spike Summary	45
6.3: Matrix Spike/Matrix Spike Duplicate Summary	46
6.4: Duplicate Summary	47
Section 7: GC Semi-volatiles - QC Data Summaries	48
7.1: Method Blank Summary	49
7.2: Blank Spike Summary	51
7.3: Matrix Spike/Matrix Spike Duplicate Summary	52
7.4: Duplicate Summary	53
Section 8: Metals Analysis - QC Data Summaries	54
8.1: Prep QC MP8708: Cr,Pb	55

Accutest Laboratories

1

Sample Summary

Shaw E & I, Inc.

Job No: F35430

Camp Lejeune-AS-4158
Project No: 109972

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
F35430-1	10/03/05	09:00 MM	10/04/05	AQ Ground Water	AS4158-009
F35430-2	10/03/05	00:00 MM	10/04/05	AQ Trip Blank Soil	AS4158-TB-100305

Report of Analysis

Page 1 of 2

Client Sample ID:	AS4158-009	Date Sampled:	10/03/05
Lab Sample ID:	F35430-1	Date Received:	10/04/05
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4158		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	N0007407.D	1	10/14/05	KK	n/a	n/a	VN311

Run #1	Purge Volume
Run #2	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AS4158-009
Lab Sample ID: F35430-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Camp Lejeune-AS-4158

Date Sampled: 10/03/05
Date Received: 10/04/05
Percent Solids: n/a

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	1.0	3.0	1.0	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	96%		73-126%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	100%		83-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AS4158-009
 Lab Sample ID: F35430-1
 Matrix: AQ - Ground Water
 Method: EPA 625 EPA 625
 Project: Camp Lejeune-AS-4158

Date Sampled: 10/03/05
 Date Received: 10/04/05
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	L028058.D	1	10/07/05	ME	10/05/05	OP14608	SL1471
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
65-85-0	Benzoic Acid	ND	25	9.8	ug/l	
95-57-8	2-Chlorophenol	ND	4.9	2.0	ug/l	
59-50-7	4-Chloro-3-methyl phenol	ND	4.9	2.0	ug/l	
120-83-2	2,4-Dichlorophenol	ND	4.9	2.0	ug/l	
105-67-9	2,4-Dimethylphenol	ND	4.9	2.0	ug/l	
51-28-5	2,4-Dinitrophenol	ND	25	9.8	ug/l	
534-52-1	4,6-Dinitro-o-cresol	ND	9.8	4.9	ug/l	
95-48-7	2-Methylphenol	ND	4.9	2.0	ug/l	
	3&4-Methylphenol	ND	4.9	2.0	ug/l	
88-75-5	2-Nitrophenol	ND	4.9	2.0	ug/l	
100-02-7	4-Nitrophenol	ND	25	9.8	ug/l	
87-86-5	Pentachlorophenol	ND	25	9.8	ug/l	
108-95-2	Phenol	ND	4.9	2.0	ug/l	
95-95-4	2,4,5-Trichlorophenol	ND	4.9	2.0	ug/l	
88-06-2	2,4,6-Trichlorophenol	ND	4.9	2.0	ug/l	
83-32-9	Acenaphthene	ND	4.9	0.98	ug/l	
208-96-8	Acenaphthylene	ND	4.9	0.98	ug/l	
120-12-7	Anthracene	ND	4.9	0.98	ug/l	
56-55-3	Benzo(a)anthracene	ND	4.9	0.98	ug/l	
50-32-8	Benzo(a)pyrene	ND	4.9	0.98	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	4.9	0.98	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	4.9	2.0	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	4.9	0.98	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	4.9	0.98	ug/l	
85-68-7	Butyl benzyl phthalate	ND	4.9	2.0	ug/l	
100-51-6	Benzyl Alcohol	ND	4.9	0.98	ug/l	
91-58-7	2-Chloronaphthalene	ND	4.9	0.98	ug/l	
106-47-8	4-Chloroaniline	ND	9.8	3.9	ug/l	
86-74-8	Carbazole	ND	4.9	0.98	ug/l	
218-01-9	Chrysene	ND	4.9	0.98	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	4.9	0.98	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	4.9	2.0	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4158-009	Date Sampled:	10/03/05
Lab Sample ID:	F35430-1	Date Received:	10/04/05
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 625 EPA 625		
Project:	Camp Lejeune-AS-4158		

ABN TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	4.9	0.98	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	4.9	0.98	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	4.9	0.98	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	4.9	0.98	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	4.9	0.98	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	4.9	2.0	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	4.9	2.0	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	9.8	4.9	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	4.9	2.0	ug/l	
132-64-9	Dibenzofuran	ND	4.9	0.98	ug/l	
84-74-2	Di-n-butyl phthalate	ND	4.9	2.0	ug/l	
117-84-0	Di-n-octyl phthalate	ND	4.9	2.5	ug/l	
84-66-2	Diethyl phthalate	ND	4.9	2.0	ug/l	
131-11-3	Dimethyl phthalate	ND	4.9	2.0	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	6-7	4.9	2.5	ug/l	
206-44-0	Fluoranthene	ND	4.9	0.98	ug/l	
86-73-7	Fluorene	ND	4.9	0.98	ug/l	
118-74-1	Hexachlorobenzene	ND	4.9	0.98	ug/l	
87-68-3	Hexachlorobutadiene	ND	4.9	2.0	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	4.9	2.0	ug/l	
67-72-1	Hexachloroethane	ND	4.9	2.0	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	4.9	2.0	ug/l	
78-59-1	Isophorone	ND	4.9	0.98	ug/l	
91-57-6	2-Methylnaphthalene	ND	4.9	0.98	ug/l	
88-74-4	2-Nitroaniline	ND	9.8	3.9	ug/l	
99-09-2	3-Nitroaniline	ND	9.8	3.9	ug/l	
100-01-6	4-Nitroaniline	ND	9.8	3.9	ug/l	
91-20-3	Naphthalene	ND	4.9	0.98	ug/l	
98-95-3	Nitrobenzene	ND	4.9	0.98	ug/l	
621-64-7	N-Nitroso-di-n-propylamine	ND	4.9	2.0	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	4.9	2.0	ug/l	
85-01-8	Phenanthrene	ND	4.9	0.98	ug/l	
129-00-0	Pyrene	ND	4.9	0.98	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	4.9	0.98	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	41%		19-90%
4165-62-2	Phenol-d5	26%		10-68%
118-79-6	2,4,6-Tribromophenol	111%		36-137%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AS4158-009	Date Sampled:	10/03/05
Lab Sample ID:	F35430-1	Date Received:	10/04/05
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 625 EPA 625		
Project:	Camp Lejeune-AS-4158		

ABN TCL List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	112%		49-119%
321-60-8	2-Fluorobiphenyl	105%		45-118%
1718-51-0	Terphenyl-d14	80%		46-135%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
6502-22-3	2-Isopropylbenzaldehyde	5.48	16	ug/l	JN
767-58-8	Indan, 1-methyl-	5.83	19	ug/l	JN
700-12-9	Benzene, pentamethyl-	6.04	16	ug/l	JN
17301-23-4	Undecane, 2,6-dimethyl-	6.17	22	ug/l	JN
6117-97-1	Dodecane, 4-methyl-	6.48	18	ug/l	JN
6682-71-9	1H-Indene, 2,3-dihydro-4,7-dimethyl-	6.52	19	ug/l	JN
20959-33-5	Heptadecane, 7-methyl-	6.58	31	ug/l	JN
1000185-29-82	Amino-3a,4,5,6,7,7a-hexahydro-3H-inden	6.80	18	ug/l	JN
1680-51-9	Naphthalene, 1,2,3,4-tetrahydro-6-methyl	6.85	23	ug/l	JN
17312-55-9	Decane, 3,8-dimethyl-	6.91	20	ug/l	JN
5359-04-6	Ethanone, 1-[4-(1-methylethenyl)phenyl]-	7.23	21	ug/l	JN
55030-62-1	Tridecane, 4,8-dimethyl-	7.57	16	ug/l	JN
	unknown	7.66	16	ug/l	J
14944-23-1	1(2H)-Naphthalenone, 3,4-dihydro-3-methy	7.89	31	ug/l	JN
55045-12-0	Tetradecane, 4,11-dimethyl-	8.05	24	ug/l	JN
528-90-5	Benzoic acid, 2,4,5-trimethyl-	8.19	20	ug/l	JN
	unknown	8.82	18	ug/l	J
	unknown	8.97	18	ug/l	J
10544-50-0	Cyclic octaatomic sulfur	13.25	280	ug/l	JN
20637-48-3	Butane, 1,2,4-trimethoxy-	13.59	19	ug/l	JN
	Total TIC, Semi Volatile		665	ug/l	J

ND = Not detected MDL = Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4158-009	Date Sampled:	10/03/05
Lab Sample ID:	F35430-1	Date Received:	10/04/05
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP VPH		
Project:	Camp Lejeune-AS-4158		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV018756.D	2	10/14/05	MM	n/a	n/a	GUV1094
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

MADEP VPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C5- C8 Aliphatics (Unadj.)	109	150	100	ug/l	J
	C9- C12 Aliphatics (Unadj.)	210	110	60	ug/l	
	C9- C10 Aromatics (Unadj.)	191	40	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	BFB	114%		70-130%
460-00-4	BFB	101%		70-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID:	AS4158-009	Date Sampled:	10/03/05
Lab Sample ID:	F35430-1	Date Received:	10/04/05
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	MADEP-EPH-98-1 SW846 3510C		
Project:	Camp Lejeune-AS-4158		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF18318.D	1	10/13/05	AA	10/05/05	OP14616	GZF860
Run #2 ^a	ZF18406.D	1	10/19/05	AA	10/05/05	OP14616	GZF864

Run #	Initial Volume	Final Volume
Run #1	1010 ml	2.0 ml
Run #2	1040 ml	2.0 ml

MAEPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	C11-C22 Aromatics (Unadj.)	252	200	150	ug/l	
	C9-C18 Aliphatics	243	200	200	ug/l	
	C19-C36 Aliphatics	ND	200	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
3386-33-2	1-Chlorooctadecane	39% ^b	30%	40-140%
580-13-2	2-Bromonaphthalene	69%	125%	40-140%
84-15-1	o-Terphenyl	77%	93%	40-140%
321-60-8	2-Fluorobiphenyl	88%	117%	40-140%

(a) Confirmation run.

(b) Confirmed by refractionation and reanalysis.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

2.1

2

Client Sample ID: AS4158-009
Lab Sample ID: F35430-1
Matrix: AQ - Ground Water
Project: Camp Lejeune-AS-4158

Date Sampled: 10/03/05
Date Received: 10/04/05
Percent Solids: n/a

Metals Analysis

Analyte	Result	RL	MDL	Units	DF	Prep	Analyzed By	Method	Prep Method
Chromium	52.5	10	0.50	ug/l	1	10/06/05	10/07/05 RS	SW846 6010B ¹	SW846 3010A ²
Lead	33.1	5.0	1.2	ug/l	1	10/06/05	10/07/05 RS	SW846 6010B ¹	SW846 3010A ²

(1) Instrument QC Batch: MA4606

(2) Prep QC Batch: MP8708

RL = Reporting Limit
MDL = Method Detection Limit

U = Indicates a result < MDL
B = Indicates a result > = MDL but < RL

Report of Analysis

Client Sample ID:	AS4158-TB-100305	Date Sampled:	10/03/05
Lab Sample ID:	F35430-2	Date Received:	10/04/05
Matrix:	AQ - Trip Blank Soil	Percent Solids:	n/a
Method:	SW846 8260B		
Project:	Camp Lejeune-AS-4158		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	N0007377.D	1	10/13/05	KK	n/a	n/a	VN310

Run #1	Purge Volume
Run #2	5.0 ml

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	25	5.0	ug/l	
71-43-2	Benzene	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.50	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.50	ug/l	
75-00-3	Chloroethane	ND	2.0	1.0	ug/l	
67-66-3	Chloroform	ND	1.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	2.0	1.0	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.50	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.50	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.50	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.50	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.40	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.50	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.30	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	5.0	2.5	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	5.0	2.5	ug/l	
74-83-9	Methyl bromide	ND	2.0	1.0	ug/l	
74-87-3	Methyl chloride	ND	2.0	1.0	ug/l	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	5.0	2.5	ug/l	
100-42-5	Styrene	ND	1.0	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.40	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.50	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AS4158-TB-100305
Lab Sample ID: F35430-2
Matrix: AQ - Trip Blank Soil
Method: SW846 8260B
Project: Camp Lejeune-AS-4158

Date Sampled: 10/03/05
Date Received: 10/04/05
Percent Solids: n/a

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl chloride	ND	1.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		73-126%
2037-26-5	Toluene-D8	106%		86-112%
460-00-4	4-Bromofluorobenzene	101%		83-119%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

COC Number:
109972-AS4158-100305

F35430
Shaw
Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bldg 626 - 910-451-2390										Receiving LAB: ACCUTEST									
Project Name CAMP LEJEUNE - AS-4158					Project Location CAMP LEJEUNE, NC					Analysis Desired									
Project Number 109972			Contact Mark Martin		P.O. Number 74877			Reviewed by											
Client Rep US NAVY - LANTDIV					Project Manager Ron Kenyon														
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers	MADEP VPH	MADEP EPH	3260	Total Metals Chromium and Lead	503/6260 W/ P/E 3 MTBE	625						
1	AS4158-009	10/3/05	9:00		X	TEMP Well UST Location	11	X	X	X	X	X	X						
2	AS4158-TB-100305	10/3/05			X	Trip Blank	2			X		X	X						
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1-2	<i>[Signature]</i>	FedEx 8530 7847 3544	10/3/05	16:00	14 Day TAT
2		<i>[Signature]</i>	<i>[Signature]</i>	10/4/05	09:00	
3						

2.2

F35430: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F35430 CLIENT: SHAW CTF PROJECT: 109972
 DATE/TIME RECEIVED: 10/4/05 09:10 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2-2
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: 8530 7647 3544

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ NO COC RECEIVED
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- ☐ TRIP BLANK NOT PROVIDED
- ☐ TRIP BLANK NOT ON COC
- ☒ TRIP BLANK INTACT
- ☐ TRIP BLANK NOT INTACT
- ☒ RECEIVED WATER TRIP BLANK
- ☐ RECEIVED SOIL TRIP BLANK

SOIL INFORMATION

NUMBER OF ENCORES ? 0
 NUMBER OF 5035 FIELD KITS ? 0

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE Cp 10/4/05 TECHNICIAN SIGNATURE/DATE Samu Acun

ASBD05/22/05

3.1
3

F35430: Chain of Custody
 Page 2 of 2

APPENDIX F

PHOTOGRAPHS of UST CLOSURE ACTIVITIES



Building AS-4159 OWS and UST Location



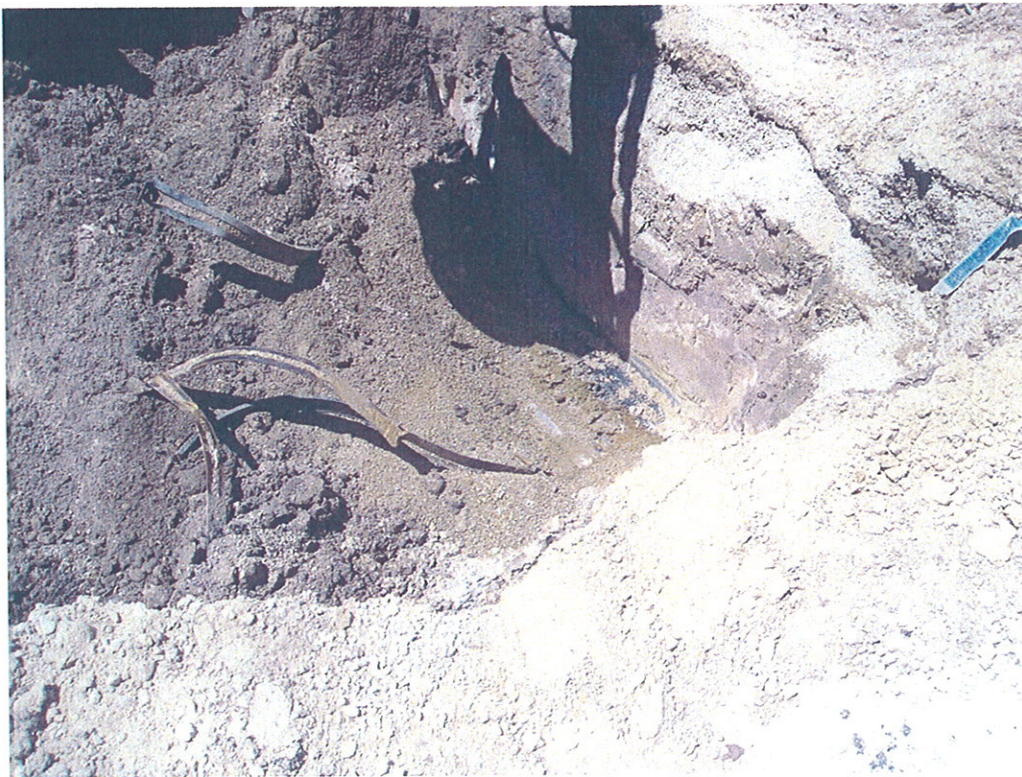
Building AS-4159 OWS Removal



Building AS-4159 UST Exposed



Building AS-4159 UST Removal



Building AS-4159 Stained Soil



Building AS-4159 Removed

APPENDIX G

MADEP-EPH/VPH SAMPLE ANALYTICAL RESULTS

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.

Project Name: Camp Lejeune-AS-4159

Site Location: _____

Laboratory Name: Accutest Southeast

NC Certification # (Lab):

Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1		Sample Identification			AS4159-02			
EPH Surrogate Standards		Date Collected			08/29/2005			
Aliphatic:	1-Chlorooctadecane	Date Received			08/30/2005			
Aromatic:	o-Terphenyl	Date Extracted			08/31/2005			
EPH Fractionation Surrogates		Date Analyzed			09/08/2005			
#1:	2-Fluorobiphenyl	% Dry Solids			91.5			
#2:	2-Bromonaphthalene	Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C9-C18 Aliphatics	ug/kg	6900	6900	ND	ND			
C19-C36 Aliphatics	ug/kg	6900	6900	ND	ND			
C11-C22 Aromatics (Unadj.)	ug/kg	6900	6900	ND	ND			
Sample Surrogate Acceptance Range				40-140	40-140			
Aliphatic Surrogate % Recovery				55	47			
Aromatic Surrogate % Recovery				89	78			
Fractionation Surrogate Acceptance Range								
Fractionation Surrogate #1 % Recovery				94	83			
Fractionation Surrogate #2 % Recovery				87	63			

* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification			AS4159-02			
		Collection Option (for soil)*			1			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/30/2005			
		Date Analyzed			09/01/2005			
		% Dry Solids			91.5			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C5- C8 Aliphatics (Unadj.)	ug/kg	2500	4700	ND	ND			
C9- C12 Aliphatics (Unadj.)	ug/kg	1900	3400	ND	ND			
C9- C10 Aromatics (Unadj.)	ug/kg	620	1200	ND	ND			
Sample Surrogate Acceptance Range				70-130%	70-130%			
Aliphatic Surrogate % Recovery - FID				105	90			
Aromatic Surrogate % Recovery - PID				103	90			

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab):
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1		Sample Identification			AS4159-03			
EPH Surrogate Standards		Date Collected			08/29/2005			
Aliphatic:	1-Chlorooctadecane	Date Received			08/30/2005			
Aromatic:	o-Terphenyl	Date Extracted			08/31/2005			
EPH Fractionation Surrogates		Date Analyzed			09/08/2005			
#1:	2-Fluorobiphenyl	% Dry Solids			95.8			
#2:	2-Bromonaphthalene	Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C9-C18 Aliphatics	ug/kg	6600	6600	ND	ND			
C19-C36 Aliphatics	ug/kg	6600	6600	ND	ND			
C11-C22 Aromatics (Unadj.)	ug/kg	6600	6600	ND	ND			
Sample Surrogate Acceptance Range				40-140	40-140			
Aliphatic Surrogate % Recovery				55	62			
Aromatic Surrogate % Recovery				89	83			
Fractionation Surrogate Acceptance Range								
Fractionation Surrogate #1 % Recovery				94	93			
Fractionation Surrogate #2 % Recovery				87	84			
* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range. MDL = Method Detection Limit RL = Reporting Limit								

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification			AS4159-03			
		Collection Option (for soil)*			1			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/30/2005			
		Date Analyzed			09/01/2005			
		% Dry Solids			95.8			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C5- C8 Aliphatics (Unadj.)	ug/kg	2000	3800	ND	ND			
C9- C12 Aliphatics (Unadj.)	ug/kg	1500	2800	ND	ND			
C9- C10 Aromatics (Unadj.)	ug/kg	510	1000	ND	ND			
Sample Surrogate Acceptance Range				70-130%	70-130%			
Aliphatic Surrogate % Recovery - FID				105	94			
Aromatic Surrogate % Recovery - PID				103	92			

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab):
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1		Sample Identification		AS4159-04			
EPH Surrogate Standards		Date Collected		08/29/2005			
Aliphatic:	1-Chlorooctadecane	Date Received		08/30/2005			
Aromatic:	o-Terphenyl	Date Extracted		08/31/2005			
EPH Fractionation Surrogates		Date Analyzed		09/09/2005			
#1:	2-Fluorobiphenyl	% Dry Solids		84.1			
#2:	2-Bromonaphthalene	Dilution Factor		40			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK			
C9-C18 Aliphatics	ug/kg	310000	310000	ND	1750000		
C19-C36 Aliphatics	ug/kg	310000	310000	ND	ND		
C11-C22 Aromatics (Unadj.)	ug/kg	310000	310000	ND	764000		
Sample Surrogate Acceptance Range				40-140	40-140		
Aliphatic Surrogate % Recovery				55	0.0 *		
Aromatic Surrogate % Recovery				89	0.0 *		
Fractionation Surrogate Acceptance Range							
Fractionation Surrogate #1 % Recovery				94	0.0 *		
Fractionation Surrogate #2 % Recovery				87	0.0 *		
* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range. MDL = Method Detection Limit RL = Reporting Limit							

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification			AS4159-04			
		Collection Option (for soil)*			1			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/30/2005			
		Date Analyzed			09/02/2005			
		% Dry Solids			84.1			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C5- C8 Aliphatics (Unadj.)	ug/kg	48000	89000	ND	ND			
C9- C12 Aliphatics (Unadj.)	ug/kg	36000	65000	ND	606000			
C9- C10 Aromatics (Unadj.)	ug/kg	12000	24000	ND	426000			
Sample Surrogate Acceptance Range				70-130%	70-130%			
Aliphatic Surrogate % Recovery - FID				102	111			
Aromatic Surrogate % Recovery - PID				102	17.6 *			

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.

Project Name: Camp Lejeune-AS-4159

Site Location: _____

Laboratory Name: Accutest Southeast

NC Certification # (Lab):

Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1 EPH Surrogate Standards Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl EPH Fractionation Surrogates #1: 2-Fluorobiphenyl #2: 2-Bromonaphthalene		Sample Identification			AS4159-05			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/31/2005			
		Date Analyzed			09/09/2005			
		% Dry Solids			85			
		Dilution Factor			2			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C9-C18 Aliphatics	ug/kg	15000	15000	ND	169000			
C19-C36 Aliphatics	ug/kg	15000	15000	ND	16200			
C11-C22 Aromatics (Unadj.)	ug/kg	15000	15000	ND	39400			
Sample Surrogate Acceptance Range				40-140	40-140			
Aliphatic Surrogate % Recovery				55	62			
Aromatic Surrogate % Recovery				89	71			
Fractionation Surrogate Acceptance Range								
Fractionation Surrogate #1 % Recovery				94	76			
Fractionation Surrogate #2 % Recovery				87	57			
* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range. MDL = Method Detection Limit RL = Reporting Limit								

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification			AS4159-05			
		Collection Option (for soil)*			1			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/30/2005			
		Date Analyzed			09/06/2005			
		% Dry Solids			85			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C5- C8 Aliphatics (Unadj.)	ug/kg	20000	37000	ND	ND			
C9- C12 Aliphatics (Unadj.)	ug/kg	15000	27000	ND	110000			
C9- C10 Aromatics (Unadj.)	ug/kg	5000	9900	ND	62800			
Sample Surrogate Acceptance Range				70-130%	70-130%			
Aliphatic Surrogate % Recovery - FID				105	0			
Aromatic Surrogate % Recovery - PID				106	0			

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab):
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1		Sample Identification			AS4159-06			
EPH Surrogate Standards		Date Collected			08/29/2005			
Aliphatic:	1-Chlorooctadecane	Date Received			08/30/2005			
Aromatic:	o-Terphenyl	Date Extracted			08/31/2005			
EPH Fractionation Surrogates		Date Analyzed			09/08/2005			
#1:	2-Fluorobiphenyl	% Dry Solids			81.9			
#2:	2-Bromonaphthalene	Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C9-C18 Aliphatics	ug/kg	8000	8000	ND	ND			
C19-C36 Aliphatics	ug/kg	8000	8000	ND	ND			
C11-C22 Aromatics (Unadj.)	ug/kg	8000	8000	ND	ND			
Sample Surrogate Acceptance Range				40-140	40-140			
Aliphatic Surrogate % Recovery				55	56			
Aromatic Surrogate % Recovery				89	70			
Fractionation Surrogate Acceptance Range								
Fractionation Surrogate #1 % Recovery				94	81			
Fractionation Surrogate #2 % Recovery				87	73			
* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range. MDL = Method Detection Limit RL = Reporting Limit								

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification			AS4159-06			
		Collection Option (for soil)*			1			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/30/2005			
		Date Analyzed			09/01/2005			
		% Dry Solids			81.9			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C5- C8 Aliphatics (Unadj.)	ug/kg	1900	3600	ND	ND			
C9- C12 Aliphatics (Unadj.)	ug/kg	1400	2600	ND	ND			
C9- C10 Aromatics (Unadj.)	ug/kg	480	950	ND	ND			
Sample Surrogate Acceptance Range				70-130%	70-130%			
Aliphatic Surrogate % Recovery - FID				105	78			
Aromatic Surrogate % Recovery - PID				103	77			

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab):
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1 EPH Surrogate Standards Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl EPH Fractionation Surrogates #1: 2-Fluorobiphenyl #2: 2-Bromonaphthalene		Sample Identification			AS4159-07			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/31/2005			
		Date Analyzed			09/08/2005			
		% Dry Solids			81.5			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C9-C18 Aliphatics	ug/kg	7600	7600	ND	ND			
C19-C36 Aliphatics	ug/kg	7600	7600	ND	ND			
C11-C22 Aromatics (Unadj.)	ug/kg	7600	7600	ND	ND			
Sample Surrogate Acceptance Range				40-140	40-140			
Aliphatic Surrogate % Recovery				55	62			
Aromatic Surrogate % Recovery				89	87			
Fractionation Surrogate Acceptance Range								
Fractionation Surrogate #1 % Recovery				94	83			
Fractionation Surrogate #2 % Recovery				87	80			
* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range. MDL = Method Detection Limit RL = Reporting Limit								

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification			AS4159-07			
		Collection Option (for soil)*			1			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/30/2005			
		Date Analyzed			09/02/2005			
		% Dry Solids			81.5			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C5- C8 Aliphatics (Unadj.)	ug/kg	2400	4400	ND	ND			
C9- C12 Aliphatics (Unadj.)	ug/kg	1800	3300	ND	ND			
C9- C10 Aromatics (Unadj.)	ug/kg	590	1200	ND	ND			
Sample Surrogate Acceptance Range				70-130%	70-130%			
Aliphatic Surrogate % Recovery - FID				105	79			
Aromatic Surrogate % Recovery - PID				103	78			

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.

Project Name: Camp Lejeune-AS-4159

Site Location: _____

Laboratory Name: Accutest Southeast

NC Certification # (Lab):

Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1 EPH Surrogate Standards Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl EPH Fractionation Surrogates #1: 2-Fluorobiphenyl #2: 2-Bromonaphthalene		Sample Identification			AS4159-08			
		Date Collected			08/29/2005			
		Date Received			08/30/2005			
		Date Extracted			08/31/2005			
		Date Analyzed			09/09/2005			
		% Dry Solids			86			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C9-C18 Aliphatics	ug/kg	7600	7600	ND	ND			
C19-C36 Aliphatics	ug/kg	7600	7600	ND	ND			
C11-C22 Aromatics (Unadj.)	ug/kg	7600	7600	ND	ND			
Sample Surrogate Acceptance Range				40-140	40-140			
Aliphatic Surrogate % Recovery				55	84			
Aromatic Surrogate % Recovery				89	95			
Fractionation Surrogate Acceptance Range								
Fractionation Surrogate #1 % Recovery				94	103			
Fractionation Surrogate #2 % Recovery				87	73			
* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range. MDL = Method Detection Limit RL = Reporting Limit								

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4159
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Soil

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification		AS4159-08			
		Collection Option (for soil)*		1			
		Date Collected		08/29/2005			
		Date Received		08/30/2005			
		Date Extracted		08/30/2005			
		Date Analyzed		09/02/2005			
		% Dry Solids		86			
		Dilution Factor		1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK			
C5- C8 Aliphatics (Unadj.)	ug/kg	2800	5200	ND	ND		
C9- C12 Aliphatics (Unadj.)	ug/kg	2100	3800	ND	ND		
C9- C10 Aromatics (Unadj.)	ug/kg	700	1400	ND	ND		
Sample Surrogate Acceptance Range				70-130%	70-130%		
Aliphatic Surrogate % Recovery - FID				105	73		
Aromatic Surrogate % Recovery - PID				103	74		

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

EPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.

Project Name: Camp Lejeune-AS-4158

Site Location: _____

Laboratory Name: Accutest Southeast

NC Certification # (Lab):

Sample Matrix : Ground Water

Sample Information and Analytical Results

Method for Ranges: MADEP-EPH-98-1 EPH Surrogate Standards Aliphatic: 1-Chlorooctadecane Aromatic: o-Terphenyl EPH Fractionation Surrogates #1: 2-Fluorobiphenyl #2: 2-Bromonaphthalene		Sample Identification			AS4158-009			
		Date Collected			10/03/2005			
		Date Received			10/04/2005			
		Date Extracted			10/05/2005			
		Date Analyzed			10/13/2005			
		% Dry Solids			N/A			
		Dilution Factor			1			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK				
C9-C18 Aliphatics	ug/l	200	200	ND	243			
C19-C36 Aliphatics	ug/l	200	200	ND	ND			
C11-C22 Aromatics (Unadj.)	ug/l	150	200	ND	252			
Sample Surrogate Acceptance Range				40-140	40-140			
Aliphatic Surrogate % Recovery				63	39.0 *			
Aromatic Surrogate % Recovery				90	77			
Fractionation Surrogate Acceptance Range								
Fractionation Surrogate #1 % Recovery				102	88			
Fractionation Surrogate #2 % Recovery				95	69			

* Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

EPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Was blank correction applied as a significant modification of the method?

Yes

Were any significant modifications to the eph method made?

No

VPH (Aliphatics/Aromatics) Laboratory Reporting Form

Client Name: Shaw E & I, Inc.
 Project Name: Camp Lejeune-AS-4158
 Site Location: _____

Laboratory Name: Accutest Southeast
 NC Certification # (Lab): 573
 Sample Matrix : Ground Water

Sample Information and Analytical Results

Method for Ranges: MADEP VPH VPH Surrogate Standards Aliphatic: BFB Aromatic: BFB		Sample Identification		AS4158-009			
		Collection Option (for soil)*		1			
		Date Collected		10/03/2005			
		Date Received		10/04/2005			
		Date Extracted		10/04/2005			
		Date Analyzed		10/14/2005			
		% Dry Solids		N/A			
		Dilution Factor		2			
Hydrocarbon Ranges	Units of Measure	MDL	RL	BLANK			
C5- C8 Aliphatics (Unadj.)	ug/l	100	150	ND	109 J		
C9- C12 Aliphatics (Unadj.)	ug/l	60	110	ND	210		
C9- C10 Aromatics (Unadj.)	ug/l	20	40	ND	191		
Sample Surrogate Acceptance Range				70-130%	70-130%		
Aliphatic Surrogate % Recovery - FID				97	101		
Aromatic Surrogate % Recovery - PID				109	114		

* Option 1 = Established fill line on vial Option 2 = Sampling Device (indicate brand, e.g. EnCore™) Option 3 = Field weight of soil

** Unadjusted value. Should exclude the concentration of any surrogate(s), internal standards, and/or concentrations of other ranges that elute within the specified range.

MDL = Method Detection Limit RL = Reporting Limit

VPH rev. 11/00

Were all performance/acceptance standards for required QA/QC procedures achieved?

Yes

Were any significant modifications to the VPH method made?

No

APPENDIX H

TEMPORARY MONITORING WELL CONSTRUCTION AND ABANDONMENT LOGS

AS4159 TP-1

WELL CONSTRUCTION RECORD

North Carolina - Department of Environment and Natural Resources-Division of Water Quality-Groundwater Section

WELL CONTRACTOR(INDIVIDUAL) NAME (PRINT) JIM MANN

CERTIFICATION # 2156

WELL CONTRACTOR COMPANY NAME MANN DRILLING COMPANY

PHONE #(252)223-5646

STATE WELL CONSTRUCTION PERMIT#

ASSOCIATED WQ PERMIT #

(IF APPLICABLE)

(IF APPLICABLE)

1. WELL USE(Check Applicable Box) Residential ☐ Municipal/Public ☐ Industrial ☐ Agricultural ☐
 Monitoring ☐ Recovery ☐ Heat Pump Water Injection ☐ Other ☐ If Other, List Use: WATER SAMPLE

2. WELL LOCATION: (Show sketch of the location below)
 Nearest Town: NEW RIVERAIR STATION County: ONSLOW
DEMARCO ST AS4159

(street name, numbers Community, Subdivision, Lot No., Zip Code)

Topographic/ Land Setting
 Ridge ☐ Slope ☐ Valley ☐ Flat ☐

(Check appropriate box)

Latitude/longitude of well location

3. OWNER: COMMANDING GENERALAddress PO BOX 8006

(Street or Route No.)

CAMPLEJEUNENC28547

City or Town

State

Zip Code

910-451-2390

Area Code-Phone Number

4. DATE DRILLED 9/26/055. TOTAL DEPTH 15'6. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☒7. STATIC WATER LEVEL Below Top of Casing: 9.8 FT

(Use "+" it Above Top of Casing)

8. TOP OF CASING IS .5' FT. Above Land Surface*

*Casing Terminated at/or below land surface Is illegal unless a variance Is issued

In accordance with 15A NCAC 2C. Oils

9. YIELD (gpm) _____ METHOD OF TEST _____

10. WATER ZONES (depth): _____

11. DISINFECTION: Type _____ Amount _____

12. CASING:

Wall Thickness

From	Depth	To	Diameter	or Weight/Ft.	Material
From <u>+5</u>	To <u>5</u>	Ft <u>1</u>	SCD 40	PVC	
From _____	To _____	Ft _____	_____	_____	
From _____	To _____	Ft _____	_____	_____	

13. GROUT: _____

From	Depth	To	Material	Method
From <u>0</u>	To <u>2</u>	Ft <u>BENTONITE</u>	HAND	
From _____	To _____	Ft _____	_____	

14. SCREEN _____

From	Depth	To	Diameter	Slot Size	Material
From <u>5</u>	To <u>15</u>	Ft <u>1</u> in. <u>.01</u>	in. <u>PVC</u>		
From _____	To _____	Ft _____ in. _____	in. _____		
From _____	To _____	Ft _____ in. _____	in. _____		

15. SAND/GRAVEL PACK:

From	Depth	To	Size	Material
From <u>2</u>	To <u>15</u>	Ft <u>#2</u>	SAND	
From _____	To _____	Ft _____	_____	

16. REMARKS: _____

degrees/minutes/seconds
 Latitude/longitude source: GPS Topographic map
DEPTH DRILLING LOG
 From To Formation Description

<u>.5</u>	<u>2</u>	<u>GRAVEL</u>
<u>2</u>	<u>9</u>	<u>TAN FINE SAND (FILL)</u>
<u>9</u>	<u>15</u>	<u>GRY FINE SAND</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

LOCATION SKETCH

Show directions and distance in miles from at least two State Roads, or County Roads. Include the road numbers and common road names.

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF PERSON CONSTRUCTING THE WELL

DATE

Submit original to Division of Water Quality, Groundwater Section, 1636 Mail Service Center- Raleigh, NC 27699-1636

Phone No. (919) 733-3221, within 30 days.

GW-1 REV. 07/2001

WELL ABANDONMENT RECORD

Well Contractor: MANN DRILLING COMPANY
Well Contractor Certification # 2156

AS4159 TP-1

1. **WELL USE**(check applicable box) residential municipal industrial agricultural x monitoring recovery
Heat pump water injection other if other, list use: water sample
2. **WELL LOCATION:** (show a sketch of the location on back of form)

Nearest Town: NEW RIVER AIR STATION County: ONSLOW
DEMARCO ST. AS4159

(Road, community, Subdivision, Lot No.)

3. **OWNER** COMMANDING GENERAL

Quadrangle No.

WELL DIAGRAM: Draw a detailed sketch of
The well showing total depth, depth and dis-
meter of screens remaining in the well, gravel
Intervals, intervals of casing perforations,
and depths and types of fill materials used.

4. **ADDRESS:** PSC BOX 20004 CAMP LEJEUNE, NC

5. **TOPOGRAPHY:** draw, slope, hilltop, valley, flat

6. **TOTAL DEPTH:** 15 **DIAMETER** 1'

7. **CASING REMOVED:**

Feet	diameter
5'	1" RISER
10'	1" SCREEN

8. **DISINFECTION:** NONE

(amount of 70% hypochlorite used)

9. **SEALING MATERIAL:**

Neat cement	sand cement
Bags of cement: _____	bags of cement _____
Gals. Of water: _____	yds. Of sand _____
	Gals. Of water _____

OTHER:

Type material: BENTONITE CHIPS
Amount: 25 lbs.

10. **EXPLAIN METHOD EMPLACEMENT OF MATERIAL:**

PULLED WELL AND BACKFILLED HOLE WITH
BENTONITE CHIPS

11. **DATE WELL ABANDONED:** 10/3/05

I do hereby certify that this well was abandoned in accordance with 15A NCAC 2C, well construction Standards, and that a copy of the record has been provided to the well owner.

Signature of person abandoning the well [Signature] Date 10/11/05

WELL LOCATION: Draw a location sketch on the reverse of this sheet, showing the direction and distance of the well to at least two (2) nearby reference points such as roads, intersections and streams. Identify roads with State Highway road identification numbers.

Submit original to the Division of Water Quality, Groundwater section, one copy to the owner within 30 days from completion of abandonment.
GW-30 Revised 12/99

