

AS-3504 PUMP ISLAND SOIL REMOVAL REPORT

**MARINE CORPS AIR STATION
NEW RIVER, NORTH CAROLINA**

Prepared for:

DEPARTMENT OF THE NAVY
Contract No. N62470-02-D-3260



Naval Facilities Engineering Command, Mid-Atlantic
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Prepared by:



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Task Order 00067
Shaw Project No. 120985

December 2006

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January 17, 2007

DEPARTMENT OF THE NAVY

Mr. Andrew Smith
Environmental Management Division
MCB Building 12, McHugh Boulevard
Camp Lejeune, NC 28542

Re: Contract N62470-02-D-3260; Task Order 067
AS-3504 Pump Island Soil Removal Report
Marine Corps Air Station, New River, N.C.

Dear Mr. Smith:

Attached please find 2 copies of the AS-3504 Pump Island Soil Removal Report. Also included is one CD with an electronic file of this report.

Should you have any additional comments or questions, please do not hesitate to contact me at your earliest convenience.

Sincerely,

Shaw Environmental, Inc.

A handwritten signature in blue ink that reads "J W Colella".

Joseph W. Colella, P.E.
Project Manager

Attachments

cc: File

**AS3504 PUMP ISLAND SOIL REMOVAL ACTION
MARINE CORPS AIR STATION
NEW RIVER, NORTH CAROLINA**

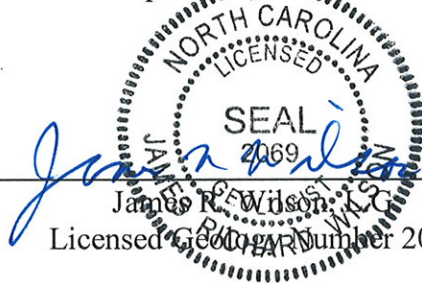
Prepared for:

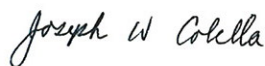
DEPARTMENT OF THE NAVY
Contract No. N62470-02-D-3260
Task Order 0067

Naval Facilities Engineering Command
6506 Hampton Boulevard
Building A (South East Wing) 3rd Floor
Norfolk, VA 23508

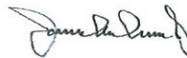
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Task Order 00067
Shaw Project No. 120985
December 2006

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LIST OF ACRONYMS

UST	Underground Storage Tank
bls	below land surface
DRO	Diesel Range Organics
GRO	Gasoline Range Organics
LANTDIV	Naval Facilities Engineering Command, Atlantic Division
MADEP	Massachusetts Department of Environmental Protection
MCB	Marine Corps Base
MSCCs	Maximum Soil Contaminant Concentrations
mg/kg	milligram per kilogram
NCDENR	North Carolina Department of Environmental and Natural Resources
OVA-FID	Organic Vapor Analyzer – Flame Ionization Detector
ppb	parts per billion
ppm	parts per million
QC	Quality Control
Shaw	Shaw Environmental, Inc.
TCLP	Toxicity Characteristic Leaching Potential
TPH	Total Petroleum Hydrocarbon
µg/kg	microgram per kilogram

EXECUTIVE SUMMARY

The soil removal action was performed on an existing a fuel dispenser island associated with five former underground storage tanks (USTs) near Building AS-3504, a former fueling system at the New River Air Station. The USTs and the fuel dispensers had been previously removed, but the underground supply piping and the concrete dispenser island had not been removed. The work performed at the site involved the demolition and/or removal of the existing concrete pump island structure and underground supply piping and the removal of any contaminated soil. The demolition/removal activities were conducted from September 11, 2006, to November 1, 2006.

The removal action began by removing the concrete dispenser island and excavating the trench to remove the supply piping. The Organic Vapor Analyzer equipped with a Flame Ionization Detector (OVA-FID) detected organic vapors in excess of 1 ppm, ranging from 187 ppm to 953 ppm, beneath the dispenser island and in the soils surrounding the supply piping. A slight petroleum hydrocarbon odor was also present. Soil samples were collected on September 11, 2006, from the exposed dispenser area and within the supply piping trench for TPH-DRO and TPH-GRO analysis.

Analytical results from the September 11, 2006, samples indicated that TPH-GRO were detected at concentrations greater than 10 mg/kg, and the TPH-DRO at concentrations greater than 40 mg/kg, the NCDENR action level, in some of the areas directly beneath the dispenser island and the piping trench (AS3504-001, AS3504-002, AS3504-004, and AS3504-005).

Based on petroleum hydrocarbon odors, elevated OVA-FID readings, and TPH-GRO analysis exceeding 10 mg/kg and TPH-DRO analysis exceeding 40 mg/kg from the September 11, 2006 sampling, the dispenser excavation was expanded on September 21, 2006. Shaw removed an additional five feet of soil from the excavation to extend it 7.0 ft-bls at the floor of the excavation. The excavation was conducted down to 7.0 ft-bls because no additional soil could be removed from the base due to encountering groundwater at 7.5 ft-bgs. On September 27, 2006, a second set of soil samples were collected at the new limits of the excavation for TPH-DRO and TPH-GRO analysis. The analytical results were below the NCDENR action level for all four walls. However, the excavation floor samples were still detected at concentrations greater than the TPH GRO / DRO action levels.

High FID readings at the end of the supply piping near the fuel transfer line area at 2 ft-bgs indicated contaminated soil. No initial samples were collected beyond the end of the fuel transfer line due to the high FID readings. On November 1, 2006, Shaw removed soil below the fuel transfer line area to a depth of 8.0 ft-bls. No additional soil could be removed from the base due to encountering groundwater at 8.5 ft-bgs. Four sidewall samples and one floor sample were collected for TPH-DRO/GRO analysis. FID screening indicated elevated FID readings on the walls and floor of the fuel transfer line area excavation. The analytical results from the fuel transfer line had several detections above the TPH DRO / GRO action level.

Site analytical and field results were reviewed by the MCB EMD personnel who requested Shaw not to extend the excavation any further since a Limited Site Assessment would be required based on site conditions.

For disposal purposes, soil from the dispenser and fuel transfer line area excavations were staged on site until transportation and disposal was arranged. One composite soil sample from the excavated material was collected for disposal characterization analysis. The sample was analyzed for TPH-GRO, TPH-DRO, and TCLP metals. Results from the analyses met the allowable NCDENR regulatory levels for non-hazardous landfill disposal. The 98 tons of soil was disposed at the ES & J Enterprises, Inc. permitted treatment facility in Autryville, NC.

Restoration of the site was performed by backfilling the excavations with local borrow soil and compacting the borrow soil in place. Once the area achieved the relative grade, asphalt was placed over the area to match the existing site treatment in the parking lot. The field area was seeded for restoration.

Based on the results of the soil confirmation samples collected from the dispenser and fuel transfer line area excavations, which indicated the presence of contamination above the NCDENR action levels down to the top of groundwater, Shaw recommends that a Limited Site Assessment with respect to the groundwater be required.

1.0 INTRODUCTION

1.1 BACKGROUND

This document is a summary report describing the removal action completed at Building AS-3504, located on Perimeter Street at the Marine Corps Air Station, New River, in Onslow County, North Carolina during September through November 2006. The Department of the Navy, Naval Facilities Engineering Command, Atlantic Division (LANTDIV) tasked Shaw Environmental, Inc. to implement this removal action under Contract No. N62470-02-D-3260, Task Order 067.

The New River Air Station is associated with Marine Corp Base (MCB) Camp Lejeune, which is a training base for the United States Marine Corps. The MCB covers approximately 236 square miles and includes 14 miles of coastline. MCB Camp Lejeune is bounded to the southeast by the Atlantic Ocean and the northeast by State Route 24. **Figure 1.1** presents a portion of the Air Station in the vicinity of Building AS-3504.

1.2 FORMER UST SYSTEM

At the site, five former diesel underground storage tanks (USTs) supplied fuel to dispensers located on a concrete island adjacent to the building. **Figure 1.2** presents the site location map. The USTs and the fuel dispensers were previously removed, but the underground supply piping and the concrete fueling island were still in-place. The removal of the underground supply piping, the concrete pad, and any associated contaminated materials was the objective of this task order. **Figure 1.3** presents the locations of the existing site facilities requiring demolition and removal.

1.3 SITE DESCRIPTION

Building AS-3504 is part of the MWS 272 utilities complex located directly south of the New River Air Station's runways in the northwest portion of the MCB. Two 550-gallon diesel USTs and two 2,500-gallon diesel USTs were previously removed on August 19, 1992. One additional 550-gallon diesel UST and the dispensers were previously removed from this location on September 7, 1992. This information was obtained from the MCB UST database.

2.0 REMEDIAL ACTIVITIES

2.1 REMEDIAL ACTION

The remedial approach at the site was to: (1) remove the dispenser concrete pad, (2) remove the supply piping, and (3) remove any associated contaminated materials. Once the concrete pad and supply lines were uncovered and removed, Shaw proceeded to excavate and dispose of petroleum contaminated soil in the vicinity of the former dispenser island and supply piping as indicated in Work Plan for the AS-3504 Pump Island Removal Activities.

2.2 SITE REMEDIATION CHRONOLOGY

The following activities were completed during implementation of the soil removal action:

- Locate any utility lines in the general area of the facility.
- All excavation activities were completed using a mini excavator.
- Removal of the dispenser pad and contaminated soil beneath the dispenser island at Building AS-3504 over an approximate area of 150 ft² to a depth of 7 bls.
- Removal of contaminated soil over an approximate area of 60 ft² to a depth of 2.5 bls in the pipe trench.
- Removal of the contaminated soil in the fuel transfer line area over an area of 105 ft² to a depth of 8 bls.
- Collection of confirmation samples from the various excavations, walls, and bottom.
- Collection of samples from the contaminated soil for disposal analysis.
- Restoration of affected areas.
- Disposal of a total of 75 cy (98 tons) of contaminated soil at an appropriate facility.

Following completion of the initial excavation activities at the two areas, sidewall and floor confirmation soil samples were collected for TPH-DRO and TPH-GRO analysis. If analytical results for TPH-GRO exceeded 10 mg/kg or TPH-DRO exceeded 40 mg/kg, additional material was excavated and a second confirmation soil sample was collected and analyzed for TPH-DRO and TPH-GRO analysis. The remedial objectives were based on soil contaminant concentrations compared to the NCDENR action level of 10 mg/kg for TPH-GRO and 40 mg/kg for TPH-DRO.

September 4-7, 2006: Site Preparation. Equipment and personnel currently working at Camp Lejeune performed this remedial project. The initial site preparation activities included:

- Acquire dig permits and prepare and execute proper safety forms.
- Examine the site to determine access to the proposed excavation area.
- Delineate job site perimeter and work zones.
- Locate all utilities within the project area.
- Placement of a mini-excavator into the excavation area.
- Construct a soil staging area on 10 mil reinforced polyethylene plastic contained by clean bermed soil.
- Place temporary fence/barricades surrounding each work area.
- Procurement of required equipment and materials.

Set up of an exclusion zone and implementation of erosion and sedimentation control measures, such as silt fence and hay bale placement, were not necessary for the excavation.

Prior to excavation activities, a local utility locator, contracted by Shaw, identified and marked known utilities within each work zone.

Project kick-off and Health & Safety Meeting. All site personnel were informed of the project objectives. Site hazards and contaminants of concern were discussed.

September 7-11, 2006: Dispenser Island and Supply Piping Removal Sampling, Building AS-3504. Shaw began the work by removing the concrete dispenser island and excavating the trench to remove the supply piping. The dispenser island was removed completely to expose the underlying soil. FID screening was performed to determine if additional excavation was required. The supply piping trench was initially excavated to a depth of 2 ft-bls to remove the piping. During excavation activities the sidewalls of the excavation were screened with a Flame Ionization Detector (OVA-FID). Field measurements ranged from 0.0 parts per million (ppm) to 953 ppm. On September 11, 2006, soil samples for TPH-DRO/GRO analysis were collected directly below the dispenser island (no soil was removed but sampled at 2.0 ft-bgs) and from within the piping trench at 2.0 ft-bgs. The initial dispenser and piping removal sampling location and results are shown in **Figure 1.3**.

September 21-27, 2006: Soil Excavation for Dispenser Island and Supply Piping, Building AS-3504. Based on petroleum hydrocarbon odors, elevated OVA-FID readings, and TPH-DRO/GRO analysis exceeding 10 mg/kg from the September 11, 2006 sampling event, the dispenser excavation was expanded on September 21, 2006. Shaw removed an additional five feet of soil to extend the excavation down to 7.0 ft-bls because no additional soil could be removed from the base due to encountering groundwater at 7.5 ft-bgs. The dimensions of the final excavation at the dispenser island were approximately 10 feet x 15 feet x 7 feet deep (38.5 cy). The supply piping trench was approximately 60 feet x 1.0 feet x 2.5 feet deep (5.5 cy). Four sidewall samples, two floor samples, and two pipe trench samples were collected from the new expanded excavation for TPH-DRO/GRO analysis. FID screening indicated 0.0 ppm on all four walls of the dispenser island excavation and the supply piping trench. However, the bottom of the dispenser island excavation had FID readings up to 196 ppm just above the water table at 7.0 ft-bls, and there were elevated readings at the end of the supply piping trench (fuel transfer line area). The analytical data confirmed the sidewalls of the excavation at the dispenser were below the action levels. The floor of the dispenser excavation was above the action levels but the ground water was too close to excavate lower. The supply piping trench was below the action levels for both TPH-GRO and TPH –DRO.

November 1, 2006: Soil Excavation for fuel transfer line area, Building AS-3504. High FID readings at the fuel transfer line area indicated contaminated soil. No initial samples were collected due to the high FID readings. On November 1, 2006, Shaw removed soil from below the fuel transfer line area down to 8.0 ft-bls. The depth of the excavation was limited to 8.0 ft-bgs because no additional soil could be removed from the base due to encountering groundwater at 8.5 ft-bgs. The dimensions of the final excavation in the fuel transfer line area were approximately 7 feet x 15 feet x 8 feet deep (31 cy). Four sidewall samples and one floor sample were collected for TPH-DRO/GRO analysis. FID screening indicated elevated FID readings on the walls and floor of the fuel transfer line area excavation. The final excavated areas are shown in **Figure 1.4** and photographs are provided in **Appendix A**. Based on the analytical data available and site conditions, EMD personnel requested Shaw not to extend the excavation any further since the site conditions would already require a Limited Site Assessment.

Restoration of the site was performed by backfilling the excavations with local borrow soil and compacting the borrow material in place. Once the area achieved the relative grade, asphalt was placed over the dispenser and road area to match the existing site grade. In addition, Shaw reseeded the ground cover areas outside of the asphalted areas.

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 in the breathing zone above the ambient level of 0.0 ppm; therefore no upgrade in protective equipment was required. The OVA-FID was also used to screen the soils to determine the limits of the excavations.

Transport and Disposal of Contaminated Soil. A total of 98 tons of non-hazardous soil was loaded onto trucks and transported and disposed of by ES&J Enterprises at their State-permitted TPHC recycling facility located in Autryville, North Carolina. Manifests were obtained from ES&J Enterprises and are included in **Appendix B**.

The Safety Meeting Reports, Job Safety Analyses Forms, Excavation Inspection Report, and field notes are presented in **Appendix C**.

3.0 POST EXCAVATION SOIL SAMPLE ANALYTICAL RESULTS

3.1 NORTH CAROLINA REGULATORY STANDARDS

The samples were collected in accordance with the requirements of the Sampling and Analysis Plan (SAP) for Camp Lejeune (CLJ) Marine Corps Base (MCB). The remedial action cleanup criteria for the Building AS-3504 soils were based on the NCDENR action level of 10 mg/kg for TPH-GRO and 40 mg/kg for TPH-DRO.

3.2 CONFIRMATION SAMPLING

Following initial excavation activities at each area, confirmation soil samples were collected and sent to an off-site laboratory for TPH-GRO and TPH-DRO analysis. When analytical results exceeded 10 mg/kg, additional soil was removed and an additional set of confirmation samples were collected. A second set of soil samples were collected at the limits of the excavation for TPH-DRO and TPH-GRO analysis.

The dispenser island and piping confirmation soil samples were analyzed for TPH-DRO and TPH-GRO, SW846 EPA Method 8015 analysis according to the SAP, *Appendix A of the Soil Removal Action Work Plan for AS3504 Pump Island and Bio-cell Removal Activities, dated July 2006*. The following sections present analytical results from each of the excavations.

On September 11, 2006, analytical results indicated that TPH-DRO and TPH-GRO were detected at concentrations greater than the NCDENR action levels of 40 mg/kg and 10 mg/kg, respectively, in soil samples AS3504-001 (5,230 mg/kg, TPH-DRO; 264 mg/kg, TPH-GRO), AS3504-002 (34.8 mg/kg, TPH-DRO), AS3504-004 (13.0 mg/kg, TPH-DRO), and AS3504-005 (23.5 mg/kg, TPH-DRO) collected from directly beneath the dispenser island and the initial piping trench excavation. Additional excavation was performed as noted in Section 2.2.

On September 27, 2006, the analytical results for the dispenser island and pipe trench after the second excavation effort indicated that TPH-GRO were detected at concentrations greater than 10 mg/kg and TPH-DRO at greater than 40 mg/kg, the NCDENR action levels, in soil samples AS3504-011 (157 mg/kg, TPH-DRO; 36.4 mg/kg, TPH-GRO), and AS3504-012 (126 mg/kg, TPH-DRO; 68.6 mg/kg, TPH-GRO).

Excavation analytical results for the fuel transfer line area indicated that TPH-GRO were detected at concentrations greater than 10 mg/kg and the TPH-DRO at greater than 40 mg/kg, the NCDENR action levels, in soil samples AS3504-015 (128 mg/kg, TPH-DRO), AS3504-017 (348 mg/kg, TPH-DRO; 225 mg/kg, TPH-GRO), and AS3504-019 (417 mg/kg, TPH-DRO; 11.1 mg/kg, TPH-GRO). The results were reviewed with the MCB and it was decided to stop excavating further due to encountering groundwater in the excavations, and site conditions were already requiring a Limited Site Assessment. **Table 3.1** presents a summary table of the TPH-GRO/DRO analytical results for the dispenser island, pipe trench, and the fuel transfer line area. The laboratory analytical reports are provided in **Appendix D**.

3.3 DISPOSAL SAMPLING

The contaminant concentrations for the composite sample of the excavated/contaminated soil were below laboratory detection limit for TPH-GRO, and TCLP for Arsenic, Barium, Mercury Selenium, and Silver analyses. TPH results for composite TPH-DRO analysis was 8.83 mg/kg and TCLP for Cadmium, Chromium, and Lead were 0.013 mg/l, 0.0013 mg/l, and 0.0044 mg/l, respectively. The 98 tons of soil was determined to be non-hazardous and was disposed at ES&J Enterprises, Inc. facility located in Autryville, North Carolina. The non-hazardous waste shipping documents are provided in **Appendix B**. **Table 3.2** presents a summary table of the TPH-GRO/DRO and TCLP Metals analytical results for the soil disposal. The laboratory analytical reports for TCLP results and TPH analyses are presented in **Appendix E**.

The concrete was broken into manageable sizes and was transported to the MCB landfill for disposal.

4.0 SUMMARY AND CONCLUSIONS

Approximately 98 tons of contaminated soil were removed and properly disposed to eliminate a source of petroleum contamination from the dispenser island, pipe trench, and the fuel transfer line area locations at Building AS-3504. The following conclusions have been developed based on results from the remedial action:

The remedial action was successful in removing a majority of soil contaminated with petroleum hydrocarbons in the unsaturated zone at each location. However, confirmation soil sample analytical results indicate some hydrocarbon constituents continue to persist at concentrations above the NCDENR action level of 10 mg/kg for TPH-GRO and 40 mg/kg for TPH-DRO at the Building AS-3504 site as noted below:

- Dispenser Island: Soil samples from the two floor samples just above the groundwater table (AS3504-011) and (AS3504-012) exceeded the NCDENR action level of 10 mg/kg for TPH-GRO and 40 mg/kg for TPH-DRO.
- Fuel Transfer Line Area: Soil samples just above the groundwater table from the excavation wall on the north side (AS3504-015), excavation wall on the east side (AS3504-017), and the excavation floor (AS3504-019) exceeded the NCDENR action level of 10 mg/kg for TPH-GRO or 40 mg/kg for TPH-DRO.

Based on the results of the soil confirmation samples collected from the dispenser island and fuel transfer line area excavations, which indicated the presence of contamination above the NCDENR action levels down to the top of groundwater, Shaw recommends that a Limited Site Assessment Report with respect to the groundwater be performed.

5.0 REFERENCES

Shaw Environmental, Inc., July 2006 *Work Plan for AS3504 Pump Island and Biocell Removal Activities, Marine Corps Base, Camp Lejeune, North Carolina.*

TABLES

Camp Lejeune, NC
Building AS-3504

Table 3-1
TPH-GRO/DRO Soil Sampling Results

Project 120985

Sample ID	AS3504-001	AS3504-002	AS3504-003	AS3504-004	AS3504-005
AS3504 Sample Location	Pump Island South	Pump Island North	Piping 20 ft	Piping 40 ft	Piping 60 ft
Date Sampled	9/11/2006	9/11/2006	9/11/2006	9/11/2006	9/11/2006
Depth (feet bls)	2.0	2.0	1.5	1.5	1.5
Contaminant of Concern	Units				
TPH - GRO (C6-C10)	ppm (mg/kg)	264	<5.8	<5.6	<4.4
TPH - DRO (C10-C28)	ppm (mg/kg)	5230	34.8	<9.6	13.0
					23.5

Sample ID	AS3504-007	AS3504-008	AS3504-009	AS3504-010
AS3504 Sample Location	Excavation North Wall	Excavation South Wall	Excavation East Wall	Excavation West Wall
Date Sampled	9/27/2006	9/27/2006	9/27/2006	9/27/2006
Depth (feet bls)	7.0	7.0	7.0	7.0
Contaminant of Concern	Units			
TPH - GRO (C6-C10)	ppm (mg/kg)	<6.1	<6.2	<6.4
TPH - DRO (C10-C28)	ppm (mg/kg)	<9.4	<9.3	<10
				<9.6

Sample ID	AS3504-011	AS3504-012	AS3504-013	AS3504-014
AS3504 Sample Location	Excavation North Floor	Excavation South Floor	Piping 40 ft	Piping 60 ft
Date Sampled	9/27/2006	9/27/2006	9/27/2006	9/27/2006
Depth (feet bls)	7.0	7.0	2.5	2.5
Contaminant of Concern	Units			
TPH - GRO (C6-C10)	ppm (mg/kg)	36.4	68.6	<6.3
TPH - DRO (C10-C28)	ppm (mg/kg)	157	126	<9.6
				12.1

Sample ID	AS3504-015	AS3504-016	AS3504-017	AS3504-018	AS3504-019
AS3504 Sample Location	Pipe Run North Side	Pipe Run South Side	Pipe Run East Side	Pipe Run West Side	Pipe Run Floor
Date Sampled	11/1/2006	11/1/2006	11/1/2006	11/1/2006	11/1/2006
Depth (feet bls)	8.0	8.0	8.0	8.0	8.0
Contaminant of Concern	Units				
TPH - GRO (C6-C10)	ppm (mg/kg)	5.18 J	<8.0	225	<6.7
TPH - DRO (C10-C28)	ppm (mg/kg)	128	32.3	348	<9.4
					417

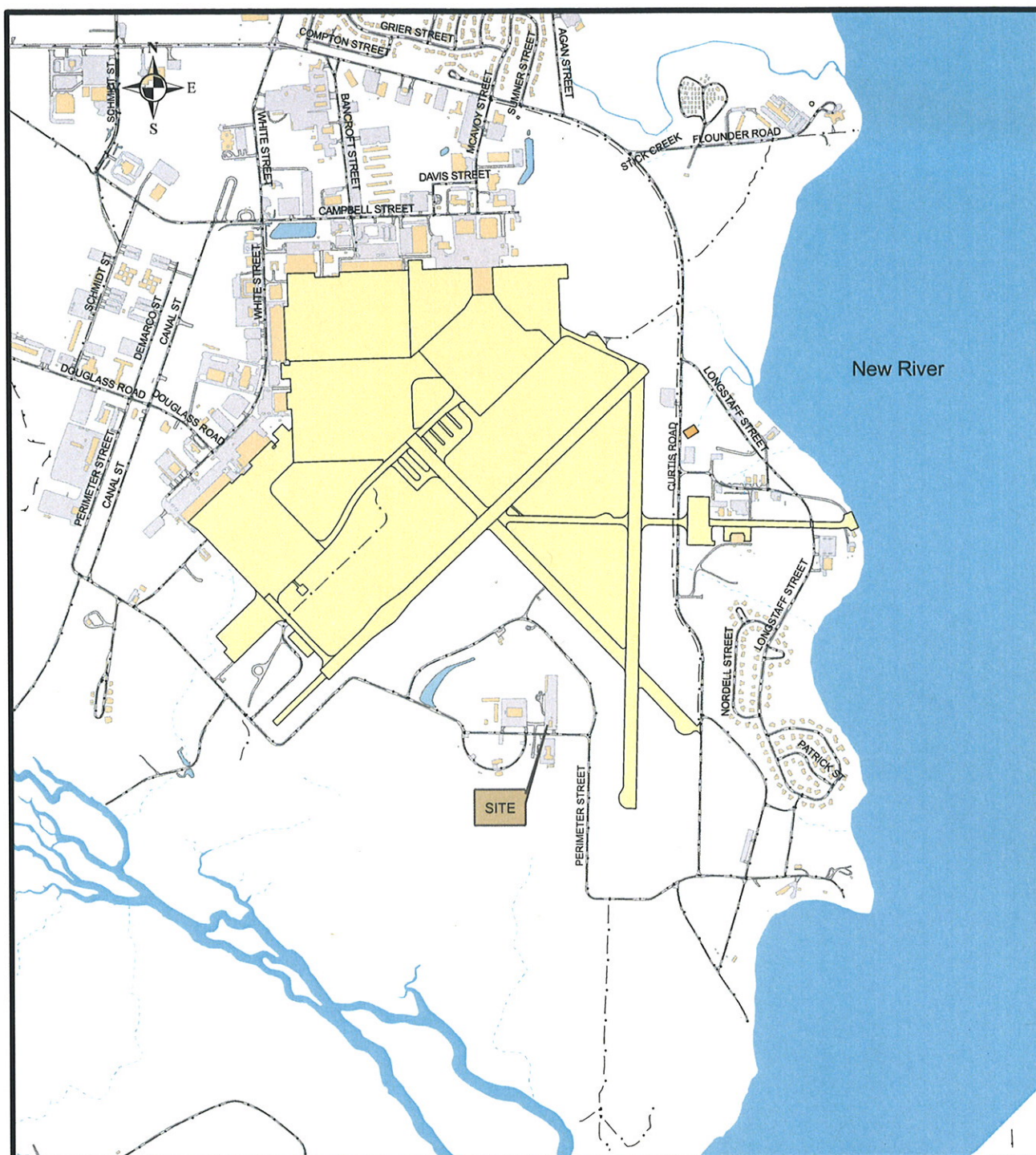
Bold = Detected Above NCDENR Action Level

Table 3-2
Soil Disposal Analytical Results

Compound	Reg. Limit	AS3504-002
Organics		
TPH-DRO (mg/Kg)		8.83
TPH-GRO (mg/Kg)		<6.9
TCLP (mg/L)		
Arsenic	5	<0.0028
Barium	100	<0.20
Cadmium	1	0.0130
Chromium	5	0.0013
Lead	5	0.004
Mercury	0.2	<0.001
Selenium	1	<0.02
Silver	5	<0.0009

Bold print shows detectable concentrations.
No results exceeded regulatory limits.

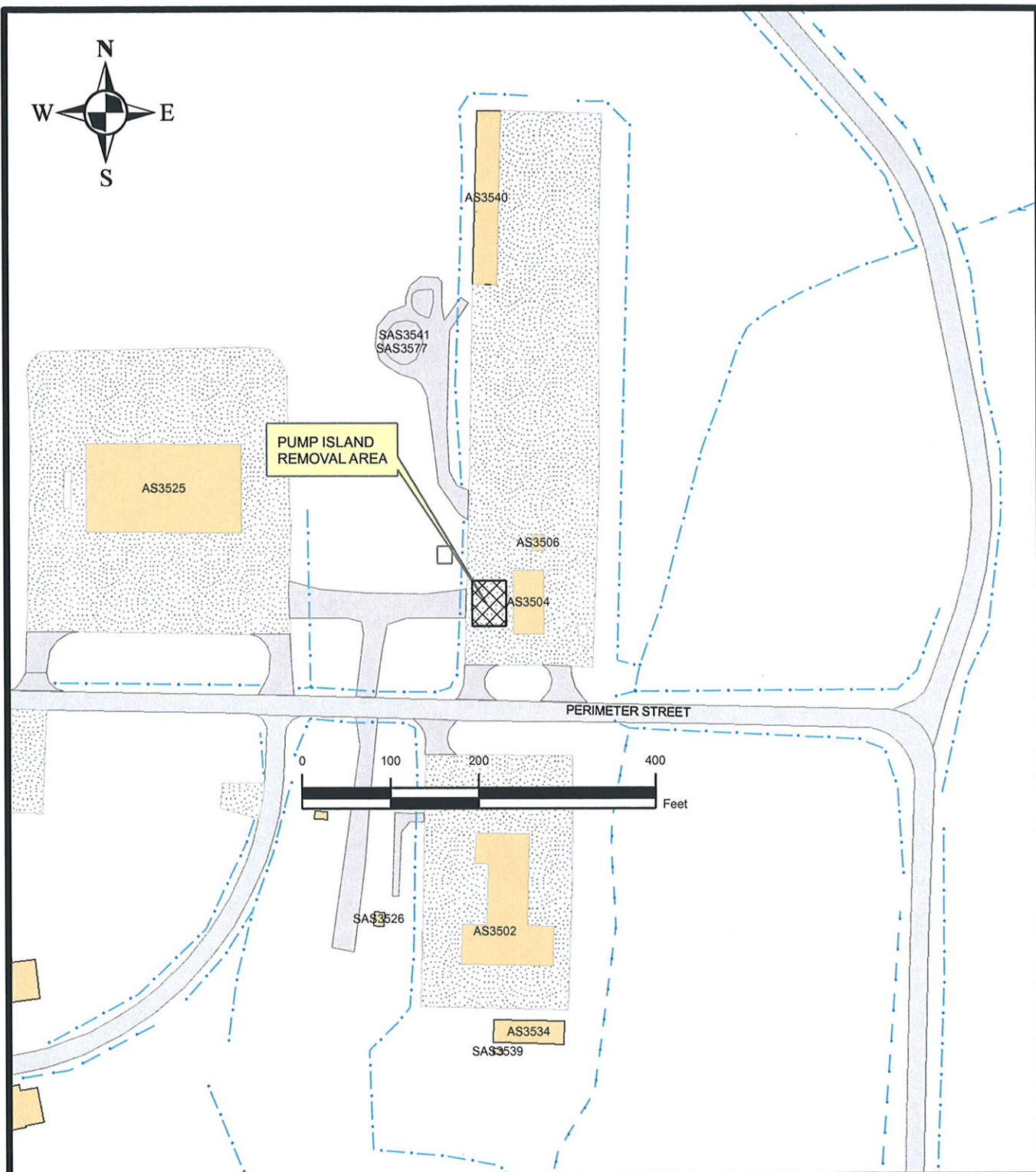
FIGURES



0 500 1,000 2,000 3,000 4,000 Feet

Shaw™ Shaw Environmental, Inc.

FIGURE 1.1
SITE VICINITY MAP
AS3504 PUMP ISLAND REMOVAL
CAMP LEJEUNE, JACKSONVILLE, NC



Legend

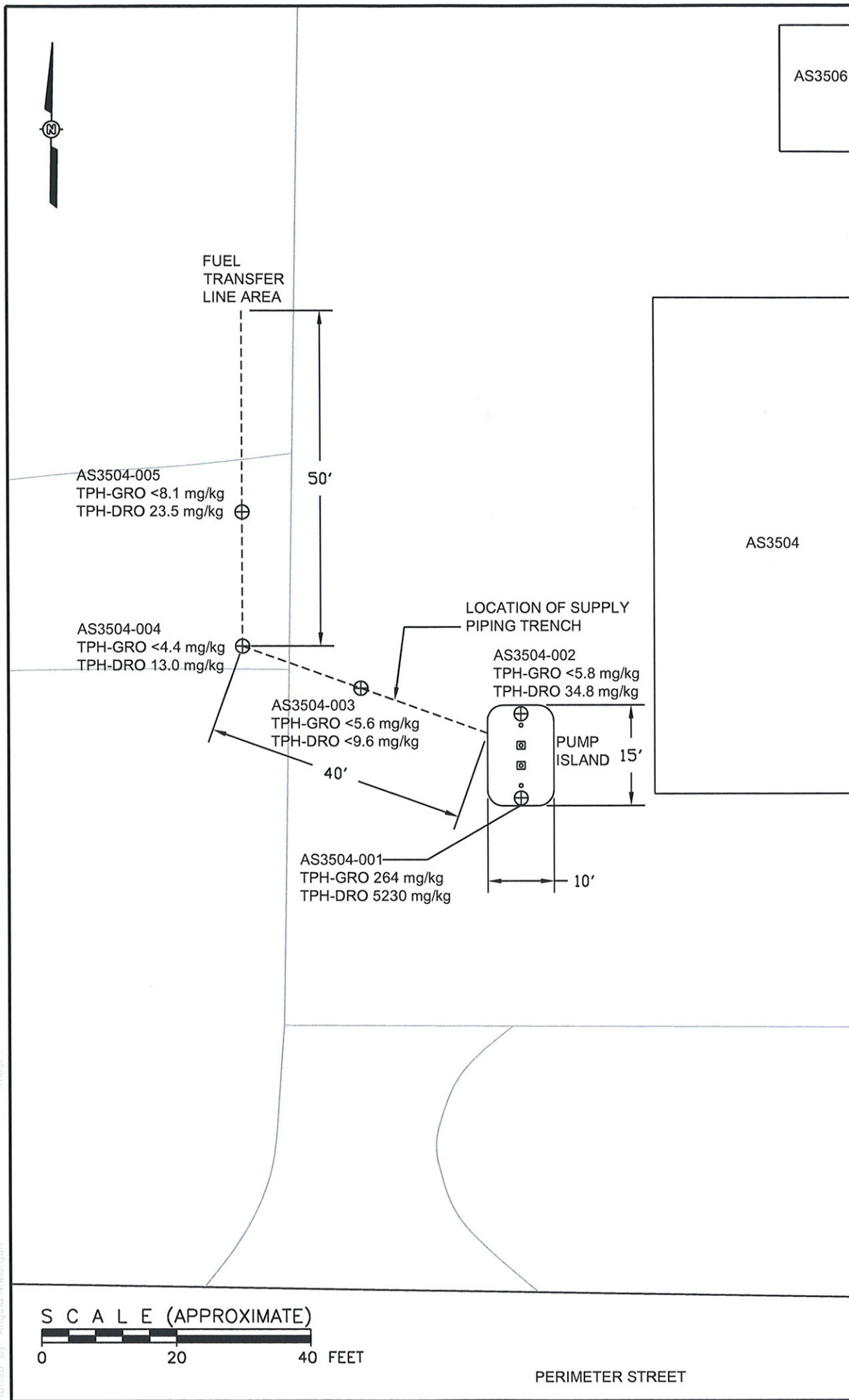
- - - ditch_aqueduct_centerline
- buildings_general_area
- road_area
- vehicle_parking_area
- vehicle_driveway_area



Shaw™ Shaw Environmental, Inc.

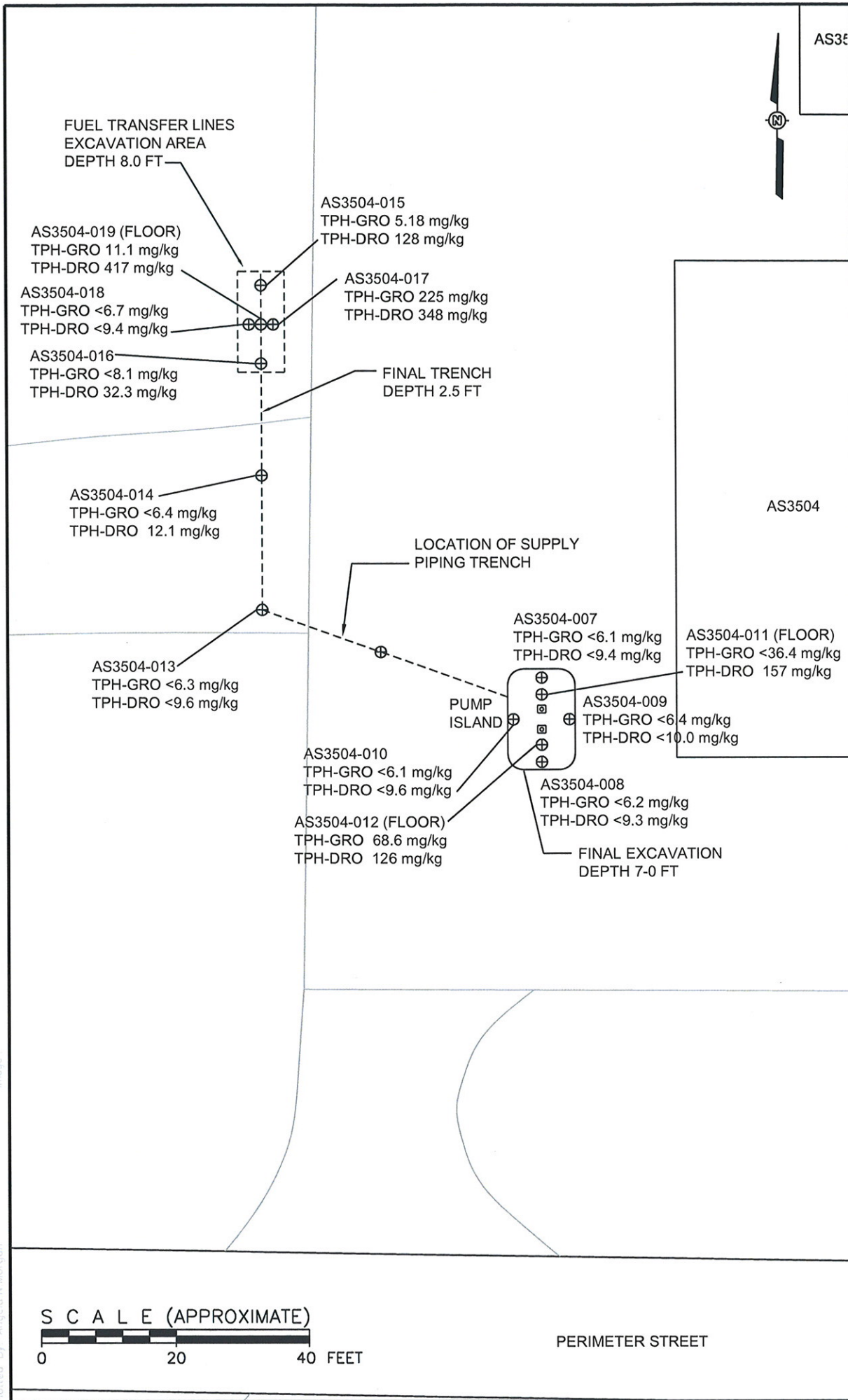
**FIGURE 1.2
LOCATION MAP
AS3504 PUMP ISLAND REMOVAL
CAMP LEJEUNE, JACKSONVILLE, NC**

File: Z:\LEJEUNE-6-05\RA6_IV\TO_67_BLDG-AS3504\AS_3504_PUMP_ISLAND_REMOVAL_WORK_PLAN\demolition_plan.dwg
 Plot Date/Time: Dec 28, 2006 - 2:02pm
 Plotted By: Angelo N. Morgan



		PROJECT NO. 120985		DESCRIPTION/ISSUE REVISIONS	
		CHECKED BY	APPROVED BY		
DESIGNED BY	DRAWN BY	DATE	BY	CHK'D	APR'D
DEPARTMENT OF THE NAVY NAVAL STATION NAVAL FLEET & INDUSTRIAL SUPPLY CENTER ATLANTIC DIVISION NORFOLK, VIRGINIA YORKTOWN, VIRGINIA					
FIGURE 1.3 PUMP ISLAND REMOVAL SOIL SAMPLE RESULTS SEPTEMBER 11, 2006 MCB CAMP LEJEUNE, NC					
SCALE: AS SHOWN		SIZE: A		SHEET I.D. 1.3	
DELIVERY ORDER NO. 0067		CONSTR. CONTRACT NO. N62470-93-D-3032		NAVFAC DRAWING NO. -	

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 Plot Date/Time: Dec 28, 2006 - 2:08pm
 Arcl: -
 Plotted By: Angelo N. Mercon



DEPARTMENT OF THE NAVY		NAVAL FACILITIES ENGINEERING COMMAND																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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APPENDIX A

Photographs







25 2:20PM

APPENDIX B

Soil Disposal Manifests

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.
NC 6170022580

Manifest Doc. No.
0-6-4-66

2. Page 1
of

3. Generator's Name and Mailing Address

Commanding General
AC-SIE EMD NYC Base
PSC Box 2004 Camp Lejeune, NC
28542

4. Site: Physical Location

AS 3504

5. Owner of Contamination:

Name:
Address:

Phone #:

6. Generator's Phone (910) 451-1482

7. Transporter 1 Company Name

ES&J Enterprises

8. US EPA ID Number

A. Transporter's Phone

(910) 567-6138

9. Designated Facility Name and Site Address

E S & J ENTERPRISES
1555 Holland Rd.
Aurysville, NC 28318

10. US EPA ID Number

S.R.0.6.0.0.0.3.5.

B. Facility's Phone

(910) 567-6138

11. Waste Shipping Name and Description

12. Containers

No.

Type

13. Total
Quantity

14. Unit
Wt/Vol

a.

petroleum contaminated soil

LBS.

b.

TPH CONTAMINATED SOIL - NON HAZ

001

DT

25.2

Tons

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

COL# 6414811 TRK# P.W. 19 Tag# 2W-3222

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Jon A. Mayes, II

Signature

Jon A. Mayes, II

Month Day Year

10/19/06

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

* RAY VANN

Signature

* *Ray Vann*

Month Day Year

10/19/06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Rick Wms

Signature

Rick Wms

Month Day Year

11/19/06

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NC 617 0022580	Manifest Doc. No. 0.6.4.65	2. Page 1 of
3. Generator's Name and Mailing Address Commanding General AC-SIE EMD M/C Base PSC Box 2004 Camp Lejeune, NC 28542		4. Site: Physical Location 45 3504		5. Owner of Contamination: Name: Address: Phone #:
6. Generator's Phone (910) 451-1482		8. US EPA ID Number		A. Transporter's Phone (910) 567-6138
7. Transporter 1 Company Name ES&J Enterprises		10. US EPA ID Number		B. Facility's Phone (910) 567-6138
9. Designated Facility Name and Site Address E S & J ENTERPRISES 1555 Holland Rd. Autryville, NC 28318		S.R.0.6.0.0.0.3.5.		
11. Waste Shipping Name and Description			12. Containers No. Type	13. Total Quantity
a. petroleum contaminated soil				14. Unit Wt/Vol LBS.
b. TPH CONTAMINATED SOIL - NON HAZ			001 DE	23.39 TONS
c.				
d.				
D. Additional Descriptions for Materials Listed Above NC CDL #7267058 TRK# 200 Tag# LW2852NC			E. Handling Codes for Wastes Listed Above	
15. Special Handling Instructions and Additional Information				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.				
Printed/Typed Name Jon Al Meyer, Jr		Signature <i>[Signature]</i>		Month Day Year 11.01.90
17. Transporter 1 Acknowledgement of Receipt of Materials				
Printed/Typed Name EMANUEL BOONE		Signature <i>[Signature]</i>		Month Day Year 11.01.90
18. Transporter 2 Acknowledgement of Receipt of Materials				
Printed/Typed Name		Signature		Month Day Year
19. Discrepancy Indication Space				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.				
Printed/Typed Name Rick Wms		Signature <i>[Signature]</i>		Month Day Year 11.01.90

ORIGINAL - RETURN TO GENERATOR

**NON-HAZARDOUS
WASTE MANIFEST**

1. Generator's US EPA ID No.
NC 617 0022 580

Manifest Doc. No.
6-464

2. Page 1
of

3. Generator's Name and Mailing Address

Commanding General
AC-8 70 E EMD M/C Base
PSC 800 2004 Camp Lejeune, NC
28542
Generator's Phone (910) 451-1482

4. Site: Physical Location

As-3504

5. Owner of Contamination:

Name:
Address:

Phone #:

7. Transporter 1 Company Name

8. US EPA ID Number

A. Transporter's Phone

(910) 567-6138

9. Designated Facility Name and Site Address

E S & J ENTERPRISES
1555 Holland Rd.
Autryville, NC 28318

10. US EPA ID Number

S.R.0.6.0.0.0.3.5

B. Facility's Phone

(910) 567-6138

11. Waste Shipping Name and Description

12. Containers

13. Total
Quantity

14. Unit
Wt/Vol

a.
petroleum contaminated soil

No. Type

LBS.

b. TPA Contaminated Soil - Non Haz

001 DT

23.85

Tare

c.

d.

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

CDL # 3874413 Trk # 77-7 tag # Z B-30013

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name

Jon A. Mayes, Jr

Signature

Jon A. Mayes, Jr

Month Day Year
10 19 06

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name

James D. Burgart

Signature

James D. Burgart

Month Day Year
10 19 06

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name

Rick Wms

Signature

Rick Wms

Month Day Year
10 19 06

ORIGINAL - RETURN TO GENERATOR

120984 100190

NON-HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No.	Manifest Doc. No.	2. Page 1 of
3. Generator's Name and Mailing Address Commanding General LC-3 7th EMD M/C Base PSC Box 2004 Camp Lejeune, NC 28542		4. Site: Physical Location AS-3504		5. Owner of Contamination: Name: Address: Phone #:
6. Generator's Phone ()		8. US EPA ID Number		A. Transporter's Phone 910 567-6138
7. Transporter 1 Company Name ES & J Enterprises		10. US EPA ID Number S.R.0.6.0.0.0.3.5.		B. Facility's Phone (910) 567-6138
9. Designated Facility Name and Site Address E S & J ENTERPRISES 1555 Holland Rd. Autryville, NC 28318		11. Waste Shipping Name and Description		12. Containers No. Type
a. petroleum contaminated soil				13. Total Quantity
b. TPH Contaminated Soil - Now Hgt		001 DT		25.11
c.				14. Unit Wt/Vol LBS.
d.				
D. Additional Descriptions for Materials Listed Above. CDL # 3820321 TRK # 163 Tag # YA-96055		E. Handling Codes for Wastes Listed Above		
15. Special Handling Instructions and Additional Information				
16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.				
Printed/Typed Name Jon A. Myer, Jr.		Signature <i>Jon A. Myer, Jr.</i>		Month Day Year 10 19 06
17. Transporter 1 Acknowledgement of Receipt of Materials				
Printed/Typed Name X Mack Culbreth		Signature X Mack Culbreth		Month Day Year 10 19 06
18. Transporter 2 Acknowledgement of Receipt of Materials				
Printed/Typed Name		Signature		Month Day Year
19. Discrepancy Indication Space				
20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.				
Printed/Typed Name Rick Wms		Signature <i>Rick Wms</i>		Month Day Year 10 19 06

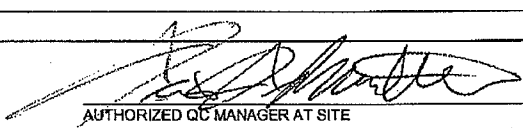
GENERATOR

TRANSPORTER

FACILITY

APPENDIX C

Safety Assessments and Reports, and Field Notes

CONTRACTOR QUALITY CONTROL REPORT				DATE 9/7/06	
(ATTACH ADDITIONAL SHEETS IF NECESSARY)				REPORT NO 001	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION AS 3504			
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐ WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ X NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Initiated excavation activities at AS 3504 pump island and demolition. During excavation/demolition activities an unmarked			
		water line was broken and had to be turned off manually in the back of the building. The valve was closed and tagged out.			
		The fire department was on site to help with the water line. The water department was contacted and came out to make			
		sure the site was secure. The public works department was notified that everything was secure.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.)					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.					
 AUTHORIZED QC MANAGER AT SITE				DATE 22/07/06	
GOVERNMENT QUALITY ASSURANCE REPORT					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER				DATE	

CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 9/8/06
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION AS 3504	REPORT NO 002	
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒			
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	Schedule Activity No.	Definable Feature of Work	Index #	
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒			
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.			
	Schedule Activity No.	Definable Feature of Work	Index #	
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐			
	WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ NO ☐			
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present		
		Completed excavation activities at 3504. The pump island is complete. Les Craft the utilities locator was on site marking underground piping.		
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description	
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.				
Schedule Activity No.	Description			
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.				
			12/7/06	
AUTHORIZED QC MANAGER AT SITE			DATE	
GOVERNMENT QUALITY ASSURANCE REPORT				
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT				
Schedule Activity No.	Description			
GOVERNMENT QUALITY ASSURANCE MANAGER				
DATE				

CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 9/11/06 REPORT NO 003	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67			SITE NAME AND LOCATION AS 3504	
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐				
	WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Collected a total of 5 samples at AS 3504. The area was sand bagged and barricaded.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.)					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.					
				12/7/06 DATE	
GOVERNMENT QUALITY ASSURANCE REPORT					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER					
					DATE

CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 9/21/06	
				REPORT NO 004	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION AS 3504			
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐ WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ X NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Demolished the remaining concrete from excavation activities and continued to excavate contaminated soils and using a FID for guidance. Samples from 3504 pump island excavation came back hot.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.)					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.					
 AUTHORIZED QC MANAGER AT SITE				DATE 12/17/06	
GOVERNMENT QUALITY ASSURANCE REPORT					
DATE					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER					
DATE					

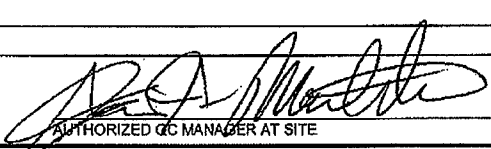
CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 9/22/06
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION AS 3504	REPORT NO 005	
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒			
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.			
	Schedule Activity No.	Definable Feature of Work	Index #	
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒			
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.			
	Schedule Activity No.	Definable Feature of Work	Index #	
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐			
	WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ NO ☐			
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present		
		Hauled away 3 loads of concrete from 3504 for disposal at the base landfill. Continue to excavate and chase hot soil utilizing the FID for guidance. Set up hay bails to secure containment for excavation spoils. Utilized vac truck to suck bottom of excavation dry. Continued excavating.		
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description	
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep On-Site, etc.				
Schedule Activity No.	Description			
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.				
				DATE 12/17/06
GOVERNMENT QUALITY ASSURANCE REPORT				
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT				
Schedule Activity No.	Description			
GOVERNMENT QUALITY ASSURANCE MANAGER				
DATE				

CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 9/27/06	
				REPORT NO 006	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67		SITE NAME AND LOCATION AS 3504		
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐ WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ X NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Completed chasing hot soils and collected samples.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep On-Site, etc.					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.					
 AUTHORIZED QC MANAGER AT SITE				DATE 12/7/06	
GOVERNMENT QUALITY ASSURANCE REPORT					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER				DATE	

CONTRACTOR QUALITY CONTROL REPORT				DATE 10/14/06	
(ATTACH ADDITIONAL SHEETS IF NECESSARY)				REPORT NO 022	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION Camp Geiger Biocell			
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐				
	WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Continued dewatering biocell at Camp Geiger. Dump truck on site from return trip to the air station. The water removed from the biocell is being disposed of at the oil water separator near building 3504.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)			
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.)					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report. AUTHORIZED QC MANAGER AT SITE DATE 10-16-06					
GOVERNMENT QUALITY ASSURANCE REPORT					
DATE					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER					
DATE					

CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 10/15/06 REPORT NO 023	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION Camp Geiger Biocell			
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐				
	WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Continued dewatering biocell at Camp Geiger. Pumped out poly tanks with vac truck and disposed of it at oil water separator at 3504. Completed clearing and grubbing activities and protected 3 storm drains with silt fence and hay bails.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.)					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.  AUTHORIZED QC MANAGER AT SITE 10-16-06 DATE					
GOVERNMENT QUALITY ASSURANCE REPORT					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER					
DATE					

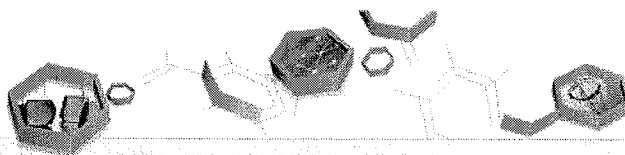
CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 10/16/06 REPORT NO 024	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67			SITE NAME AND LOCATION Camp Gelger Biocell	
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐				
	WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Continued dewatering the biocell by pumping the water into the poly tanks. Separated soil stockpiles and continued hauling water to the oil water separator at 3504. Piling liner to separate to take to land fill.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)			
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO"), Manuf. Rep On-Site, etc.					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.					
 AUTHORIZED QC MANAGER AT SITE					DATE 10-18-06
GOVERNMENT QUALITY ASSURANCE REPORT					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER					
DATE					

CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 10/17/06	
				REPORT NO 025	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION Camp Geiger Biocell			
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒				
	IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐				
	WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Continued dewatering the biocell by pumping the water into the poly tanks. Separated soil stockpiles and continued hauling water to the oil water separator at 3504. Piling liner to separate to take to land fill.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)			REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)		
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.)					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.  10-18-06 DATE					
GOVERNMENT QUALITY ASSURANCE REPORT					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER DATE					

CONTRACTOR QUALITY CONTROL REPORT (ATTACH ADDITIONAL SHEETS IF NECESSARY)				DATE 11/1/06	
				REPORT NO 007	
PHASE	CONTRACT NO N62470-02-D-3260-0067 TO # 67	SITE NAME AND LOCATION	AS 3504		
PREPARATORY	WAS PREPARATORY PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL PREPARATORY PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
INITIAL	WAS INITIAL PHASE WORK PERFORMED TODAY? YES ☐ NO ☒ X IF YES, FILL OUT AND ATTACH SUPPLEMENTAL INITIAL PHASE CHECKLIST.				
	Schedule Activity No.	Definable Feature of Work	Index #		
FOLLOW-UP	WORK COMPLIES WITH CONTRACT AS APPROVED DURING INITIAL PHASE? YES ☐ NO ☐ WORK COMPLIES WITH SAFETY REQUIREMENTS? YES ☒ X NO ☐				
	Schedule Activity No.	Description of Work, Testing Performed & By Whom, Definable Feature of Work, Specification Section, Location and List of Personnel Present			
		Continued chasing hot soils and was directed to stop due to the close proximity of a previously remediated area.			
REWORK ITEMS IDENTIFIED TODAY (NOT CORRECTED BY CLOSE OF BUSINESS)		REWORK ITEMS CORRECTED TODAY (FROM REWORK ITEMS LIST)			
Schedule Activity No.	Description	Schedule Activity No.	Description		
REMARKS (Also Explain Any Follow-Up Phase Checklist Item From Above That Was Answered "NO", Manuf. Rep On-Site, etc.)					
Schedule Activity No.	Description				
On behalf of the contractor, I certify that this report is complete and correct and equipment and material used and work performed during this reporting period is in compliance with the contract drawings and specifications to the best of my knowledge except as noted in this report.					
 AUTHORIZED QC MANAGER AT SITE				DATE 12/1/06	
GOVERNMENT QUALITY ASSURANCE REPORT					
DATE					
QUALITY ASSURANCE REPRESENTATIVE'S REMARKS AND/OR EXCEPTIONS TO THE REPORT					
Schedule Activity No.	Description				
GOVERNMENT QUALITY ASSURANCE MANAGER					
DATE					

APPENDIX D

Confirmation Soil Sample Laboratory Analytical Reports



09/18/06

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-AS 3504

115749

Accutest Job Number: F43574

Sampling Date: 09/11/06

Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 30



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
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Sample Summary

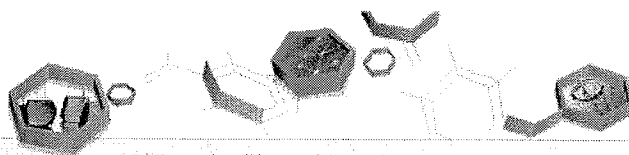
Shaw E & I, Inc.

Job No: F43574

Camp Lejeune-AS 3504
Project No: 115749

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
F43574-1	09/11/06	10:30 RK	09/12/06	SO Soil	AS3504-001
F43574-2	09/11/06	10:40 RK	09/12/06	SO Soil	AS3504-002
F43574-3	09/11/06	10:50 RK	09/12/06	SO Soil	AS3504-003
F43574-4	09/11/06	11:00 RK	09/12/06	SO Soil	AS3504-004
F43574-5	09/11/06	11:10 RK	09/12/06	SO Soil	AS3504-005
F43574-6	09/11/06	00:00 RK	09/12/06	AQ Trip Blank Soil	AS3504-TB

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



IT'S ALL IN THE CHEMISTRY

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID:	AS3504-001	Date Sampled:	09/11/06
Lab Sample ID:	F43574-1	Date Received:	09/12/06
Matrix:	SO - Soil	Percent Solids:	89.6
Method:	SW846 8015 SW846 5035		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV023832.D	1	09/13/06	MM	09/12/06 13:15	n/a	GUV1375
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.93 g	5.0 ml	5.0 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	264	120	62	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	104% ^a		62-135%
460-00-4	4-Bromofluorobenzene	184% ^b		62-135%
98-08-8	aaa-Trifluorotoluene	79%		65-118%

(a) Result reported from PID.

(b) Outside control limits 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

2.1
2

Client Sample ID: AS3504-001

Lab Sample ID: F43574-1

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 89.6

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21382.D	100	09/15/06	AC	09/13/06	OP17853	GZF1005
Run #2							

	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)	5230	920	550	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	0% a		57-115%		

(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: AS3504-002

Lab Sample ID: F43574-2

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 SW846 5035

Percent Solids: 86.8

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV023833.D	1	09/13/06	MM	09/12/06 13:15	n/a	GUV1375
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.74 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.8	2.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	90%		62-135%
98-08-8	aaa-Trifluorotoluene	90%		65-118%

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: AS3504-002

Lab Sample ID: F43574-2

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 86.8

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21383.D	1	09/15/06	AC	09/13/06	OP17853	GZF1005
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	34.8	9.5	5.7	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	85%		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

Client Sample ID: AS3504-003

Lab Sample ID: F43574-3

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 SW846 5035

Percent Solids: 86.4

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV023834.D	1	09/13/06	MM	09/12/06 13:15	n/a	GUV1375
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	6.06 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.6	2.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		62-135%
98-08-8	aaa-Trifluorotoluene	95%		65-118%

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: AS3504-003

Lab Sample ID: F43574-3

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 86.4

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21353.D	1	09/14/06	AC	09/13/06	OP17853	GZF1004
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	9.6	5.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	74%		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

Client Sample ID: AS3504-004

Lab Sample ID: F43574-4

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 SW846 5035

Percent Solids: 87.4

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV023835.D	1	09/13/06	MM	09/12/06 13:15	n/a	GUV1375
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	7.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	4.4	2.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	107%		62-135%
98-08-8	aaa-Trifluorotoluene	80%		65-118%

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

24
2

Client Sample ID: AS3504-004

Lab Sample ID: F43574-4

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 87.4

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21384.D	1	09/15/06	AC	09/13/06	OP17853	GZF1005
Run #2							

	Initial Weight	Final Volume
Run #1	30.7 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	13.0	9.3	5.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	81%		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

2.5

2

Client Sample ID: AS3504-005

Lab Sample ID: F43574-5

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 SW846 5035

Percent Solids: 88.1

Project: Camp Lejeune-AS 3504

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV023836.D	1	09/13/06	MM	09/12/06 13:15	n/a	GUV1375
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	3.80 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.1	4.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	88%		62-135%
98-08-8	aaa-Trifluorotoluene	81%		65-118%

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: AS3504-005

Lab Sample ID: F43574-5

Date Sampled: 09/11/06

Matrix: SO - Soil

Date Received: 09/12/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 88.1

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21355.D	1	09/14/06	AC	09/13/06	OP17853	GZF1004
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) ^a	23.5	9.3	5.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	78%		57-115%		

(a) Petroleum hydrocarbon pattern extends beyond C28.

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: AS3504-TB
 Lab Sample ID: F43574-6
 Matrix: AQ - Trip Blank Soil
 Method: SW846 8015
 Project: Camp Lejeune-AS 3504

Date Sampled: 09/11/06
 Date Received: 09/12/06
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD071323.D	1	09/14/06	MM	n/a	n/a	GCD2949
Run #2							

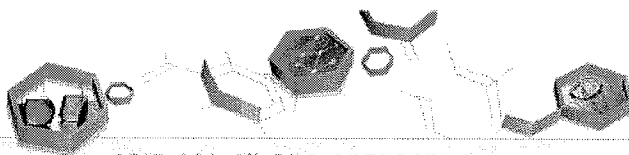
	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	85%		65-127%
98-08-8	aaa-Trifluorotoluene	84%		65-124%

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



IT'S ALL IN THE CHEMISTRY



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

F43574

COC Number:
115749-AS3504-091106

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390										Receiving LAB: Accutest											
Project Name CAMP LEJEUNE - AS3504					Project Location CAMP LEJEUNE, NC					Analysis Desired											
Project Number 115749			Contact Mark Martin			P.O. Number			Reviewed by			DRO/GRO 3550/5030/8015									
Client Rep US NAVY - LANTDIV					Project Manager Ron Kenyon																
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description			Number of Containers												
①	AS3504-001	9/11/06	10:30		X	Pump Island South			2			X									
②	AS3504-002	9/11/06	10:40		X	Pump Island North			2			X									
③	AS3504-003	9/11/06	10:50		X	Piping 20'			2			X									
④	AS3504-004	9/11/06	11:00		X	Piping 40'			2			X									
⑤	AS3504-005	9/11/06	11:10		X	Piping 60'			2			X									
⑥	AS3504-TB	9/11/06			X	Trip Blank			2			X	GRO only								
7																					
8																					
9																					
10																					
11																					

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1-6	<i>[Signature]</i>	FedEx 8545 9102 0653	9/11/06	16:00	5 Day TAT
2			<i>[Signature]</i>	9-12-06	9:00	
3						

.8

F43574: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F43574 CLIENT: SHAW PROJECT: Camp Lejeune - AS 3504
 DATE/TIME RECEIVED: 9-12-06 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: -8
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: 8545 9102 0653

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ 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

MISC. INFORMATION

NUMBER OF ENCORES ? 5
 NUMBER OF 5035 FIELD KITS ? 0
 NUMBER OR LAB FILTERED METALS ? 0

SUMMARY OF COMMENTS: Received water trip blank for a soil
Job

SAMPLE INFORMATION

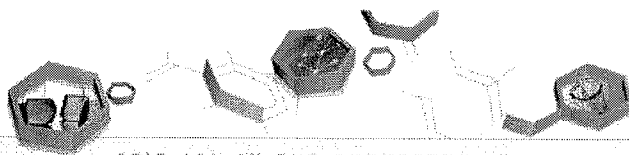
- ☐ SAMPLE LABELS PRESENT ON ALL BOTTLES
- ☐ CORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ TIMES ON COC DON'T MATCH LABEL
- ☐ ID'S ON COC DON'T MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING INSTRUCTIONS
- ☐ UNCLEAR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE CONTAINER(S) RECEIVED BROKEN
- ☐ % SOLIDS JAR NOT RECEIVED
- ☐ 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

TECHNICIAN SIGNATURE/DATE Jmc 9-12-06 TECHNICIAN SIGNATURE/DATE _____

ASBD03/27/06

F43574: Chain of Custody

Page 2 of 2



GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F43574

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV1375-MB	UV023831.D1		09/13/06	MM	n/a	n/a	GUV1375

The QC reported here applies to the following samples:

Method: SW846 8015

F43574-1, F43574-2, F43574-3, F43574-4, F43574-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	82%	62-135%
98-08-8	aaa-Trifluorotoluene	68%	65-118%

Method Blank Summary

Page 1 of 1

Job Number: F43574

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD2949-MB	CD071316.D1		09/14/06	MM	n/a	n/a	GCD2949

The QC reported here applies to the following samples:

Method: SW846 8015

F43574-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	84% 65-127%
98-08-8	aaa-Trifluorotoluene	84% 65-124%

Blank Spike Summary

Page 1 of 1

Job Number: F43574

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV1375-BS	UV023830.D1		09/13/06	MM	n/a	n/a	GUV1375

The QC reported here applies to the following samples:

Method: SW846 8015

F43574-1, F43574-2, F43574-3, F43574-4, F43574-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	18.6	93	66-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	62-135%
98-08-8	aaa-Trifluorotoluene	98%	65-118%

Blank Spike Summary

Page 1 of 1

Job Number: F43574

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD2949-BS	CD071315.D1		09/14/06	MM	n/a	n/a	GCD2949

The QC reported here applies to the following samples:

Method: SW846 8015

F43574-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.430	108	63-126

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	93%	65-127%
98-08-8	aaa-Trifluorotoluene	96%	65-124%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F43574
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F43574-2MS	UV023844.D1		09/13/06	MM	n/a	n/a	GUV1375
F43574-2MSD	UV023845.D1		09/13/06	MM	n/a	n/a	GUV1375
F43574-2	UV023833.D1		09/13/06	MM	n/a	n/a	GUV1375

The QC reported here applies to the following samples:

Method: SW846 8015

F43574-1, F43574-2, F43574-3, F43574-4, F43574-5

CAS No.	Compound	F43574-2 mg/kg	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	23.1	19.2	83	21.3	92	10	37-142/17

CAS No.	Surrogate Recoveries	MS	MSD	F43574-2	Limits
460-00-4	4-Bromofluorobenzene	90%	102%	90%	62-135%
98-08-8	aaa-Trifluorotoluene	91%	103%	90%	65-118%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F43574
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F43579-6MS	CD071326.D 1		09/14/06	MM	n/a	n/a	GCD2949
F43579-6MSD	CD071330.D 1		09/14/06	MM	n/a	n/a	GCD2949
F43579-6	CD071322.D 1		09/14/06	MM	n/a	n/a	GCD2949

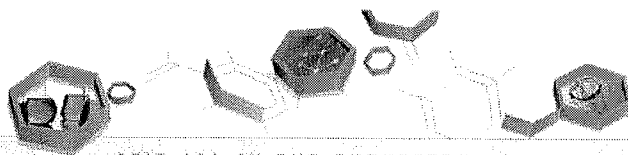
The QC reported here applies to the following samples:

Method: SW846 8015

F43574-6

CAS No.	Compound	F43579-6 mg/l	Spike Q	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND	0.4	0.444	111	0.366	92	19	56-171/31

CAS No.	Surrogate Recoveries	MS	MSD	F43579-6	Limits
460-00-4	4-Bromofluorobenzene	96%	91%	84%	65-127%
98-08-8	aaa-Trifluorotoluene	96%	97%	85%	65-124%



IT'S ALL IN THE CHEMISTRY

GC Semi-volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F43574

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17853-MB	ZF21345.D	1	09/14/06	AC	09/13/06	OP17853	GZF1004

The QC reported here applies to the following samples:

Method: SW846 8015 M

F43574-1, F43574-2, F43574-3, F43574-4, F43574-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	87% 57-115%

Method Blank Summary

Page 1 of 1

Job Number: F43574

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17853-MB	ZF21381.D	1	09/15/06	AC	09/13/06	OP17853	GZF1005

The QC reported here applies to the following samples:

Method: SW846 8015 M

F43574-1, F43574-2, F43574-3, F43574-4, F43574-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	90% 57-115%

Blank Spike Summary

Page 1 of 1

Job Number: F43574

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17853-BS	ZF21344.D	1	09/14/06	AC	09/13/06	OP17853	GZF1004

The QC reported here applies to the following samples:

Method: SW846 8015 M

F43574-1, F43574-2, F43574-3, F43574-4, F43574-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	29.3	88	62-114

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	87%	57-115%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F43574
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17853-MS	ZF21358.D	1	09/14/06	AC	09/13/06	OP17853	GZF1004
OP17853-MSD	ZF21359.D	1	09/14/06	AC	09/13/06	OP17853	GZF1004
F43576-2	ZF21357.D	1	09/14/06	AC	09/13/06	OP17853	GZF1004

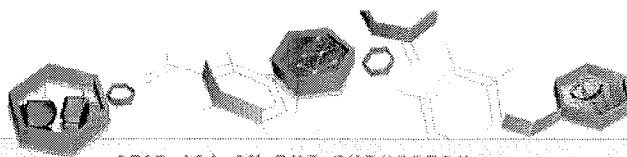
The QC reported here applies to the following samples:

Method: SW846 8015 M

F43574-1, F43574-2, F43574-3, F43574-4, F43574-5

CAS No.	Compound	F43576-2 mg/kg	Spike Q mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	13.3	36.8	36.3	63	34.0	57	7	31-136/36

CAS No.	Surrogate Recoveries	MS	MSD	F43576-2	Limits
84-15-1	o-Terphenyl	89%	83%	79%	57-115%



10/05/06

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-AS 3504

120985

Accutest Job Number: F44074

Sampling Date: 09/27/06

Report to:

Shaw E & I, Inc.
5700 Thurston Ave. Suite 116-B
Virginia Beach, VA 23455
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 35



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
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Sample Summary

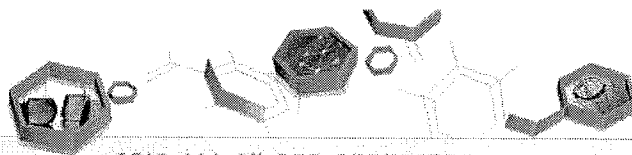
Shaw E & I, Inc.

Job No: F44074

Camp Lejeune-AS 3504
Project No: 120985

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F44074-1	09/27/06	16:00 RK	09/29/06	SO	Soil	AS3504-007
F44074-2	09/27/06	16:10 RK	09/29/06	SO	Soil	AS3504-008
F44074-3	09/27/06	16:20 RK	09/29/06	SO	Soil	AS3504-009
F44074-4	09/27/06	16:30 RK	09/29/06	SO	Soil	AS3504-010
F44074-5	09/27/06	16:40 RK	09/29/06	SO	Soil	AS3504-011
F44074-6	09/27/06	16:50 RK	09/29/06	SO	Soil	AS3504-012
F44074-7	09/27/06	17:00 RK	09/29/06	SO	Soil	AS3504-013
F44074-8	09/27/06	17:10 RK	09/29/06	SO	Soil	AS3504-014
F44074-9	09/27/06	00:00 RK	09/29/06	AQ	Trip Blank Soil	AS3504-TB-092706

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



IT'S ALL IN THE CHEMISTRY

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID: AS3504-007

Lab Sample ID: F44074-1

Date Sampled: 09/27/06

Matrix: SO - Soil

Date Received: 09/29/06

Method: SW846 8015 SW846 5030A

Percent Solids: 86.5

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024181.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.40 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.1	3.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	90%		62-135%
98-08-8	aaa-Trifluorotoluene	79%		65-118%

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:	AS3504-007	Date Sampled:	09/27/06
Lab Sample ID:	F44074-1	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	86.5
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21666.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	9.4	5.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	76%		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

Client Sample ID:	AS3504-008	Date Sampled:	09/27/06
Lab Sample ID:	F44074-2	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	87.0
Method:	SW846 8015 SW846 5030A		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024182.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.30 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.2	3.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		62-135%
98-08-8	aaa-Trifluorotoluene	86%		65-118%

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:	AS3504-008	Date Sampled:	09/27/06
Lab Sample ID:	F44074-2	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	87.0
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 3504		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21667.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
Run #2							

	Initial Weight	Final Volume
Run #1	30.9 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	78%		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

Client Sample ID:	AS3504-009	Date Sampled:	09/27/06
Lab Sample ID:	F44074-3	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8015 SW846 5030A		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024183.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.57 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.4	3.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		62-135%
98-08-8	aaa-Trifluorotoluene	85%		65-118%

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:	AS3504-009	Date Sampled:	09/27/06
Lab Sample ID:	F44074-3	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	83.4
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21668.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
Run #2							

Run #	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)	ND	10	6.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	77%		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

Client Sample ID:	AS3504-010	Date Sampled:	09/27/06
Lab Sample ID:	F44074-4	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	86.8
Method:	SW846 8015 SW846 5030A		
Project:	Camp Lejeune-AS 3504		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024184.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.42 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.1	3.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	105%		62-135%
98-08-8	aaa-Trifluorotoluene	86%		65-118%

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: AS3504-010

Lab Sample ID: F44074-4

Date Sampled: 09/27/06

Matrix: SO - Soil

Date Received: 09/29/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 86.8

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21669.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
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)	ND	9.6	5.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	74%		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

Client Sample ID:	AS3504-011	Date Sampled:	09/27/06
Lab Sample ID:	F44074-5	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	74.6
Method:	SW846 8015 SW846 5030A		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024178.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.93 g	5.0 ml	50.0 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	36.4	17	8.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	104% ^a		62-135%
460-00-4	4-Bromofluorobenzene	147% ^b		62-135%
98-08-8	aaa-Trifluorotoluene	84%		65-118%

(a) Result reported from PID.

(b) Outside control limits 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: AS3504-011

Lab Sample ID: F44074-5

Date Sampled: 09/27/06

Matrix: SO - Soil

Date Received: 09/29/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 74.6

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21670.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	157	11	6.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	73%		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

Client Sample ID:	AS3504-012	Date Sampled:	09/27/06
Lab Sample ID:	F44074-6	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	76.0
Method:	SW846 8015 SW846 5030A		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024177.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.26 g	5.0 ml	50.0 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	68.6	16	7.8	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	132% ^a		62-135%
460-00-4	4-Bromofluorobenzene	209% ^b		62-135%
98-08-8	aaa-Trifluorotoluene	96%		65-118%

(a) Result reported from PID.

(b) Outside control limits 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

2.6
2

Client Sample ID:	AS3504-012	Date Sampled:	09/27/06
Lab Sample ID:	F44074-6	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	76.0
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21671.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	126	11	6.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	78%		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

Client Sample ID: AS3504-013

Lab Sample ID: F44074-7

Date Sampled: 09/27/06

Matrix: SO - Soil

Date Received: 09/29/06

Method: SW846 8015 SW846 5030A

Percent Solids: 86.9

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024179.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.21 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.3	3.1	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	79%		62-135%
98-08-8	aaa-Trifluorotoluene	78%		65-118%

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: AS3504-013

Lab Sample ID: F44074-7

Date Sampled: 09/27/06

Matrix: SO - Soil

Date Received: 09/29/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 86.9

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21672.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
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)	ND	9.6	5.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	76%		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

Client Sample ID: AS3504-014

Lab Sample ID: F44074-8

Date Sampled: 09/27/06

Matrix: SO - Soil

Date Received: 09/29/06

Method: SW846 8015 SW846 5030A

Percent Solids: 83.3

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	UV024180.D	1	10/03/06	MM	09/29/06 13:00	n/a	GUV1392
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.49 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.5	3.2	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		62-135%
98-08-8	aaa-Trifluorotoluene	86%		65-118%

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:	AS3504-014	Date Sampled:	09/27/06
Lab Sample ID:	F44074-8	Date Received:	09/29/06
Matrix:	SO - Soil	Percent Solids:	83.3
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21673.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	12.1	9.8	5.9	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	77%		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

2.9

2

Client Sample ID: AS3504-TB-092706
 Lab Sample ID: F44074-9
 Matrix: AQ - Trip Blank Soil
 Method: SW846 8015
 Project: Camp Lejeune-AS 3504

Date Sampled: 09/27/06
 Date Received: 09/29/06
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD071758.D	1	10/03/06	MM	n/a	n/a	GCD2967
Run #2							

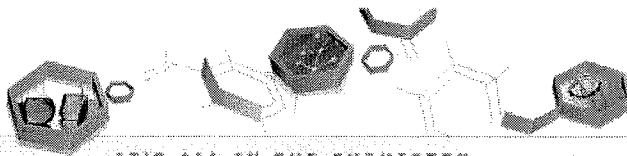
	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	79%		65-127%
98-08-8	aaa-Trifluorotoluene	82%		65-124%

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:
115749-AS3504-092706



Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390										Receiving LAB: Accutest										
Project Name					Project Location					Analysis Desired										
CAMP LEJEUNE - AS 2504					CAMP LEJEUNE, NC					DRO/GRO 3550/5030/8015										
Project Number		Contact			P.O. Number			Reviewed by												
120985		Mark Martin			214079															
Client Rep					Project Manager															
US NAVY - LANTDIV					Ron Kenyon															
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description	Number of Containers													
①	AS3504-007	9/27/06	16:00		X	Pump Island North Wall	2	X												
②	AS3504-008	9/27/06	16:10		X	Pump Island South Wall	2	X												
③	AS3504-009	9/27/06	16:20		X	Pump Island East Wall	2	X												
④	AS3504-010	9/27/06	16:30		X	Pump Island West Wall	2	X												
⑤	AS3504-011	9/27/06	16:40		X	Pump Island Floor North Side	2	X												
⑥	AS3504-012	9/27/06	16:50		X	Pump Island Floor South Side	2	X												
⑦	AS3504-013	9/27/06	17:00		X	Piping 40'	2	X												
⑧	AS3504-014	9/27/06	17:10		X	Piping 60'	2	X												
⑨	AS3504-TB-092706	9/27/06			X	Trip Blank	2	X	GRO only											
10																				

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 9	<i>[Signature]</i>	FedEx 8580 9991 2468	9/29/06	16:00	
2		<i>EX</i>	<i>George Loral</i>	9-29-06	09:00	
3						

484
5-Day TAT
484

3.8°

F44074: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F44074 CLIENT: SHAW PROJECT: CAMP LEJEUNE
 DATE/TIME RECEIVED: 9-29-06 09:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 3.8
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: 8580 9991 2468

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ 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 CONTAINER(S) RECEIVED BROKEN
- ☐ % SOLIDS JAR NOT RECEIVED
- ☐ 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

MISC. INFORMATION

NUMBER OF ENCORES ? 8
 NUMBER OF 5035 FIELD KITS ? 6
 NUMBER OR LAB FILTERED METALS ? 6

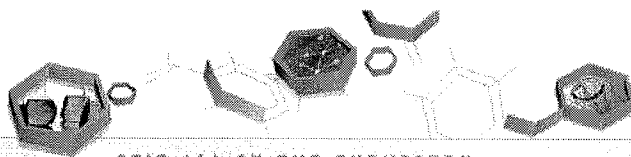
SUMMARY OF COMMENTS: RECEIVED WATER TB WITH SOILS SAMPLES

TECHNICIAN SIGNATURE/DATE JC 9-29-06 TECHNICIAN SIGNATURE/DATE _____

ASBD03/27/06

F44074: Chain of Custody

Page 2 of 2



GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F44074

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD2967-MB	CD071757.D1		10/03/06	MM	n/a	n/a	GCD2967

The QC reported here applies to the following samples:

Method: SW846 8015

F44074-9

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	81% 65-127%
98-08-8	aaa-Trifluorotoluene	82% 65-124%

Method Blank Summary

Page 1 of 1

Job Number: F44074

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV1392-MB	UV024176.D1		10/03/06	MM	n/a	n/a	GUV1392

The QC reported here applies to the following samples:

Method: SW846 8015

F44074-1, F44074-2, F44074-3, F44074-4, F44074-5, F44074-6, F44074-7, F44074-8

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	93% 62-135%
98-08-8	aaa-Trifluorotoluene	91% 65-118%

Blank Spike Summary

Page 1 of 1

Job Number: F44074

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD2967-BS	CD071756.D1		10/03/06	MM	n/a	n/a	GCD2967

The QC reported here applies to the following samples:

Method: SW846 8015

F44074-9

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.428	107	63-126

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	92%	65-127%
98-08-8	aaa-Trifluorotoluene	96%	65-124%

Blank Spike Summary

Page 1 of 1

Job Number: F44074
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV1392-BS	UV024175.D1		10/03/06	MM	n/a	n/a	GUV1392

The QC reported here applies to the following samples:

Method: SW846 8015

F44074-1, F44074-2, F44074-3, F44074-4, F44074-5, F44074-6, F44074-7, F44074-8

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	19.7	99	66-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	102%	62-135%
98-08-8	aaa-Trifluorotoluene	96%	65-118%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F44074
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F44074-9MS	CD071759.D 1		10/03/06	MM	n/a	n/a	GCD2967
F44074-9MSD	CD071760.D 1		10/03/06	MM	n/a	n/a	GCD2967
F44074-9	CD071758.D 1		10/03/06	MM	n/a	n/a	GCD2967

The QC reported here applies to the following samples:

Method: SW846 8015

F44074-9

CAS No.	Compound	F44074-9 mg/l	Spike Q	mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.413	103	0.394	99	5	56-171/31

CAS No.	Surrogate Recoveries	MS	MSD	F44074-9	Limits
460-00-4	4-Bromofluorobenzene	88%	92%	79%	65-127%
98-08-8	aaa-Trifluorotoluene	93%	93%	82%	65-124%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F44074
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

	Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
(a)	F43943-1MS	UV024199.D1		10/04/06	MM	n/a	n/a	GUV1392
(a)	F43943-1MSD	UV024200.D1		10/04/06	MM	n/a	n/a	GUV1392
(a)	F43943-1 ^b	UV024187.D1		10/03/06	MM	n/a	n/a	GUV1392

The QC reported here applies to the following samples:

Method: SW846 8015

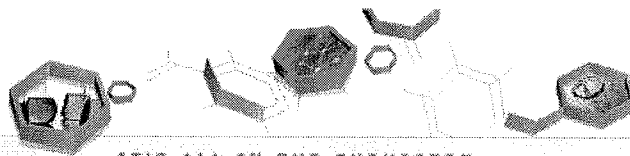
F44074-1, F44074-2, F44074-3, F44074-4, F44074-5, F44074-6, F44074-7, F44074-8

CAS No.	Compound	F43943-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		20.6	20.3	98	18.6	90	9	37-142/17

CAS No.	Surrogate Recoveries	MS	MSD	F43943-1	Limits
460-00-4	4-Bromofluorobenzene	102%	95%	78%	62-135%
98-08-8	aaa-Trifluorotoluene	98%	85%	73%	65-118%

(a) SAMPLE NOT YET APPROVED BY LAB. DO NOT REPORT.

(b) Confirmation run.



IT'S ALL IN THE CHEMISTRY

GC Semi-volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F44074

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18023-MB	ZF21665.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016

The QC reported here applies to the following samples:

Method: SW846 8015 M

F44074-1, F44074-2, F44074-3, F44074-4, F44074-5, F44074-6, F44074-7, F44074-8

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	83% 57-115%

Blank Spike Summary

Page 1 of 1

Job Number: F44074

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18023-BS	ZF21664.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016

The QC reported here applies to the following samples:

Method: SW846 8015 M

F44074-1, F44074-2, F44074-3, F44074-4, F44074-5, F44074-6, F44074-7, F44074-8

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	26.7	80	62-114

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	80%	57-115%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F44074
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18023-MS	ZF21678.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
OP18023-MSD	ZF21679.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016
F43988-5	ZF21677.D	1	10/02/06	VS	09/30/06	OP18023	GZF1016

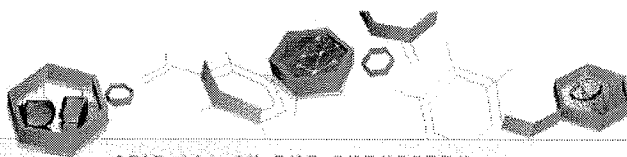
The QC reported here applies to the following samples:

Method: SW846 8015 M

F44074-1, F44074-2, F44074-3, F44074-4, F44074-5, F44074-6, F44074-7, F44074-8

CAS No.	Compound	F43988-5 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	ND	36.8	28.3	77	28.7	78	1	31-136/36

CAS No.	Surrogate Recoveries	MS	MSD	F43988-5	Limits
84-15-1	o-Terphenyl	76%	74%	71%	57-115%



11/13/06

Technical Report for

Shaw E & I, Inc.

Camp Lejeune-AS 3504

120985

Accutest Job Number: F44941

Sampling Date: 11/01/06



Report to:

Shaw E & I, Inc.

natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 33



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
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Sample Summary

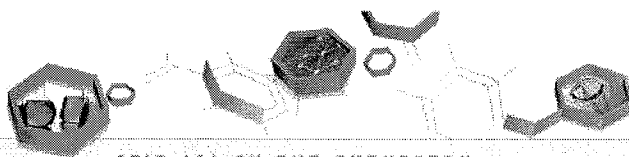
Shaw E & I, Inc.

Job No: F44941

Camp Lejeune-AS 3504
Project No: 120985

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F44941-1	11/01/06	14:00 MM	11/03/06	SO	Soil	AS3504-015
F44941-2	11/01/06	14:10 MM	11/03/06	SO	Soil	AS3504-016
F44941-3	11/01/06	14:20 MM	11/03/06	SO	Soil	AS3504-017
F44941-4	11/01/06	14:30 MM	11/03/06	SO	Soil	AS3504-018
F44941-5	11/01/06	14:40 MM	11/03/06	SO	Soil	AS3504-019
F44941-6	11/01/06	00:00 MM	11/03/06	AQ	Trip Blank Soil	AS3504-TB-110106

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



IT'S ALL IN THE CHEMISTRY

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID: AS3504-015

Lab Sample ID: F44941-1

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 SW846 5035

Percent Solids: 86.2

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	CD072768.D	1	11/07/06	MM	11/03/06 15:15	n/a	GCD3009
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.09 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	5.18	6.5	3.2	mg/kg	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	115%		62-135%
98-08-8	aaa-Trifluorotoluene	81%		65-118%

(a) En Core samples were not preserved within 48 hours.

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: AS3504-015

Lab Sample ID: F44941-1

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 86.2

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LL13454.D	4	11/09/06	ME	11/09/06	OP18459	GLL499
Run #2							

	Initial Weight	Final Volume
Run #1	31.5 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	128	37	22	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	70%		57-115%		

(a) Petroleum hydrocarbon pattern extends beyond C28.

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: AS3504-016

Lab Sample ID: F44941-2

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 SW846 5035

Percent Solids: 81.3

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	CD072769.D	1	11/07/06	MM	11/03/06 15:15	n/a	GCD3009
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.50 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	8.0	4.0	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	84%		62-135%
98-08-8	aaa-Trifluorotoluene	79%		65-118%

(a) En Core samples were not preserved within 48 hours.

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:	AS3504-016	Date Sampled:	11/01/06
Lab Sample ID:	F44941-2	Date Received:	11/03/06
Matrix:	SO - Soil	Percent Solids:	81.3
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL13455.D	1	11/09/06	ME	11/09/06	OP18459	GLL499
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	32.3	10	6.0	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	80%		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

Client Sample ID: AS3504-017

Lab Sample ID: F44941-3

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 SW846 5035

Percent Solids: 83.2

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	CD072784.D	1	11/08/06	MM	11/03/06 15:15	n/a	GCD3010
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.25 g	5.0 ml	20.0 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	225	34	17	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	110% ^b		62-135%
460-00-4	4-Bromofluorobenzene	136% ^c		62-135%
98-08-8	aaa-Trifluorotoluene	87%		65-118%

(a) En Core samples were not preserved within 48 hours.

(b) Result reported from PID.

(c) Outside control limits 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

2.3

2

Client Sample ID: AS3504-017

Lab Sample ID: F44941-3

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 83.2

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	LL13473.D	10	11/10/06	AA	11/09/06	OP18459	GLL500
Run #2							

	Initial Weight	Final Volume
Run #1	31.1 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	348	97	58	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	83%		57-115%

(a) Petroleum hydrocarbon pattern extends beyond C28.

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

24
2

Client Sample ID: AS3504-018

Lab Sample ID: F44941-4

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 SW846 5035

Percent Solids: 86.0

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	CD072771.D	1	11/07/06	MM	11/03/06 15:15	n/a	GCD3009
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.97 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.7	3.3	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	86%		62-135%
98-08-8	aaa-Trifluorotoluene	78%		65-118%

(a) En Core samples were not preserved within 48 hours.

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

24
2

Client Sample ID:	AS3504-018	Date Sampled:	11/01/06
Lab Sample ID:	F44941-4	Date Received:	11/03/06
Matrix:	SO - Soil	Percent Solids:	86.0
Method:	SW846 8015 M SW846 3550B		
Project:	Camp Lejeune-AS 3504		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL13457.D	1	11/09/06	ME	11/09/06	OP18459	GLL499
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	9.4	5.6	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	67%		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

Client Sample ID: AS3504-019

Lab Sample ID: F44941-5

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 SW846 5035

Percent Solids: 78.3

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	CD072772.D	1	11/07/06	MM	11/03/06 15:15	n/a	GCD3009
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.34 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	11.1	7.4	3.7	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	119%		62-135%
98-08-8	aaa-Trifluorotoluene	83%		65-118%

(a) En Core samples were not preserved within 48 hours.

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: AS3504-019

Lab Sample ID: F44941-5

Date Sampled: 11/01/06

Matrix: SO - Soil

Date Received: 11/03/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 78.3

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	LL13474.D	10	11/10/06	AA	11/09/06	OP18459	GLL500
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	417	110	64	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	81%		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

Client Sample ID: AS3504-TB-110106
 Lab Sample ID: F44941-6
 Matrix: AQ - Trip Blank Soil
 Method: SW846 8015
 Project: Camp Lejeune-AS 3504

Date Sampled: 11/01/06
 Date Received: 11/03/06
 Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD072805.D	1	11/09/06	MM	n/a	n/a	GCD3012
Run #2							

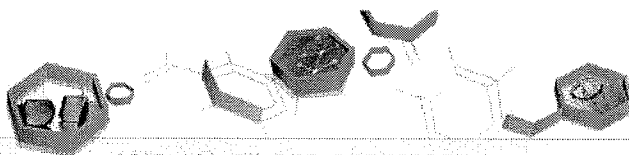
	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	89%		65-127%
98-08-8	aaa-Trifluorotoluene	87%		65-124%

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



IT'S ALL IN THE CHEMISTRY



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

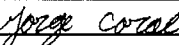
COC Number:
115749-AS3504-110106



Shaw Environmental & Infrastructure, Inc.

CHAIN-OF-CUSTODY RECORD

Shaw E & I - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390											Receiving LAB: Accutest										
Project Name				Project Location				Analysis Desired													
CAMP LEJEUNE -AS 2504				CAMP LEJEUNE, NC				DRO/GRO 3550/5030/8015													
Project Number		Contact		P.O. Number		Reviewed by															
120985		Mark Martin		214079																	
Client Rep				Project Manager																	
US NAVY - LANTDIV				Ron Kenyon																	
Item No.	Sample Number	Date	Time	Camp	Grab	Sample Description	Number of Containers														
1	AS3504-015	11/1/06	1400		X	Pipe Run North Side	2	X													
2	AS3504-016	11/1/06	1410		X	Pipe Run South Side	2	X													
3	AS3504-017	11/1/06	1420		X	Pipe Run East Side	2	X													
4	AS3504-018	11/1/06	1430		X	Pipe Run West Side	2	X													
5	AS3504-019	11/1/06	1440		X	Pipe Rund Floor	2	X													
6	AS3504-TB-110106	11/1/06	—		X	Trip Blank	2	X	GRO only												
7																					
8																					
9																					
10																					

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1 -- 6		FedEx 8571 0350 0220	11/1/06	16:00	
2				11-3-06	9:00	
3						

7 Day TAT

F44941: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F44941 CLIENT: Shaw PROJECT: Camp Lejeune-AS 2504
 DATE/TIME RECEIVED: 11-3-06 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 3.2
 METHOD OF DELIVERY: FEDEX UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: 8581 03500210

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- ☐ SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- ☐ TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

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

MISC. INFORMATION

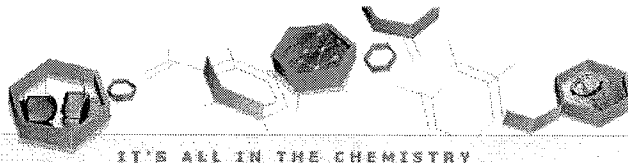
NUMBER OF ENCORES ? 5
 NUMBER OF 5035 FIELD KITS ? 0
 NUMBER OR LAB FILTERED METALS ? 0

SUMMARY OF COMMENTS: Received water trip blank with soil job

SAMPLE INFORMATION

- ☐ SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
 - ☐ CORRECT NUMBER OF CONTAINERS USED
 - ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
 - ☐ INSUFFICIENT VOLUME FOR ANALYSIS
 - ☐ TIMES ON COC DOES NOT MATCH LABEL(S)
 - ☐ ID'S ON COC DOES NOT MATCH LABEL(S)
 - ☐ 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 CONTAINER(S) RECEIVED BROKEN
 - ☐ % SOLIDS JAR NOT RECEIVED
 - ☐ 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
 - ☐ RESIDUAL CHLORINE PRESENT
- (APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

TECHNICIAN SIGNATURE/DATE Jmc 11-3-06 TECHNICIAN SIGNATURE/DATE _____ ASBD 10/03/06



GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3009-MB	CD072755.D1		11/07/06	MM	n/a	n/a	GCD3009

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-1, F44941-2, F44941-4, F44941-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	79% 62-135%
98-08-8	aaa-Trifluorotoluene	79% 65-118%

Method Blank Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3010-MB	CD072783.D1		11/08/06	MM	n/a	n/a	GCD3010

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-3

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	78% 62-135%
98-08-8	aaa-Trifluorotoluene	80% 65-118%

Method Blank Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3012-MB	CD072801.D1		11/09/06	MM	n/a	n/a	GCD3012

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	88% 65-127%
98-08-8	aaa-Trifluorotoluene	84% 65-124%

Blank Spike Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3009-BS	CD072754.D1		11/07/06	MM	n/a	n/a	GCD3009

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-1, F44941-2, F44941-4, F44941-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	18.1	91	66-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	95%	62-135%
98-08-8	aaa-Trifluorotoluene	89%	65-118%

Blank Spike Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3010-BS	CD072782.D1		11/08/06	MM	n/a	n/a	GCD3010

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-3

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	18.5	93	66-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	62-135%
98-08-8	aaa-Trifluorotoluene	93%	65-118%

Blank Spike Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD3012-BS	CD072800.D1		11/09/06	MM	n/a	n/a	GCD3012

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-6

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.441	110	66-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	97%	62-135%
98-08-8	aaa-Trifluorotoluene	97%	65-118%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F44939-1MS	CD072776.D1		11/07/06	MM	n/a	n/a	GCD3009
F44939-1MSD	CD072777.D1		11/07/06	MM	n/a	n/a	GCD3009
F44939-1	CD072756.D1		11/07/06	MM	n/a	n/a	GCD3009

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-1, F44941-2, F44941-4, F44941-5

CAS No.	Compound	F44939-1 mg/kg	Spike Q	mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		22.1	20.0	90	20.0	90	0	37-142/17

CAS No.	Surrogate Recoveries	MS	MSD	F44939-1	Limits
460-00-4	4-Bromofluorobenzene	102%	96%	87%	62-135%
98-08-8	aaa-Trifluorotoluene	88%	94%	78%	65-118%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F44941
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F44941-3MS	CD072785.D 1		11/08/06	MM	n/a	n/a	GCD3010
F44941-3MSD	CD072786.D 1		11/08/06	MM	n/a	n/a	GCD3010
F44941-3 ^a	CD072784.D 1		11/08/06	MM	n/a	n/a	GCD3010

The QC reported here applies to the following samples:

Method: SW846 8015

F44941-3

CAS No.	Compound	F44941-3 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	225		135	299	55	297	53	1	37-142/17

CAS No.	Surrogate Recoveries	MS	MSD	F44941-3	Limits
460-00-4	4-Bromofluorobenzene	111% ^b	111% ^b	110% ^b	62-135%
460-00-4	4-Bromofluorobenzene	141%* ^c	137%* ^c	136%* ^c	62-135%
98-08-8	aaa-Trifluorotoluene	98%	93%	87%	65-118%

(a) En Core samples were not preserved within 48 hours.

(b) Result reported from PID.

(c) Outside control limits due to matrix interference.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F44941
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F45045-2MS	CD072813.D 1		11/09/06	MM	n/a	n/a	GCD3012
F45045-2MSD	CD072814.D 1		11/09/06	MM	n/a	n/a	GCD3012
F45045-2	CD072807.D 1		11/09/06	MM	n/a	n/a	GCD3012

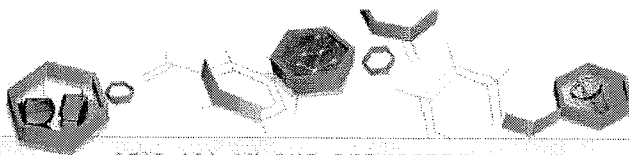
The QC reported here applies to the following samples:

Method: SW846 8015

F44941-6

CAS No.	Compound	F45045-2 mg/l	Spike Q	mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		0.4	0.422	106	0.423	106	0	56-171/31

CAS No.	Surrogate Recoveries	MS	MSD	F45045-2	Limits
460-00-4	4-Bromofluorobenzene	98%	102%	92%	65-127%
98-08-8	aaa-Trifluorotoluene	95%	95%	82%	65-124%



GC Semi-volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18459-MB	LL13453.D	1	11/09/06	ME	11/09/06	OP18459	GLL499

The QC reported here applies to the following samples:

Method: SW846 8015 M

F44941-1, F44941-2, F44941-3, F44941-4, F44941-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	77% 57-115%

Method Blank Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18459-MB	LL13472.D	1	11/10/06	AA	11/09/06	OP18459	GLL500

The QC reported here applies to the following samples:

Method: SW846 8015 M

F44941-1, F44941-2, F44941-3, F44941-4, F44941-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	76% 57-115%

Blank Spike Summary

Page 1 of 1

Job Number: F44941

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18459-BS	LL13452.D	1	11/09/06	ME	11/09/06	OP18459	GLL499

The QC reported here applies to the following samples:

Method: SW846 8015 M

F44941-1, F44941-2, F44941-3, F44941-4, F44941-5

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	27.0	81	62-114

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	79%	57-115%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F44941
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP18459-MS	LL13479.D	50	11/10/06	AA	11/09/06	OP18459	GLL500
OP18459-MSD	LL13480.D	50	11/10/06	AA	11/09/06	OP18459	GLL500
F45004-8 ^a	LL13478.D	50	11/10/06	AA	11/09/06	OP18459	GLL500

The QC reported here applies to the following samples:

Method: SW846 8015 M

F44941-1, F44941-2, F44941-3, F44941-4, F44941-5

CAS No.	Compound	F45004-8 mg/kg	Spike Q	MS mg/kg	MS %	MSD mg/kg	MSD %	Limits RPD	Rec/RPD
	TPH (C10-C28)	3250	40.1	3490	598* ^b	2830	-1082* ^b	21	31-136/36

CAS No.	Surrogate Recoveries	MS	MSD	F45004-8	Limits
84-15-1	o-Terphenyl	0%* ^c	0%* ^c	0%* ^c	57-115%

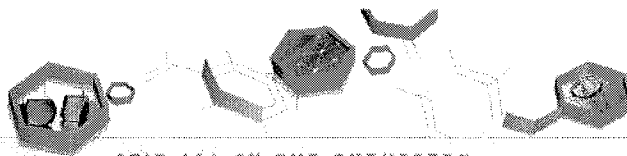
(a) Petroleum hydrocarbon pattern begins before C10.

(b) Outside control limits due to high level in sample relative to spike amount.

(c) Outside control limits due to dilution.

APPENDIX E

Soil Disposal Sample Laboratory Analytical Reports



IT'S ALL IN THE CHEMISTRY

09/21/06



Technical Report for

Shaw E & I, Inc.

Camp Lejeune-AS 3504

115749

Accutest Job Number: F43692

Sampling Date: 09/14/06

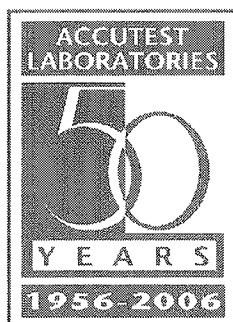
Report to:

Shaw E & I, Inc.

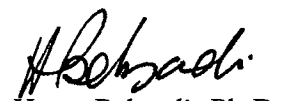
natasha.sullivan@shawgrp.com

ATTN: Natasha Sullivan

Total number of pages in report: 27



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.

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Sample Summary

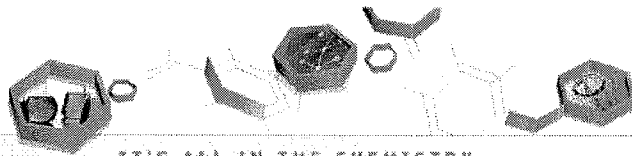
Shaw E & I, Inc.

Job No: F43692

Camp Lejeune-AS 3504
Project No: 115749

Sample Number	Collected Date	Time By	Received	Matrix Code Type	Client Sample ID
F43692-1	09/14/06	13:00 MM	09/15/06	SO Soil	AS3504-002

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



IT'S ALL IN THE CHEMISTRY

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

2.1
2

Client Sample ID: AS3504-002

Lab Sample ID: F43692-1

Date Sampled: 09/14/06

Matrix: SO - Soil

Date Received: 09/15/06

Method: SW846 8015 SW846 5030A

Percent Solids: 88.5

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	UV023926.D	1	09/19/06	MM	09/15/06 15:53	n/a	GUV1379
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	4.51 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	6.9	3.5	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	82%		62-135%
98-08-8	aaa-Trifluorotoluene	80%		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: AS3504-002

Lab Sample ID: F43692-1

Date Sampled: 09/14/06

Matrix: SO - Soil

Date Received: 09/15/06

Method: SW846 8015 M SW846 3550B

Percent Solids: 88.5

Project: Camp Lejeune-AS 3504

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF21392.D	1	09/18/06	ME	09/18/06	OP17892	GZF1006
Run #2							

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

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) ^a	8.83	9.2	5.5	mg/kg	J
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	71%		57-115%		

(a) Petroleum hydrocarbon pattern extends beyond C28.

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: AS3504-002

Lab Sample ID: F43692-1

Matrix: SO - Soil

Project: Camp Lejeune-AS 3504

Date Sampled: 09/14/06

Date Received: 09/15/06

Percent Solids: 88.5

Metals Analysis, TCLP Leachate SW846 1311

Analyte	Result	HW#	MCL	RL	MDL	Units	DF	Prep	Analyzed By	Method
Arsenic	0.0028 U	D004	5.0	0.010	0.0028	mg/l	1	09/19/06	09/19/06 RS	SW846 6010B ¹
Barium	0.20 U	D005	100	1.0	0.20	mg/l	1	09/19/06	09/19/06 RS	SW846 6010B ¹
Cadmium	0.013	D006	1.0	0.0050	0.00030	mg/l	1	09/19/06	09/19/06 RS	SW846 6010B ¹
Chromium	0.0013 B	D007	5.0	0.010	0.00060	mg/l	1	09/19/06	09/19/06 RS	SW846 6010B ¹
Lead	0.0044 B	D008	5.0	0.050	0.0017	mg/l	1	09/19/06	09/20/06 RS	SW846 6010B ³
Mercury	0.0010 U	D009	0.20	0.010	0.0010	mg/l	1	09/20/06	09/20/06 MS	SW846 7470A ²
Selenium	0.020 U	D010	1.0	0.050	0.020	mg/l	1	09/19/06	09/19/06 RS	SW846 6010B ¹
Silver	0.00090 U	D011	5.0	0.010	0.00090	mg/l	1	09/19/06	09/19/06 RS	SW846 6010B ¹

(1) Instrument QC Batch: MA5239

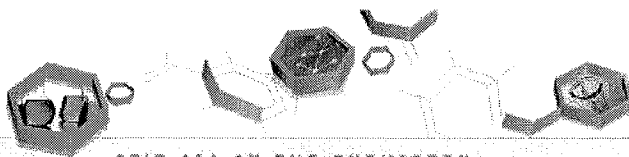
(2) Instrument QC Batch: MA5241

(3) Instrument QC Batch: MA5242

(4) Prep QC Batch: MP10337

(5) Prep QC Batch: MP10339

RL = Reporting Limit MDL = Method Detection Limit U = Indicates a result < MDL
MCL = Maximum Contamination Level (40 CFR 261 6/96) B = Indicates a result > = MDL but < RL



Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN-OF-CUSTODY RECORD

COC Number:
115749-AS3504-091408

F43692
Shaw Environmental & Infrastructure, Inc.

3.1
3

Shaw E & I - Piney Green Rd. Lot 203 Bld 626 - 910-451-2390										Receiving LAB: Accutest											
Project Name CAMP LEJEUNE -AS 3504					Project Location CAMP LEJEUNE, NC					Analysis Desired											
Project Number 115749		Contact Mark Martin			P.O. Number			Reviewed by			DRO/GRO 3550/5030/8015 TCLP Metals										
Client Rep US NAVY - LANTDIV					Project Manager Ron Kenyon																
Item No.	Sample Number	Date	Time	Comp	Grab	Sample Description			Number of Containers												
1	AS3504-002	9/14/06	13:00		X	Soil Stockpile			1			X	X								
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					

Transfer Number	Item Number	Transfers Relinquished By	Transfers Accepted By	Date	Time	Remarks
1	1	<i>[Signature]</i>	FedEx	9/14/06	16:00	5 Day TAT FedEx 8530 7647 2147, 8530 7647 2158, 8530 7647 2169
2		<i>[Signature]</i>	<i>[Signature]</i>	9/14/06	9:00	
3						

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F43692: Chain of Custody

Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F43692 CLIENT: Shaw PROJECT: Carpetcare
 DATE/TIME RECEIVED: 9/15/06 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2, 2
 METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER
 AIRBILL NUMBERS: _____

COOLER INFORMATION

- ☐ CUSTODY SEAL NOT PRESENT OR NOT INTACT
- ☐ CHAIN OF CUSTODY NOT RECEIVED (COC)
- ☐ 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

MISC. INFORMATION

NUMBER OF ENCORES ? 2
 NUMBER OF 5035 FIELD KITS ? 2
 NUMBER OF LAB FILTERED METALS ? 2

SUMMARY OF COMMENTS: _____

SAMPLE INFORMATION

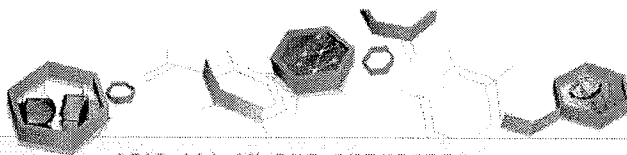
- ☐ SAMPLE LABELS PRESENT ON ALL BOTTLES
- ☐ CORRECT NUMBER OF CONTAINERS USED
- ☐ SAMPLE RECEIVED IMPROPERLY PRESERVED
- ☐ INSUFFICIENT VOLUME FOR ANALYSIS
- ☐ TIMES ON COC DON'T MATCH LABEL
- ☐ ID'S ON COC DON'T MATCH LABEL
- ☐ VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- ☐ BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- ☐ NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- ☐ UNCLEAR FILTERING INSTRUCTIONS
- ☐ UNCLEAR COMPOSITING INSTRUCTIONS
- ☐ SAMPLE CONTAINER(S) RECEIVED BROKEN
- ☐ % SOLIDS JAR NOT RECEIVED
- ☐ 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

TECHNICIAN SIGNATURE/DATE [Signature] 9/15/06 TECHNICIAN SIGNATURE/DATE _____

ASBD03/27/06

F43692: Chain of Custody

Page 2 of 2



GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F43692

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV1379-MB	UV023921.D1		09/19/06	MM	n/a	n/a	GUV1379

The QC reported here applies to the following samples:

Method: SW846 8015

F43692-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	2.5	mg/kg	

CAS No.	Surrogate Recoveries	Limits
460-00-4	4-Bromofluorobenzene	92%
98-08-8	aaa-Trifluorotoluene	93%

Blank Spike Summary

Page 1 of 1

Job Number: F43692

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GUV1379-BS	UV023920.D1		09/19/06	MM	n/a	n/a	GUV1379

The QC reported here applies to the following samples:

Method: SW846 8015

F43692-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH-GRO (C6-C10)	20	18.8	94	66-122

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	107%	62-135%
98-08-8	aaa-Trifluorotoluene	103%	65-118%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F43692
Account: ITVAVAB Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F43692-1MS	UV023925.D1		09/19/06	MM	n/a	n/a	GUV1379
F43692-1MSD	UV023924.D1		09/19/06	MM	n/a	n/a	GUV1379
F43692-1 ^a	UV023926.D1		09/19/06	MM	n/a	n/a	GUV1379

The QC reported here applies to the following samples:

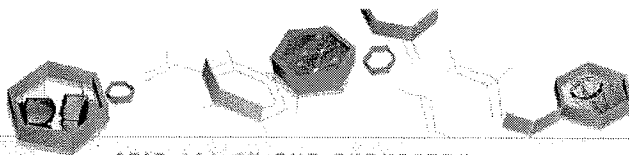
Method: SW846 8015

F43692-1

CAS No.	Compound	F43692-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		27.7	27.1	98	22.8	82	17	37-142/17

CAS No.	Surrogate Recoveries	MS	MSD	F43692-1	Limits
460-00-4	4-Bromofluorobenzene	106%	101%	82%	62-135%
98-08-8	aaa-Trifluorotoluene	106%	104%	80%	65-118%

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



IT'S ALL IN THE CHEMISTRY

GC Semi-volatiles



QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Page 1 of 1

Job Number: F43692

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17892-MB	ZF21391.D	1	09/18/06	ME	09/18/06	OP17892	GZF1006

The QC reported here applies to the following samples:

Method: SW846 8015 M

F43692-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	8.3	5.0	mg/kg	

CAS No.	Surrogate Recoveries	Limits
84-15-1	o-Terphenyl	84% 57-115%

Blank Spike Summary

Page 1 of 1

Job Number: F43692

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17892-BS	ZF21390.D	1	09/18/06	ME	09/18/06	OP17892	GZF1006

The QC reported here applies to the following samples:

Method: SW846 8015 M

F43692-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	26.3	79	62-114

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	85%	57-115%

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 1

Job Number: F43692

Account: ITVAVAB Shaw E & I, Inc.

Project: Camp Lejeune-AS 3504

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP17892-MS	ZF21395.D	1	09/18/06	ME	09/18/06	OP17892	GZF1006
OP17892-MSD	ZF21396.D	1	09/18/06	ME	09/18/06	OP17892	GZF1006
F43692-1	ZF21392.D	1	09/18/06	ME	09/18/06	OP17892	GZF1006

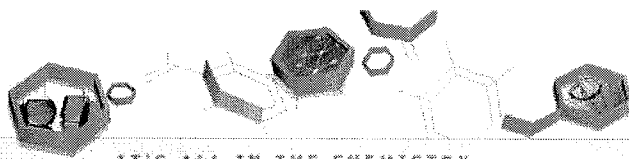
The QC reported here applies to the following samples:

Method: SW846 8015 M

F43692-1

CAS No.	Compound	F43692-1 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	8.83	J	36.1	37.3	79	35.7	72	4	31-136/36

CAS No.	Surrogate Recoveries	MS	MSD	F43692-1	Limits
84-15-1	o-Terphenyl	83%	78%	71%	57-115%



IT'S ALL IN THE CHEMISTRY

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F43692
Account: ITVAVAB - Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

QC Batch ID: MP10337
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: mg/l

Prep Date: 09/19/06

Metal	RL	IDL	MB raw	final
Aluminum	0.20	.018		
Antimony	0.0060	.0034		
Arsenic	0.010	.0028	0.0016	<0.010
Barium	1.0	.0004	0.0	<1.0
Beryllium	0.0050	.0004		
Cadmium	0.0050	.0002	-0.000030	<0.0050
Calcium	5.0	.042		
Chromium	0.010	.0006	0.000080	<0.010
Cobalt	0.050	.0006		
Copper	0.025	.0009		
Iron	0.30	.012		
Lead	0.050	.0017	0.0017	<0.050
Magnesium	5.0	.0043		
Manganese	0.015	.0006		
Molybdenum	0.050	.0013		
Nickel	0.040	.0008		
Potassium	10	.01		
Selenium	0.050	.002	0.0013	<0.050
Silver	0.010	.0009	-0.00010	<0.010
Sodium	10	.5		
Thallium	0.010	.0023		
Tin	0.050	.0031		
Vanadium	0.050	.0006		
Zinc	0.10	.0013		

Associated samples MP10337; F43692-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.1.1
6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F43692
Account: ITVAVAB - Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

QC Batch ID: MP10337
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: mg/l

Prep Date: 09/19/06 09/19/06

Metal	F43428-1R Original	DUP	RPD	QC Limits	F43428-1R Original MS	Spikelot MPFLICPl	% Rec	QC Limits
Aluminum								
Antimony								
Arsenic	0.0	0.0031	200.0(a)	0-20	0.0	2.1	2.0	105.0 80-120
Barium	0.19	0.19	0.0	0-20	0.19	2.2	2.0	100.5 80-120
Beryllium								
Cadmium	1.0	1.0	0.0	0-20	1.0	1.1	0.050	200.0(b) 80-120
Calcium								
Chromium	0.041	0.041	0.0	0-20	0.041	0.24	0.20	99.5 80-120
Cobalt								
Copper								
Iron								
Lead	0.048	0.044	2.3	0-20	0.048	0.54	0.50	98.4 80-120
Magnesium								
Manganese								
Molybdenum								
Nickel								
Potassium								
Selenium	0.0090	0.0086	4.5	0-20	0.0090	2.2	2.0	109.6 80-120
Silver	0.0	0.0	NC	0-20	0.0	0.057	0.050	114.0 80-120
Sodium								
Thallium								
Tin								
Vanadium								
Zinc								

Associated samples MP10337: F43692-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

(a) RPD acceptable due to low duplicate and sample concentrations.

(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

6.1.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F43692
Account: ITVAVAB - Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

QC Batch ID: MP10337
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: mg/l

Prep Date: 09/19/06

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	2.1	2.0	105.0	80-120
Barium	2.0	2.0	100.0	80-120
Beryllium				
Cadmium	0.052	0.050	104.0	80-120
Calcium				
Chromium	0.21	0.20	105.0	80-120
Cobalt				
Copper				
Iron				
Lead	0.53	0.50	106.0	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	2.0	2.0	100.0	80-120
Silver	0.053	0.050	106.0	80-120
Sodium				
Thallium				
Tin				
Vanadium				
Zinc				

Associated samples MP10337: F43692-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.1.3
6

SERIAL DILUTION RESULTS SUMMARY

Login Number: F43692
Account: ITVAVAB - Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

QC Batch ID: MP10337
Matrix Type: LEACHATE

Methods: SW846 6010B
Units: ug/l

Prep Date: 09/19/06

F43428-1R		QC		
Metal	Original	SDL 1:5	RPD	Limits
Aluminum				
Antimony				
Arsenic	0.00	0.00	NC	0-10
Barium	189	188	0.8	0-10
Beryllium				
Cadmium	1030	1120	8.7	0-10
Calcium				
Chromium	41.0	43.7	6.7	0-10
Cobalt				
Copper				
Iron				
Lead	47.9	47.7	9.7	0-10
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium	8.99	10.9	20.9 (a)	0-10
Silver	0.00	0.00	NC	0-10
Sodium				
Thallium				
Tin				
Vanadium				
Zinc				

Associated samples MP10337: F43692-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

6.1.4
6

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F43692
Account: ITVAVAB - Shaw E & I, Inc.
Project: Camp Lejeune-AS 3504

QC Batch ID: MP10339
Matrix Type: LEACHATE

Methods: SW846 7470A
Units: mg/l

Prep Date: 09/20/06 09/20/06

Metal	RL	IDL	MB raw	final	MB raw	final
-------	----	-----	-----------	-------	-----------	-------

Mercury 0.0010 .00008 -0.000037<0.0010 0.00035 <0.010

Associated samples MP10339: F43692-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

6.2.1

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F43692
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-AS 3504

QC Batch ID: MP10339
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 09/20/06 09/20/06

Metal	F43692-1		RPD	QC Limits	F43692-1		Spikelot HGFLWS1	% Rec	QC Limits
	Original	DUP			Original	MS			
Mercury	0.0	0.0	NC	0-20	0.0	0.030	0.030	100.0	80-120

Associated samples MP10339: F43692-1

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(anr) Analyte not requested

6.2.2

6

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F43692
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-AS 3504

QC Batch ID: MP10339
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 09/20/06

Metal	F43692-1		Spikelot		MSD	QC
	Original	MSD	HGFLWS1	% Rec	RPD	Limit
Mercury	0.0	0.029	0.030	96.7	3.4	20

Associated samples MP10339: F43692-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

6.2.2

6

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F43692
 Account: ITVAVAB - Shaw E & I, Inc.
 Project: Camp Lejeune-AS 3504

QC Batch ID: MP10339
 Matrix Type: LEACHATE

Methods: SW846 7470A
 Units: mg/l

Prep Date: 09/20/06 09/20/06

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	0.0030	0.0030	100.0	80-120	0.029	0.030	96.7	80-120

Associated samples MP10339: F43692-1

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

6.2.3

6