

**VOLUNTARY CORRECTIVE ACTION REPORT
RCRA FACILITY INVESTIGATION
NAVAL SUPPORT ACTIVITY MID-SOUTH**



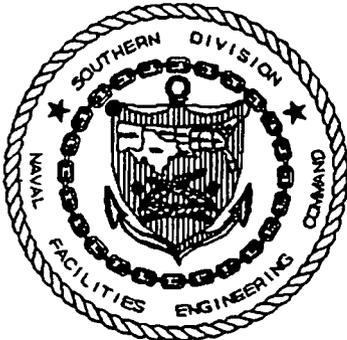
**SWMU 22
PETROLEUM-CONTAMINATED SOIL REMOVAL**

Revision: 0

CTO-0146

Prepared for:

**Department of the Navy
Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina**



Prepared by:

**EnSafe Inc.
5724 Summer Trees Drive
Memphis, Tennessee 38134
(901) 372-7962**

March 19, 2001



ENSAFE INC.

ENVIRONMENTAL AND MANAGEMENT CONSULTANTS

5724 Summer Trees Drive • Memphis, Tennessee 38134 • Telephone 901-372-7962 • Facsimile 901-372-2454 • www.ensafe.com

March 19, 2001

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2155 Eagle Drive
P.O. Box 190010
North Charleston, SC 29419-9010

Subject: CTO-0146; NSA Mid-South, Millington, Tennessee
Document Transmittal — Voluntary Corrective Action Report — SWMU 22
Petroleum-Contaminated Soil Removal, Revision: 0

Reference: Contract N62467-89-D-0318 (CLEAN II)

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Please find enclosed one copy of the Voluntary Corrective Action Report — *SWMU 22 Petroleum-Contaminated Soil Removal*; Revision 0. As requested, this report has been distributed as shown on the attached NSA Mid-South Distribution List.

If you have questions or comments of a technical nature, please contact me at 901-372-7962. Questions or comments of a contractual nature should be directed to Debra Blagg at 901-386-9344.

Sincerely,

EnSafe Inc.

by: Philip E. Atkinson
Environmental Scientist

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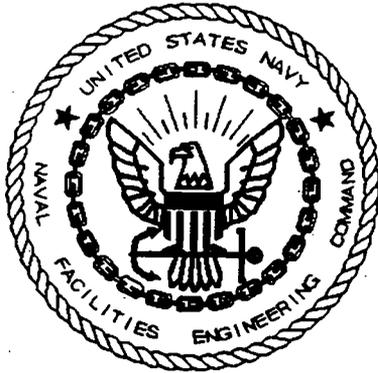
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**VOLUNTARY CORRECTIVE ACTION REPORT
RCRA FACILITY INVESTIGATION
NAVAL SUPPORT ACTIVITY MID-SOUTH**



SWMU 22

PETROLEUM-CONTAMINATED SOIL REMOVAL

Revision: 0

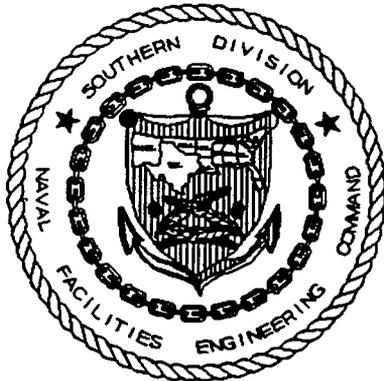
CTO-0146

Prepared for:

**Department of the Navy
Southern Division
Naval Facilities Engineering Command
North Charleston, South Carolina**

Prepared by:

**EnSafe Inc.
5724 Summer Trees Drive
Memphis, Tennessee 38134
(901) 372-7962**



The Contractor, EnSafe Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0318 are complete, accurate, and comply with all requirements of the contract.

Date: March 19, 2001

Signature: _____

Name: John Stedman, Jr.

Title: Task Order Manager

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ACRONYMS AND ABBREVIATIONS

bls	below land surface
Corps	U.S. Army Corps of Engineers, Memphis District
cm/sec	centimeters per second
CSI	Confirmatory Sampling Investigation
E/A&H	EnSafe/Allen & Hoshall
ETC	Environmental Testing & Consulting, Inc.
MCL	maximum contaminant levels
mg/kg	milligrams per kilogram
NAVSUPPACT	Naval Support Activity
NSA	Naval Support Activity
OSWER	Office of Solid Waste and Emergency Response
PWD	Public Works Department
RBC	risk-based concentration
RC	reference concentration
RFI	RCRA Facility Investigation
SSL	soil screening level
SWMU	solid waste management unit
TCLP	Toxicity Characteristic Leaching Procedure
TDEC	Tennessee Department of Environment and Conservation
TPH	total petroleum hydrocarbons
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VCA	Voluntary Corrective Action
VOCs	volatile organic compounds
yd ³	cubic yards

1.0 INTRODUCTION

As part of the U.S. Navy's Installation Restoration Program, this Voluntary Corrective Action (VCA) report has been prepared by EnSafe for the excavation and removal of soil primarily contaminated with petroleum at SWMU 22, the site where an underground storage tank (S-1245) was formerly located on the Southside at Naval Support Activity (NAVSUPPACT or NSA) Mid-South, Millington, Tennessee

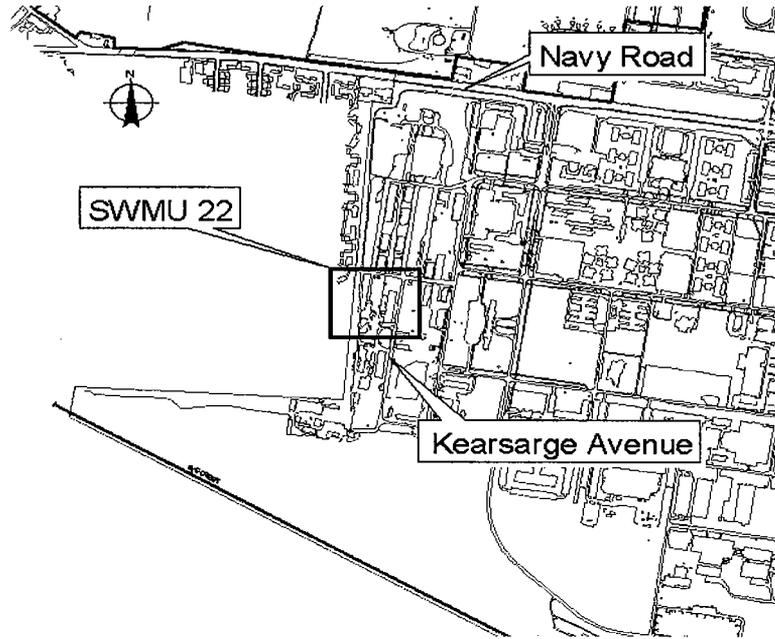


Figure 1.1 — NSA Mid-South Site Vicinity Map

(Figure 1.1). Excavation of another former UST (S-75W) will be part of the SWMU 22 removal which will be completed following the demolition of Building S-75, the former boiler plant, as required in the VCA Work Plan for SWMU 22. Excavation of S-75W began on June 26, 2000; however, petroleum-impacted soil extended beneath Building S-75 and its steam-line footings. The Building S-75 demolition contract is currently under negotiation; therefore, the date of building demolition is unknown. A VCA report for UST S-75W will be submitted to the BRAC cleanup team when excavation is complete. Both former USTs are near the S-75 boiler plant west of Kearsarge Avenue (Figure 1.2). The excavation and removal were conducted in accordance with all applicable federal, state, and local laws and regulations.

Primary References for this Report

- *Voluntary Corrective Action Work Plan — SWMU 22* (EnSafe, June 2000)
- *Comprehensive RCRA Facility Investigation Work Plan* (E/A&H, 1994)

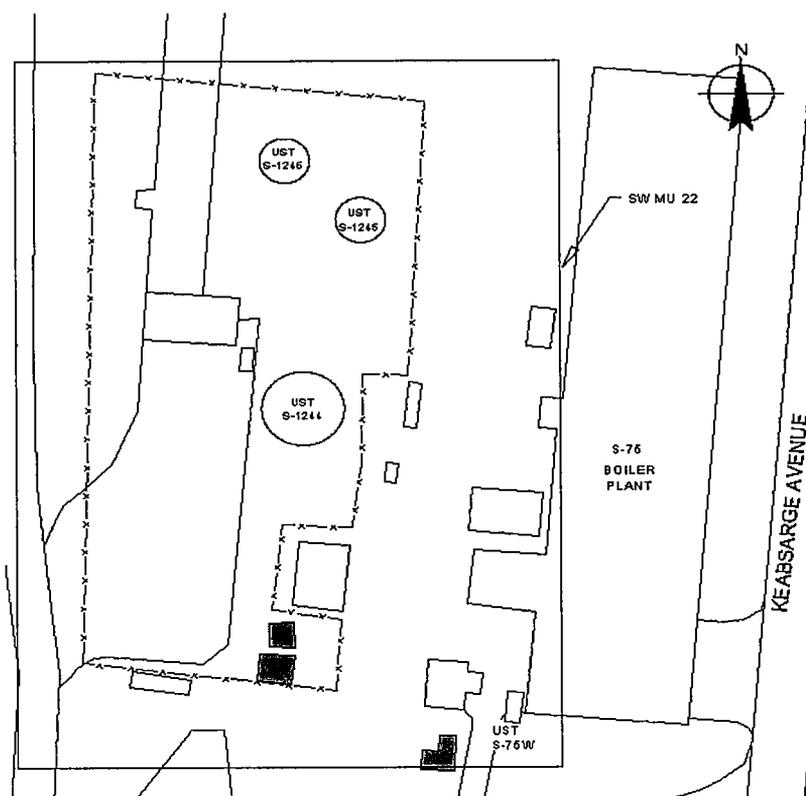


Figure 1.2 — SWMU 22 Site Location Map

The overall goal of the VCA was to remove and dispose of any soil containing petroleum contamination from this site. Specifically targeted areas are where the Tennessee Department of Environment and Conservation (TDEC) site cleanup level of 500 milligrams per kilogram (mg/kg) total petroleum hydrocarbons (TPH) was exceeded in soil samples and areas where metals in soil

exceeded acceptable risk levels. As requested by the NSA Mid-South Public Works Department, Environmental Division, soil in which petroleum contaminants exceed 100 mg/kg was removed from 0 to 5 feet below land surface (bls). Soil exceeding 500 mg/kg was removed from depths greater than 5 feet bls.

2.0 APPLICABLE CLEANUP LEVELS

2.1 Total Petroleum Hydrocarbons

Because no risk-based concentration (RBC) or soil screening level (SSL) values have been established for TPH, TDEC soil-cleanup values¹ were used for comparison. TDEC has established three cleanup concentrations for TPH depending on soil permeability and aquifer classification: 100 mg/kg, 500 mg/kg, and 1,000 mg/kg.

¹ From the memorandum *Policy Statement for Petroleum Contaminated Sites* (TDEC, 1997).

Initially, the TDEC cleanup level of 500 mg/kg for total TPH in nondrinking water aquifers was compared with total TPH concentrations in surface and subsurface soil at NSA Mid-South. The TDEC action level is based on soil permeabilities of 10^{-4} to 10^{-6} centimeters per second (cm/sec) (TDEC, 1997). This cleanup level was chosen because 1.84E-6 cm/sec, a value representing the average soil permeability from 20 samples across the base, was used as the default for sites lacking permeability data (EnSafe, June 1999). However, as requested by the PWD, Environmental Division, a more stringent cleanup level of 100 mg/kg TPH was used for the uppermost 5 feet of soil, and a 500 mg/kg cleanup level was used for TPH contamination below 5 feet.

2.2 Metals

Lead and four other metals (Table 2.1) were compared with their background reference concentration (RC) mg/kg for NSA Mid-South² because they are the metals associated with petroleum products such as gasoline, diesel, used oil, and heating and fuel oils. Results from the VCA confirmatory samples collected after the soil excavation was complete were compared with the RCs. No confirmatory VCA soil sample exceeded the RC at any removal location; therefore, confirmatory sampling results were not compared to their residential or industrial RBCs or the soil lead action level of 400 mg/kg established by the USEPA's Office of Solid Waste and Emergency Response (OSWER) in Directive 9355.4-12.

Table 2.1
Reference Concentration Values
for
Inorganic Constituents of Concern
(mg/kg)

	RC
Arsenic	14.7
Cadmium	1.54
Chromium	23.9
Copper	24.2
Lead	26.0

² From the technical memorandum *Reference Concentrations* (E/A&H, 1996).

2.3 Sampling Methods 1

Soil Screening 2

EnSafe personnel collected soil samples from the excavation walls and floor throughout the removal process. The samples were collected in accordance with procedures described in Section 4.4.3 of the *Comprehensive RFI Work Plan* (E/A&H, October 1994). 3
4
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Samples were screened using an infrared (IR) TPH Plus Field Analyzer, which performs analyses based on USEPA Method 418.1 (IR method). The excavation continued until field screening demonstrated that the petroleum impacted soil from 0 to 5 feet bls had been removed to concentrations less than 100 mg/kg, and petroleum impacted soil below 5 feet had been removed to concentrations less than the site-specific cleanup level of 500 mg/kg. 6
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Confirmation Soil Sampling 11

When soil had been removed to these cleanup levels, EnSafe collected five-part composite samples from the excavation walls and grab samples from the floor. In all, eight samples were collected; they are discussed in Section 3. These confirmation soil samples were analyzed onsite using the TPH Plus Field Analyzer for TPH (Method 418.1), and at Environmental Testing & Consulting, Inc. (ETC) in Memphis, Tennessee, for Appendix IX metals (USEPA Method 6010/7000 series). 12
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3.0 SWMU 22 (FORMER UST S-1245) REMOVAL ACTIVITIES 18

3.1 Site Description 19

SWMU 22, the former S-1245 UST, is located on the Southside of NSA Mid-South. The dates of its installation and removal are unknown. The UST was used to store No. 6 fuel oil for the boiler plant. The site, previous sampling results, and site histories and investigations are detailed in EnSafe's *VCA Work Plan* for SWMU 22 (June 2000). Figure 1.2 in Section 1 shows where the former UST was located. TPH concentrations exceeding the TDEC cleanup levels were detected 20
21
22
23
24

in soil samples collected during the confirmatory sampling investigation (CSI) completed in 1997. TPH concentrations exceeded the site-specific cleanup level in two direct-push technology (DPT) soil borings advanced through the former UST area. The results are detailed in the work plan for this SWMU. The former S-75W UST VCA soil removal will be completed at a later date, as previously discussed.

3.2 Removal Activities

Excavation of the former S-1245 UST tank pit was attempted on June 27, 2000. However, the former tank pit area, which is backfilled with crushed stone from the surface to 3 feet bls, contained large amounts of water. Therefore, excavation was postponed.

In January 2000, the water was removed from the area and excavation activities were conducted from January 25 to February 3, 2001. Excavation, transportation, and disposal activities were conducted by the U.S. Army Corps of Engineers, Memphis District (Corps). All soil and waste sampling was conducted by EnSafe, and laboratory services were provided by ETC of Memphis.

The former UST cavity was excavated to dimensions of approximately 47 feet by 36 feet at the surface, 20 feet at the base, and 21 feet deep. Table 3.1 summarizes the materials encountered at varying depths of the excavation. A 20-foot roughly, square bottom was created at 21 feet bls to remove TPH concentrations exceeding the cleanup levels as indicated in the VCA work plan.

Table 3.1
Summary of Materials Encountered
in the Excavation

0 to 3 feet	crushed rock backfill
3 to 8 feet	petroleum-impacted soil from the initial excavation; it contained piping, concrete, and debris
8 to 12 feet	crushed rock backfill
12 to 20 feet	petroleum-impacted soil from the initial excavation; it contained larger amounts of concrete than shallower intervals
20 to 21 feet	dark gray silty clay; appeared to be native.
21 feet	No petroleum odor was detected.

Because of the weakness of the excavation sidewalls, the surface of the excavation was opened to 47 feet by 36 feet. The excavation consisted of backfill material; therefore, the sidewalls required sloping to prevent sidewall collapse. A petroleum odor was detected from most of the soil removed from the former UST tank pit.

The TPH analyzer was used to confirm that concentrations in the excavation sidewalls and bottom were less than 500 mg/kg below 5 feet bls. Additional samples were collected from each sidewall from the 0- to 5-foot interval to confirm that TPH in soil was below 100 mg/kg. Approximately 550 yd³ of soil were removed from the area and staged on plastic at Salvage Yard No. 2 on the Southside, where it was covered with plastic, and then bermed with straw for temporary storage.

3.3 Sample Results

Following excavation, confirmation soil samples were collected from the S-1245 excavation area for Appendix IX metals and TPH analyses. Sample locations and average depths are shown on Figure 3.1. Table 3.2 lists the confirmation sampling results, which can be compared with the RCs in the top row.

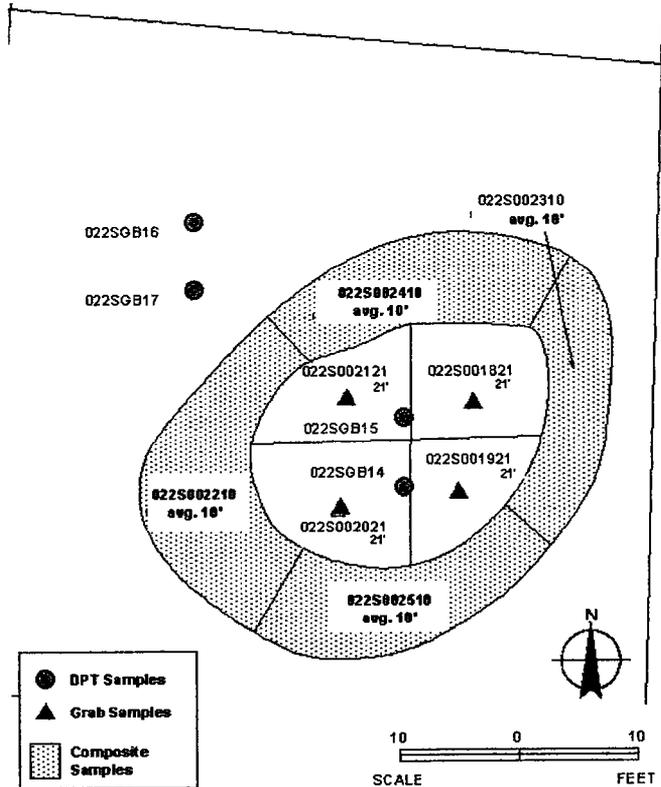


Figure 3.1 — Excavation and Sample Location Map

Eight samples were collected from the former UST cavity. One grab sample was collected from each corner of the excavation's floor (northeast, northwest, southeast, and southwest). One five-part composite sample was collected from each sidewall (north, south, west, and east).

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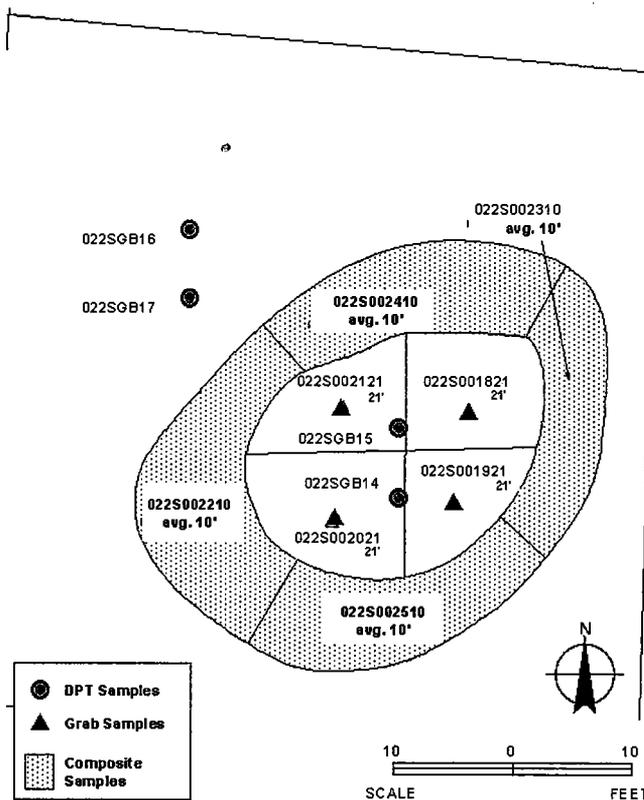


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Table 3.2							
SWMU 22 — Confirmation Sampling Results (mg/kg)							
<i>Reference Concentration Values</i>		Arsenic	Cadmium	Chromium	Copper	Lead	TPH (IR)
Location	RCs	14.70	1.54	23.90	24.20	26.00	NA
022S001821		4.29	0.185	11.1	10.7	5.64	28
022S001921		1.88	0.237	9.95	12.2	6.23	21
022S002021		4.14	0.187	14.3	10.4	7.61	11
022S002121		2.00	0.562	10.8	14.5	7.07	30
022S002210		5.13	0.225	11.6	11.0	25.6	26
West excavation wall (<5 feet bls) TPH (IR) Only; Depth: 4 feet		NA	NA	NA	NA	NA	39
022S002310		7.53	0.303	16.0	14.2	17.7	34
East excavation wall (<5 feet bls) TPH (IR) Only; Depth: 4 feet		NA	NA	NA	NA	NA	36
022S002410		6.16	0.267	13.5	14.6	10.9	30
North excavation wall (<5 feet bls) TPH (IR) Only; Depth: 4 feet		NA	NA	NA	NA	NA	26
022S002510		10.7	0.313	15.5	14.6	13.7	99
South excavation wall (<5 feet bls) TPH (IR) Only; Depth: 4 feet		NA	NA	NA	NA	NA	29

All concentrations of metals analyzed in the soil samples collected from the UST cavity were less than their RC and applicable cleanup levels. All confirmation TPH results were less than the applicable cleanup level. Laboratory reports and associated chain-of-custody forms are provided in Appendix A.

The excavation was backfilled with pea gravel after verification that the contaminant concentrations were below the cleanup levels. Temporary fencing and barricades were placed around the excavation during all excavation and backfilling activities.

On February 5, 2001, EnSafe personnel sampled the soil stockpile for toxicity characteristic leaching procedure (TCLP) lead and benzene analyses. The stockpile was divided into six sections of equal size, then sampled. The results were submitted to NSA Mid-South PWD Environmental Division which then transferred them to the Corps. The Corps submitted applications with the TCLP results to the TDEC Division of Solid Waste Management and Allied Waste for disposal approval. Upon approval, the Corps will transport the petroleum-contaminated soil to Allied Waste in Millington, Tennessee for disposal.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The objectives of the VCA have been met based on analytical results of confirmation samples collected from the S-1245 UST excavation. Soil analytical results for metals were less than the RC for NSA Mid-South. TPH concentrations were less than the TDEC cleanup criteria (500 mg/kg) and the 100 mg/kg for soils from 0 to 5 feet requested by the NSA Mid-South PWD Environmental Division. Therefore, no further action is recommended for S-1245.

5.0 REFERENCES

EnSafe/Allen & Hoshall. (October 1994). *Comprehensive RFI Work Plan for Naval Air Station Memphis*. E/A&H: Memphis, Tennessee.

EnSafe/Allen & Hoshall. (August 27, 1996). *Technical Memorandum — Reference Concentrations*. E/A&H: Memphis, Tennessee.

EnSafe. (July 31, 1998). *Confirmatory Sampling Investigation Report, Assembly F — SWMUs 20, 22/63, 30, and 39, NSA Memphis - Millington, Tennessee, Revision 2*. EnSafe: Memphis, Tennessee.

- EnSafe. (June 16, 2000). *Voluntary Corrective Action Work Plan, Assembly F — SWMU 22.* 1
EnSafe: Memphis, Tennessee 2
- TDEC. (1997). *Policy Statement for Petroleum Contaminated Sites.* TDEC. 3
- United States Environmental Protection Agency. (May 1996). 4
USEPA/OWSER Soil Screening Guidance: Technical Background Document, 5
EPA/540/R-95/128 USEPA: Philadelphia, Pennsylvania. 6

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Appendix A
Laboratory Reports



ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334

Founded 1972

February 13, 2001

Mr. Phil Atkinson
Ensafe
5724 Summer Tree Drive
Memphis, TN 38134

Ref: Analytical Testing
ETC Order # 0102119
Project Description NSA Mid-South

Project Number 0146-001-28-306-00

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The results are shown on the attached analysis sheet(s).

Please do not hesitate to contact our office if you have any questions.

Sincerely,

Chet Scheibel
Laboratory Project Manager

rt
Attachment

ENSAF2G

Certifications

Tennessee #TN02027
Arkansas #40730
Kentucky #90047
North Carolina #415
South Carolina #84002002

Mississippi
Oklahoma #9311
Virginia #00106
Washington #C248
US Army Corps of Engineers

Environmental Testing & Consulting, Inc.
Data Qualifiers for Organic Reporting

Within the attached report, some analytical data may be reported as "Qualified Data" as indicated by a "Data Qualifier" next to the result. This table summarizes the possible "Data Qualifiers" that may be associated with this report. These qualifiers do not apply for TIC reports.

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value. Presence of the compound was confirmed but less than the reported detection limit.
E	Concentration exceeds the established method calibration range but is within the working range of the instrument.
B	Analyte detected in the associated Method Blank.
U	Reported result was unconfirmed. Refer to Case Narrative.
N	Non-Compliance Report associated with this sample or project.
C	Result reported from GC/MS confirmation analysis.
M	Result reported represents a minimum value. Refer to Case Narrative.
NC	Result reported from Primary Column. Result did not confirm.
*	QC Data (percent recovery/RPD for a particular analyte was outside QC Limits)

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Ensafe**
Site ID **NSA Mid-South**

ETC Order #0102119
0146-001-28-306

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
010211901	022S001821	SOIL	6010B	Silver
010211901	022S001821	SOIL	6010B	Arsenic
010211901	022S001821	SOIL	6010B	Barium
010211901	022S001821	SOIL	6010B	Beryllium
010211901	022S001821	SOIL	6010B	Cadmium
010211901	022S001821	SOIL	6010B	Cobalt
010211901	022S001821	SOIL	6010B	Chromium
010211901	022S001821	SOIL	6010B	Copper
010211901	022S001821	SOIL	7471A	Mercury
010211901	022S001821	SOIL	6010B	Nickel
010211901	022S001821	SOIL	6010B	Lead
010211901	022S001821	SOIL	6010B	Antimony
010211901	022S001821	SOIL	6010B	Selenium
010211901	022S001821	SOIL	6010B	Tin
010211901	022S001821	SOIL	6010B	Thallium
010211901	022S001821	SOIL	6010B	Vanadium
010211901	022S001821	SOIL	6010B	Zinc
010211902	022S001921	SOIL	6010B	Silver
010211902	022S001921	SOIL	6010B	Arsenic
010211902	022S001921	SOIL	6010B	Barium
010211902	022S001921	SOIL	6010B	Beryllium
010211902	022S001921	SOIL	6010B	Cadmium
010211902	022S001921	SOIL	6010B	Cobalt
010211902	022S001921	SOIL	6010B	Chromium
010211902	022S001921	SOIL	6010B	Copper
010211902	022S001921	SOIL	7471A	Mercury
010211902	022S001921	SOIL	6010B	Nickel
010211902	022S001921	SOIL	6010B	Lead
010211902	022S001921	SOIL	6010B	Antimony
010211902	022S001921	SOIL	6010B	Selenium
010211902	022S001921	SOIL	6010B	Tin
010211902	022S001921	SOIL	6010B	Thallium
010211902	022S001921	SOIL	6010B	Vanadium
010211902	022S001921	SOIL	6010B	Zinc
010211903	022S002021	SOIL	6010B	Silver
010211903	022S002021	SOIL	6010B	Arsenic
010211903	022S002021	SOIL	6010B	Barium
010211903	022S002021	SOIL	6010B	Beryllium
010211903	022S002021	SOIL	6010B	Cadmium
010211903	022S002021	SOIL	6010B	Cobalt
010211903	022S002021	SOIL	6010B	Chromium
010211903	022S002021	SOIL	6010B	Copper
010211903	022S002021	SOIL	7471A	Mercury
010211903	022S002021	SOIL	6010B	Nickel
010211903	022S002021	SOIL	6010B	Lead
010211903	022S002021	SOIL	6010B	Antimony
010211903	022S002021	SOIL	6010B	Selenium
010211903	022S002021	SOIL	6010B	Tin
010211903	022S002021	SOIL	6010B	Thallium
010211903	022S002021	SOIL	6010B	Vanadium
010211903	022S002021	SOIL	6010B	Zinc
010211904	022S002121	SOIL	6010B	Silver
010211904	022S002121	SOIL	6010B	Arsenic
010211904	022S002121	SOIL	6010B	Barium

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Ensafe**
Site ID **NSA Mid-South**

ETC Order #**0102119**
0146-001-28-306

<u>ETC</u> <u>Sample ID</u>	<u>Field</u> <u>ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
010211904	022S002121	SOIL	6010B	Beryllium
010211904	022S002121	SOIL	6010B	Cadmium
010211904	022S002121	SOIL	6010B	Cobalt
010211904	022S002121	SOIL	6010B	Chromium
010211904	022S002121	SOIL	6010B	Copper
010211904	022S002121	SOIL	7471A	Mercury
010211904	022S002121	SOIL	6010B	Nickel
010211904	022S002121	SOIL	6010B	Lead
010211904	022S002121	SOIL	6010B	Antimony
010211904	022S002121	SOIL	6010B	Selenium
010211904	022S002121	SOIL	6010B	Tin
010211904	022S002121	SOIL	6010B	Thallium
010211904	022S002121	SOIL	6010B	Vanadium
010211904	022S002121	SOIL	6010B	Zinc
010211905	022S002210	SOIL	6010B	Silver
010211905	022S002210	SOIL	6010B	Arsenic
010211905	022S002210	SOIL	6010B	Barium
010211905	022S002210	SOIL	6010B	Beryllium
010211905	022S002210	SOIL	6010B	Cadmium
010211905	022S002210	SOIL	6010B	Cobalt
010211905	022S002210	SOIL	6010B	Chromium
010211905	022S002210	SOIL	6010B	Copper
010211905	022S002210	SOIL	7471A	Mercury
010211905	022S002210	SOIL	6010B	Nickel
010211905	022S002210	SOIL	6010B	Lead
010211905	022S002210	SOIL	6010B	Antimony
010211905	022S002210	SOIL	6010B	Selenium
010211905	022S002210	SOIL	6010B	Tin
010211905	022S002210	SOIL	6010B	Thallium
010211905	022S002210	SOIL	6010B	Vanadium
010211905	022S002210	SOIL	6010B	Zinc
010211906	022S002310	SOIL	6010B	Silver
010211906	022S002310	SOIL	6010B	Arsenic
010211906	022S002310	SOIL	6010B	Barium
010211906	022S002310	SOIL	6010B	Beryllium
010211906	022S002310	SOIL	6010B	Cadmium
010211906	022S002310	SOIL	6010B	Cobalt
010211906	022S002310	SOIL	6010B	Chromium
010211906	022S002310	SOIL	6010B	Copper
010211906	022S002310	SOIL	7471A	Mercury
010211906	022S002310	SOIL	6010B	Nickel
010211906	022S002310	SOIL	6010B	Lead
010211906	022S002310	SOIL	6010B	Antimony
010211906	022S002310	SOIL	6010B	Selenium
010211906	022S002310	SOIL	6010B	Tin
010211906	022S002310	SOIL	6010B	Thallium
010211906	022S002310	SOIL	6010B	Vanadium
010211906	022S002310	SOIL	6010B	Zinc
010211907	022S002410	SOIL	6010B	Silver
010211907	022S002410	SOIL	6010B	Arsenic
010211907	022S002410	SOIL	6010B	Barium
010211907	022S002410	SOIL	6010B	Beryllium
010211907	022S002410	SOIL	6010B	Cadmium
010211907	022S002410	SOIL	6010B	Cobalt
010211907	022S002410	SOIL	6010B	Chromium

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Ensafe**
Site ID **NSA Mid-South**

ETC Order #**0102119**
0146-001-28-306

<u>ETC</u> <u>Sample ID</u>	<u>Field</u> <u>ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
010211907	022S002410	SOIL	6010B	Copper
010211907	022S002410	SOIL	7471A	Mercury
010211907	022S002410	SOIL	6010B	Nickel
010211907	022S002410	SOIL	6010B	Lead
010211907	022S002410	SOIL	6010B	Antimony
010211907	022S002410	SOIL	6010B	Selenium
010211907	022S002410	SOIL	6010B	Tin
010211907	022S002410	SOIL	6010B	Thallium
010211907	022S002410	SOIL	6010B	Vanadium
010211907	022S002410	SOIL	6010B	Zinc
010211908	022S002510	SOIL	6010B	Silver
010211908	022S002510	SOIL	6010B	Arsenic
010211908	022S002510	SOIL	6010B	Barium
010211908	022S002510	SOIL	6010B	Beryllium
010211908	022S002510	SOIL	6010B	Cadmium
010211908	022S002510	SOIL	6010B	Cobalt
010211908	022S002510	SOIL	6010B	Chromium
010211908	022S002510	SOIL	6010B	Copper
010211908	022S002510	SOIL	7471A	Mercury
010211908	022S002510	SOIL	6010B	Nickel
010211908	022S002510	SOIL	6010B	Lead
010211908	022S002510	SOIL	6010B	Antimony
010211908	022S002510	SOIL	6010B	Selenium
010211908	022S002510	SOIL	6010B	Tin
010211908	022S002510	SOIL	6010B	Thallium
010211908	022S002510	SOIL	6010B	Vanadium
010211908	022S002510	SOIL	6010B	Zinc
010211909	022V002601	SOIL	1311	TCLP Extraction
010211909	022V002601	SOIL	6010B	Lead - TCLP
010211909	022V002601	SOIL	1311	TCLP Extraction ZHE
010211909	022V002601	SOIL	8260B	TCLP Volatile Organics
010211910	022V002701	SOIL	1311	TCLP Extraction
010211910	022V002701	SOIL	6010B	Lead - TCLP
010211910	022V002701	SOIL	1311	TCLP Extraction ZHE
010211910	022V002701	SOIL	8260B	TCLP Volatile Organics
010211911	022V002801	SOIL	1311	TCLP Extraction
010211911	022V002801	SOIL	6010B	Lead - TCLP
010211911	022V002801	SOIL	1311	TCLP Extraction ZHE
010211911	022V002801	SOIL	8260B	TCLP Volatile Organics
010211912	022V002901	SOIL	1311	TCLP Extraction
010211912	022V002901	SOIL	6010B	Lead - TCLP
010211912	022V002901	SOIL	1311	TCLP Extraction ZHE
010211912	022V002901	SOIL	8260B	TCLP Volatile Organics
010211913	022V003001	SOIL	1311	TCLP Extraction
010211913	022V003001	SOIL	6010B	Lead - TCLP
010211913	022V003001	SOIL	1311	TCLP Extraction ZHE
010211913	022V003001	SOIL	8260B	TCLP Volatile Organics
010211914	022V003101	SOIL	1311	TCLP Extraction
010211914	022V003101	SOIL	6010B	Lead - TCLP
010211914	022V003101	SOIL	1311	TCLP Extraction ZHE

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Ensafe**
Site ID **NSA Mid-South**

ETC Order #**0102119**
0146-001-28-306

<u>ETC</u> <u>Sample ID</u>	<u>Field</u> <u>ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
010211914	022V003101	SOIL	8260B	TCLP Volatile Organics

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date Received 2/5/01 LIMS# 0102-119
Date/Time Checked In 2/5/01-14:10 Project NSA
Carrier/Bill# Hand-Delivered Mid-South
By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) < 4oC	OK
5. Ice & Packing-Ice	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	No
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____; TOX pH____; CN pH____; N/P pH____; Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

000009

ENVIRONMENTAL TESTING & CONSULTING, INC.
Memphis, TN
PERCENT SOLIDS

Client Name **Ensafe**
Project Name **NSA Mid-South**

Date Sample Received **02/05/01**
Contract Laboratory Order Number **0102-119**

<u>ETC, Inc.</u> <u>Sample No</u>	<u>Field</u> <u>ID</u>	<u>Date</u> <u>Sampled</u>	<u>Result</u> <u>Units : (%)</u>	<u>Date</u> <u>Analyzed</u>	<u>Method</u>	<u>By</u>
0102-119-01	022S001821	02/02/01	81	02/06/01	160.3	JM
0102-119-02	022S001921	02/03/01	80	02/06/01	160.3	JM
0102-119-03	022S002021	02/03/01	82	02/06/01	160.3	JM
0102-119-04	022S002121	02/03/01	79	02/06/01	160.3	JM
0102-119-05	022S002210	02/03/01	81	02/06/01	160.3	JM
0102-119-06	022S002310	02/03/01	78	02/06/01	160.3	JM
0102-119-07	022S002410	02/03/01	82	02/06/01	160.3	JM
0102-119-08	022S002510	02/03/01	79	02/06/01	160.3	JM

CJ

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-01**
 Field ID : **022S001821**

Matrix : **SOIL**
 Sample Date : **02/02/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V13-SO-31				02/06/01	NR	3051
Antimony Digestion Batch	V13-SO-32				02/06/01	NR	3050B
Mercury Digestion Batch	V7-SO-57				02/06/01	JF	7471A
Silver	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Arsenic	4.29	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Barium	52.4	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Beryllium	0.309	mg/Kg	0.050	02/06/01	02/06/01	SH	6010B
Cadmium	0.185	mg/Kg	0.100	02/06/01	02/06/01	SH	6010B
Cobalt	4.74	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Chromium	11.1	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Copper	10.7	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Mercury	0.033	mg/Kg	0.020	02/06/01	02/06/01	JF	7471A
Nickel	11.5	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Lead	5.64	mg/Kg	0.400	02/06/01	02/06/01	SH	6010B
Antimony	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Selenium	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Tin	ND	mg/Kg	5.00	02/06/01	02/06/01	SH	6010B
Thallium	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Vanadium	18.1	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Zinc	24.6	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B

()
 Data Validator _____

ND - Not Detected

000011

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-02**
 Field ID : **022S001921**

Matrix : **SOIL**
 Sample Date : **02/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V13-SO-31				02/06/01	NR	3051
Antimony Digestion Batch	V13-SO-32				02/06/01	NR	3050B
Mercury Digestion Batch	V7-SO-57				02/06/01	JF	7471A
Silver	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Arsenic	1.88	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Barium	56.4	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Beryllium	0.295	mg/Kg	0.050	02/06/01	02/06/01	SH	6010B
Cadmium	0.237	mg/Kg	0.100	02/06/01	02/06/01	SH	6010B
Cobalt	4.76	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Chromium	9.95	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Copper	12.2	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Mercury	0.026	mg/Kg	0.020	02/06/01	02/06/01	JF	7471A
Nickel	12.0	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Lead	6.23	mg/Kg	0.400	02/06/01	02/06/01	SH	6010B
Antimony	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Selenium	0.716	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Tin	ND	mg/Kg	5.00	02/06/01	02/06/01	SH	6010B
Thallium	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Vanadium	14.8	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Zinc	26.3	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B

CS

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-03**
 Field ID : **022S002021**

Matrix : **SOIL**
 Sample Date : **02/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V13-SO-31				02/06/01	NR	3051
Antimony Digestion Batch	V13-SO-32				02/06/01	NR	3050B
Mercury Digestion Batch	V7-SO-57				02/06/01	JF	7471A
Silver	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Arsenic	4.14	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Barium	70.0	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Beryllium	0.388	mg/Kg	0.050	02/06/01	02/06/01	SH	6010B
Cadmium	0.187	mg/Kg	0.100	02/06/01	02/06/01	SH	6010B
Cobalt	5.44	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Chromium	14.3	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Copper	10.4	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Mercury	0.023	mg/Kg	0.020	02/06/01	02/06/01	JF	7471A
Nickel	10.4	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Lead	7.61	mg/Kg	0.400	02/06/01	02/06/01	SH	6010B
Antimony	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Selenium	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Tin	ND	mg/Kg	5.00	02/06/01	02/06/01	SH	6010B
Thallium	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Vanadium	20.8	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Zinc	28.9	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B

CS

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-04**
 Field ID : **022S002121**

Matrix : **SOIL**
 Sample Date : **02/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V13-SO-31				02/06/01	NR	3051
Antimony Digestion Batch	V13-SO-32				02/06/01	NR	3050B
Mercury Digestion Batch	V7-SO-57				02/06/01	JF	7471A
Silver	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Arsenic	2.00	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Barium	55.0	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Beryllium	0.307	mg/Kg	0.050	02/06/01	02/06/01	SH	6010B
Cadmium	0.562	mg/Kg	0.100	02/06/01	02/06/01	SH	6010B
Cobalt	5.85	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Chromium	10.8	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Copper	14.5	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Mercury	0.022	mg/Kg	0.020	02/06/01	02/06/01	JF	7471A
Nickel	17.0	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Lead	7.07	mg/Kg	0.400	02/06/01	02/06/01	SH	6010B
Antimony	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Selenium	3.43	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Tin	ND	mg/Kg	5.00	02/06/01	02/06/01	SH	6010B
Thallium	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Vanadium	17.4	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Zinc	32.1	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-06**
 Field ID : **022S002310**

Matrix : **SOIL**
 Sample Date : **02/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V13-SO-31				02/06/01	NR	3051
Antimony Digestion Batch	V13-SO-32				02/06/01	NR	3050B
Mercury Digestion Batch	V7-SO-57				02/06/01	JF	7471A
Silver	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Arsenic	7.53	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Barium	155	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Beryllium	0.452	mg/Kg	0.050	02/06/01	02/06/01	SH	6010B
Cadmium	0.303	mg/Kg	0.100	02/06/01	02/06/01	SH	6010B
Cobalt	6.32	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Chromium	16.0	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Copper	14.2	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Mercury	0.058	mg/Kg	0.020	02/06/01	02/06/01	JF	7471A
Nickel	16.1	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Lead	17.7	mg/Kg	0.400	02/06/01	02/06/01	SH	6010B
Antimony	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Selenium	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Tin	ND	mg/Kg	5.00	02/06/01	02/06/01	SH	6010B
Thallium	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Vanadium	22.8	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Zinc	53.7	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B

CS

 Data Validator

ND - Not Detected

000016

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
ETC Order Number **0102119**

ETC Lab ID : **0102119-07**
Field ID : **022S002410**

Matrix : **SOIL**
Sample Date : **02/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V13-SO-31				02/06/01	NR	3051
Antimony Digestion Batch	V13-SO-32				02/06/01	NR	3050B
Mercury Digestion Batch	V7-SO-57				02/06/01	JF	7471A
Silver	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Arsenic	6.16	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Barium	124	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Beryllium	0.397	mg/Kg	0.050	02/06/01	02/06/01	SH	6010B
Cadmium	0.267	mg/Kg	0.100	02/06/01	02/06/01	SH	6010B
Cobalt	6.14	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Chromium	13.5	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Copper	14.6	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Mercury	0.051	mg/Kg	0.020	02/06/01	02/06/01	JF	7471A
Nickel	14.7	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Lead	10.9	mg/Kg	0.400	02/06/01	02/06/01	SH	6010B
Antimony	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Selenium	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Tin	ND	mg/Kg	5.00	02/06/01	02/06/01	SH	6010B
Thallium	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Vanadium	20.5	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Zinc	65.7	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B

CS
Data Validator

ND - Not Detected

000017

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-08**
 Field ID : **022S002510**

Matrix : **SOIL**
 Sample Date : **02/03/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V13-SO-31				02/06/01	NR	3051
Antimony Digestion Batch	V13-SO-32				02/06/01	NR	3050B
Mercury Digestion Batch	V7-SO-57				02/06/01	JF	7471A
Silver	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Arsenic	10.7	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Barium	160	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Beryllium	0.525	mg/Kg	0.050	02/06/01	02/06/01	SH	6010B
Cadmium	0.313	mg/Kg	0.100	02/06/01	02/06/01	SH	6010B
Cobalt	7.52	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Chromium	15.5	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Copper	14.6	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Mercury	0.057	mg/Kg	0.020	02/06/01	02/06/01	JF	7471A
Nickel	16.2	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Lead	13.7	mg/Kg	0.400	02/06/01	02/06/01	SH	6010B
Antimony	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Selenium	ND	mg/Kg	0.500	02/06/01	02/06/01	SH	6010B
Tin	ND	mg/Kg	5.00	02/06/01	02/06/01	SH	6010B
Thallium	ND	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B
Vanadium	24.5	mg/Kg	2.00	02/06/01	02/06/01	SH	6010B
Zinc	51.2	mg/Kg	1.00	02/06/01	02/06/01	SH	6010B

ENVIRONMENTAL TESTING & CONSULTING, INC.
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Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
ETC Order Number **0102119**

ETC Lab ID : **0102119-09**
Field ID : **022V002601**

Matrix : **SOIL**
Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				02/05/01	TL	1311
Metals Digestion Batch	V24-AQ-49				02/07/01	NR	3015A
Lead - TCLP	ND	mg/L	0.315	02/08/01	02/07/01	SH	6010B

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Data Validator

ND - Not Detected

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ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-10**
 Field ID : **022V002701**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				02/05/01	TL	1311
Metals Digestion Batch	V24-AQ-49				02/07/01	NR	3015A
Lead - TCLP	ND	mg/L	0.315	02/08/01	02/07/01	SH	6010B

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 Data Validator _____

ND - Not Detected

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ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-11**
 Field ID : **022V002801**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				02/05/01	TL	1311
Metals Digestion Batch	V24-AQ-49				02/07/01	NR	3015A
Lead - TCLP	ND	mg/L	0.315	02/08/01	02/07/01	SH	6010B

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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
ETC Order Number **0102119**

ETC Lab ID : **0102119-12**
Field ID : **022V002901**

Matrix : **SOIL**
Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				02/05/01	TL	1311
Metals Digestion Batch	V24-AQ-49				02/07/01	NR	3015A
Lead - TCLP	ND	mg/L	0.315	02/08/01	02/07/01	SH	6010B

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
ETC Order Number **0102119**

ETC Lab ID : **0102119-13**
Field ID : **022V003001**

Matrix : **SOIL**
Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				02/05/01	TL	1311
Metals Digestion Batch	V24-AQ-49				02/07/01	NR	3015A
Lead - TCLP	ND	mg/L	0.315	02/08/01	02/07/01	SH	6010B

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Data Validator

ND - Not Detected

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ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID : **0102119-14**
 Field ID : **022V003101**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				02/05/01	TL	1311
Metals Digestion Batch	V24-AQ-49				02/07/01	NR	3015A
Lead - TCLP	ND	mg/L	0.315	02/08/01	02/07/01	SH	6010B

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Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

 FID #

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID **0102119-09**
 Field ID : **022V002601**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
TCLP Extraction ZHE	Leachate				02/05/01	TL	1311
TCLP Volatile Organics				02/08/01		EM	8260B 5030B
QC Batch	V402082						
Dilution Factor	10						
Benzene	ND	mg/L	0.010				
Surrogate Standard	% Recovery		QC Limits				
S1 - Dibromofluoromethane	104		74	123			
S2 - Toluene-d8	96		86	112			
S3 - 4-Bromofluorobenzene	89		81	115			
S4 - 1,2-Dichloroethane-d4	90		80	120			

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
 NSA Midsouth
 5724 Summer Tree Drive
 Memphis, TN 38134

Site ID **NSA Mid-South**

FID #

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID **0102119-10**
 Field ID : **022V002701**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				02/05/01	TL 1311
TCLP Volatile Organics				02/08/01		EM 8260B 5030B
QC Batch	V402082					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Surrogate Standard	% Recovery		QC Limits			
S1 - Dibromofluoromethane	104		74	123		
S2 - Toluene-d8	97		86	112		
S3 - 4-Bromofluorobenzene	88		81	115		
S4 - 1,2-Dichloroethane-d4	83		80	120		

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ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**
 FID #

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID **0102119-11**
 Field ID : **022V002801**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
TCLP Extraction ZHE	Leachate				02/05/01	TL	1311
TCLP Volatile Organics				02/08/01		EM	8260B 5030B
QC Batch	V402082						
Dilution Factor	10						
Benzene	ND	mg/L	0.010				
<u>Surrogate Standard</u>	<u>% Recovery</u>			<u>QC Limits</u>			
S1 - Dibromofluoromethane	103			74			123
S2 - Toluene-d8	98			86			112
S3 - 4-Bromofluorobenzene	90			81			115
S4 - 1,2-Dichloroethane-d4	85			80			120

ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**

FID #

Date Arrived **02/05/01**
ETC Order Number **0102119**

ETC Lab ID **0102119-12**
Field ID : **022V002901**

Matrix : **SOIL**
Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				02/05/01	TL 1311
TCLP Volatile Organics				02/07/01		EM 8260B 5030B
QC Batch	V402071					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Surrogate Standard	% Recovery		QC Limits			
S1 - Dibromofluoromethane	106		74	123		
S2 - Toluene-d8	94		86	112		
S3 - 4-Bromofluorobenzene	84		81	115		
S4 - 1,2-Dichloroethane-d4	87		80	120		

Data Validator

ND - Not Detected

O - Recovery Outside QC Limits

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ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**
 FID #

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID **0102119-13**
 Field ID : **022V003001**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
TCLP Extraction ZHE	Leachate			02/05/01	TL	1311
TCLP Volatile Organics			02/07/01		EM	8260B 5030B
QC Batch	V402071					
Dilution Factor	10					
Benzene	ND mg/L	0.010				
Surrogate Standard	% Recovery	QC Limits				
S1 - Dibromofluoromethane	106	74	123			
S2 - Toluene-d8	94	86	112			
S3 - 4-Bromofluorobenzene	85	81	115			
S4 - 1,2-Dichloroethane-d4	87	80	120			

CS
 Data Validator

ND - Not Detected

O - Recovery Outside OC Limits

000029

ENVIRONMENTAL TESTING & CONSULTING, INC.
 2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name **Ensafe**
NSA Midsouth
5724 Summer Tree Drive
Memphis, TN 38134

Site ID **NSA Mid-South**
 FID #

Date Arrived **02/05/01**
 ETC Order Number **0102119**

ETC Lab ID **0102119-14**
 Field ID : **022V003101**

Matrix : **SOIL**
 Sample Date : **02/05/01**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED	BY	METHOD
TCLP Extraction ZHE	Leachate				02/05/01	TL	1311
TCLP Volatile Organics				02/07/01		EM	8260B 5030B
QC Batch	V402071						
Dilution Factor	10						
Benzene	ND	mg/L	0.010				
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S1 - Dibromofluoromethane	106		74	123			
S2 - Toluene-d8	96		86	112			
S3 - 4-Bromofluorobenzene	86		81	115			
S4 - 1,2-Dichloroethane-d4	84		80	120			

CS