

N00639.AR.001977
NSA MID SOUTH
5090.3a

GROUNDWATER MONITORING REPORT NORTH FUEL FARM FACILITY ID # 0-791709
MILLINGTON SUPPACT TN
6/7/1999
ENSAFE

**GROUNDWATER MONITORING REPORT
NORTH FUEL FARM
NAVAL SUPPORT ACTIVITY MID-SOUTH
MILLINGTON, TENNESSEE**

Facility ID 0-791709

Revision: 0

CTO-134

Contract Number: N62467-89-D-0318

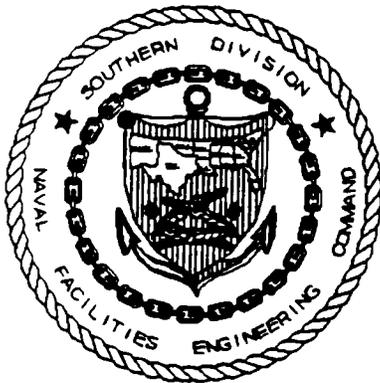


Prepared for:

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 is complete, accurate, and complies with all requirements of the contract.

Date: June 7, 1999

Signature: _____

Name: John Stedman

Title: Task Order Manager

SUMMARY

On April 15, 1999, EnSafe Inc. collected groundwater samples from six monitoring wells and one recovery well at the North Fuel Farm at Naval Support Activity (NSA) Mid-South in Millington, Tennessee (Facility ID 0-791709). All groundwater samples were submitted to Environmental Testing & Consulting, Inc. (ETC) in Memphis for analysis.

Static groundwater levels were measured before samples were collected from the wells. Groundwater elevations, measured in feet above mean sea level (msl) (shown below) were used to create a potentiometric surface map of the site (Attachment 1). Groundwater level measurements from the recovery well (RW-1) and the monitoring well N-MW-5 were not used for the potentiometric map. A top-of-casing well elevation was not available for RW-1; N-MW-5 is completed in an excavated pit which was backfilled with a more permeable material than surrounding monitoring wells, and is not representative of native material.

**Groundwater Elevations
4/15/99**

Well Number	Depth to Groundwater (ft)*	Total Depth (ft)*	Depth to Product (ft)*	Well Elevation (ft - msl)	Groundwater Elevation (ft - msl)
N-MW-1	8.05	22.26	0.00	285.95	277.90
N-MW-2	11.04	22.59	0.00	284.76	273.72
N-MW-3	12.49	22.62	0.00	285.90	273.41
N-MW-4	8.62	27.30	0.00	286.53	277.91
N-MW-5	12.08	24.98	0.00	282.30	270.22
N-MW-6	9.65	20.18	0.00	281.95	272.30
RW-1	9.22	24.05	0.00	NA	NA

Notes:

- * — measured from top of well casing
- msl — mean sea level
- ft — feet
- NA — Not Available

All samples submitted for testing were analyzed for extractable petroleum hydrocarbons (EPH) using EPA Method 3510C; gasoline range organics (GRO) and benzene, toluene, ethylbenzene, and xylene (BTEX) using EPA Methods 5030B and 8021B, respectively. As of May 1, 1998, analysis for diesel range organics (DRO) was revised from the previous EPA Method 8015M to the current EPA Method 3510C; this update is reflected in the following table which summarizes the analytical results. Analytical results are also provided in Attachment 2. Historical benzene and total TPH concentrations are graphically illustrated in Attachment 3.

Groundwater Analytical Results (mg/L)

Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes ^g	GRO	EPH	TPH ^f
April 15, 1999 Sampling Event (Revised DRO Method: EPH Method 3510C)^e								
N-MW-1	NFFGMW0106	<0.00014	<0.00012	<0.00015	<0.00029 (m,p) <0.00017 (o)	<0.011	0.183	0.183
N-MW-2	NFFGMW0206	<0.00014	<0.00012	<0.00015	<0.00029 (m,p) <0.00017 (o)	<0.011	0.156	0.156
N-MW-3	NFFGMW0306	<0.00014	<0.00012	<0.00015	<0.00029 (m,p) <0.00017 (o)	<0.011	<0.01	<0.01
N-MW-4	NFFGMW0406	<0.00014	<0.00012	<0.00015	<0.00029 (m,p) <0.00017 (o)	<0.011	0.138	0.138
N-MW-5	NFFGMW0506	<0.00014	<0.00012	<0.00015	<0.00029 (m,p) 0.00103 (o)	0.141	2.74	2.74
N-MW-6	NFFGMW0606	<0.00014	<0.00012	<0.00015	<0.00029 (m,p) <0.00017 (o)	<0.011	0.729	0.729
N-RW-1 ^e	NFFGRW0106	<0.00014	<0.00012	<0.00015	<0.00029 (m,p) <0.00017 (o)	<0.011	0.213	0.213
Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	EPH	TPH ^f
October 27, 1998 Sampling Event (Revised DRO Method: EPH Method 8100M)^e								
N-MW-1	NFFGMW0105	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-2	NFFGMW0205	<0.001	<0.001	<0.001	<0.001	<0.1	0.134	0.134
N-MW-3	NFFGMW0305	<0.001	<0.001	<0.001	<0.001	<0.1	0.103	0.103
N-MW-4	NFFGMW0405	<0.001	<0.001	<0.001	<0.001	<0.1	0.167	0.167

Groundwater Analytical Results (mg/L)

Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	EPH	TPH ^f
October 27, 1998 Sampling Event (Revised DRO Method: EPH Method 8100M)^e								
N-MW-5	NFFGMW0505	<0.001	<0.001	<0.001	<0.001	<0.1	2.13	2.13
N-MW-6	NFFGMW0605	<0.001	<0.001	<0.001	<0.001	<0.1	0.660	0.660
N-RW-1 ^c	NFFGRW0105	<0.001	<0.001	<0.001	<0.001	<0.1	0.160	0.160
Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	EPH	TPH ^a
September 2 and 3, 1998 Sampling Event (Revised DRO Method: EPH Method 8100 M)^e								
N-MW-1	NFFGMW104	<0.001	<0.001	<0.001	<0.001	<0.1	0.225	0.225
N-MW-2	NFFGMW204	<0.001	<0.001	<0.001	<0.001	<0.1	0.261	0.261
N-MW-3	NFFGMW304	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-4	NFFGMW404	<0.001	<0.001	<0.001	<0.001	<0.1	0.213	0.213
N-MW-5	NS	NS	NS	NS	NS	NS	NS	NS
N-MW-6	NFFGMW604	<0.001	<0.001	<0.001	<0.001	<0.1	0.902	0.902
N-RW-1 ^c	NFFGRW0104	<0.001	<0.001	<0.001	<0.001	<0.1	0.143	0.143
Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	TPH ^a
March 5, 1998 Sampling Event								
N-MW-1	NFFGMW102	<0.001	<0.002	<0.001	<0.001	<0.1	0.772	0.772
N-MW-2	NFFGMW202	<0.001	<0.002	<0.001	<0.001	<0.1	0.296	0.296
N-MW-3	NFFGMW302	<0.001	<0.002	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-4	NFFGMW402	<0.001	<0.002	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-5	NFFGMW502	<0.001	<0.002	<0.001	<0.001	1.39	47.1	48.49

Groundwater Analytical Results (mg/L)

Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	EPH	TPH ^f
October 27, 1998 Sampling Event (Revised DRO Method: EPH Method 8100M)^e								
N-MW-6	NFFGMW602	<0.001	<0.002	<0.001	<0.001	<0.1	0.613	0.613
N-RW-1 ^c	NFFRMW0102	<0.001	<0.002	<0.001	<0.001	0.180	0.176	0
Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	TPH ^a
April 28 and September 4, 1997 Sampling Event								
N-MW-1	NFFGMW101	<0.001	<0.002	<0.001	<0.001	<0.005	<0.1	0.694B ^b
N-MW-2	NFFGMW201	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	0.255B
N-MW-3	NFFGMW301	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	0.269B
N-MW-4	NFFGMW401	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	0.197B
N-MW-5	NFFGMW501	<0.001	<0.001	<0.001	<0.001	<0.005	0.248	19.7B
N-MW-6	NFFGMW601	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	0.234B
N-RW-1 ^c	NFFRMW0101	0.015	0.010	0.001	0.009	NA	0.357	1.52
April 30 and May 1, 1997 Sampling Event								
MW-2 ^d	NFFGMW0201	0.006	<0.002	0.011	0.014	<0.005	0.282	108
N-MW-1	NFFGNMW101	<0.001	<0.002	<0.001	<0.001	<0.005	<0.1	<0.1
N-MW-2	NFFGNMW201	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	<0.1
N-MW-3	NFFGNMW301	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	<0.1
N-MW-4	NFFGNMW401	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	<0.1
N-MW-5	NFFGNMW501	<0.001	<0.001	<0.001	<0.001	<0.005	0.261	18.8
N-MW-6	NFFGNMW601	<0.001	<0.001	<0.001	<0.001	<0.005	<0.1	0.554

Groundwater Analytical Results (mg/L)

Sample Location	Sample Number	Benzene	Toluene	Ethyl-benzene	Total Xylenes	GRO	DRO	TPH ^a
July 15, 1994 Sampling Event (EAR for USTs 304 and 1239)								
MW-1	NFFGMW0101	NA	NA	NA	NA	NA	14	14
MW-2	NFFGMW0201	NA	NA	NA	NA	NA	170	170
MW-3	NFFGMW0301	NA	NA	NA	NA	NA	19	19
N-MW-1	NFFGNMW101	NA	NA	NA	NA	NA	<0.110	<0.110
N-MW-4	NFFGNMW401	NA	NA	NA	NA	NA	<0.110	<0.110
N-MW-6	NFFGNMW601	NA	NA	NA	NA	NA	1.5	1.5
May 27 and July 20, 1993 Sampling Event (EAR for USTs 7, 303, and 1241)								
N-MW-1	NFFGNMW101	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-2	NFFGNMW201	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-3	NFFGNMW301	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-4	NFFGNMW401	<0.001	<0.001	<0.001	<0.001	<0.1	<0.1	<0.1
N-MW-5	NFFGNMW501	<0.001	<0.001	<0.001	0.002	0.170	17.0	17.17
N-MW-6	NFFGNMW601	<0.001	<0.001	<0.001	<0.001	<0.1	2.0	2.0

Notes:

- a — TPH is the sum of GRO and DRO.
- b — "B" flag indicates that the analyte was detected in the associated method blank.
- c — Recovery well installed in former tank pit following tank removal in August 1997.
- d — Monitoring well MW-2 along with monitoring wells MW-1 and MW-3 were abandoned during the tank removals in August 1997. MW-1 and MW-3 were not sampled due to the presence of free product.

- e — Effective May 1, 1998, the Tennessee Department of Underground Storage Tanks now requires the use of the EPH Method 8100M, "The Method of Determination of Extractable Petroleum Hydrocarbons by GC/FID," to replace the DRO Method 8015M. The EPH Method is required for analysis of samples for kerosene, diesel fuel, heating oil, motor oil, used oil, or any other hydrocarbon which traditionally contains alkanes with 12 or more carbons; (Source: letter from TDEC to EnSafe, June 8, 1998). April 15, 1999 groundwater samples were analyzed by Tennessee EPH Method 3510C (TN EPH).
- f — For the September 1998, October 1998, and April 1999 sampling events, TPH is the sum of GRO and EPH.
- g — April 1999 analytical data for xylenes is reported as xylenes-m,p and xylenes-o.
- mg/L — Milligrams per liter.
- EAR — Environmental Assessment Report.
- USTs — Underground Storage Tanks.
- NA — Not applicable.
- NS — Not sampled.
- GRO — Gasoline range organics.
- EPH — Extractable petroleum hydrocarbons.
- TPH — Total petroleum hydrocarbons.

Ben Brantley, P.G. *Ben Brantley* 6-24-99
P.E. or P.G. (Print) Signature Date

PG. # 1602
Tennessee License/Registration Number

STATE OF TN COUNTY OF Shelby

Sworn to and subscribed before me by *Ben Brantley* on this date 6-24-99
My commission expires MY COMMISSION EXPIRES MAY 14, 2002

Regina Smith *Regina Smith* 6-24-99
Notary Public (print name) Signature Date

Attachment 1

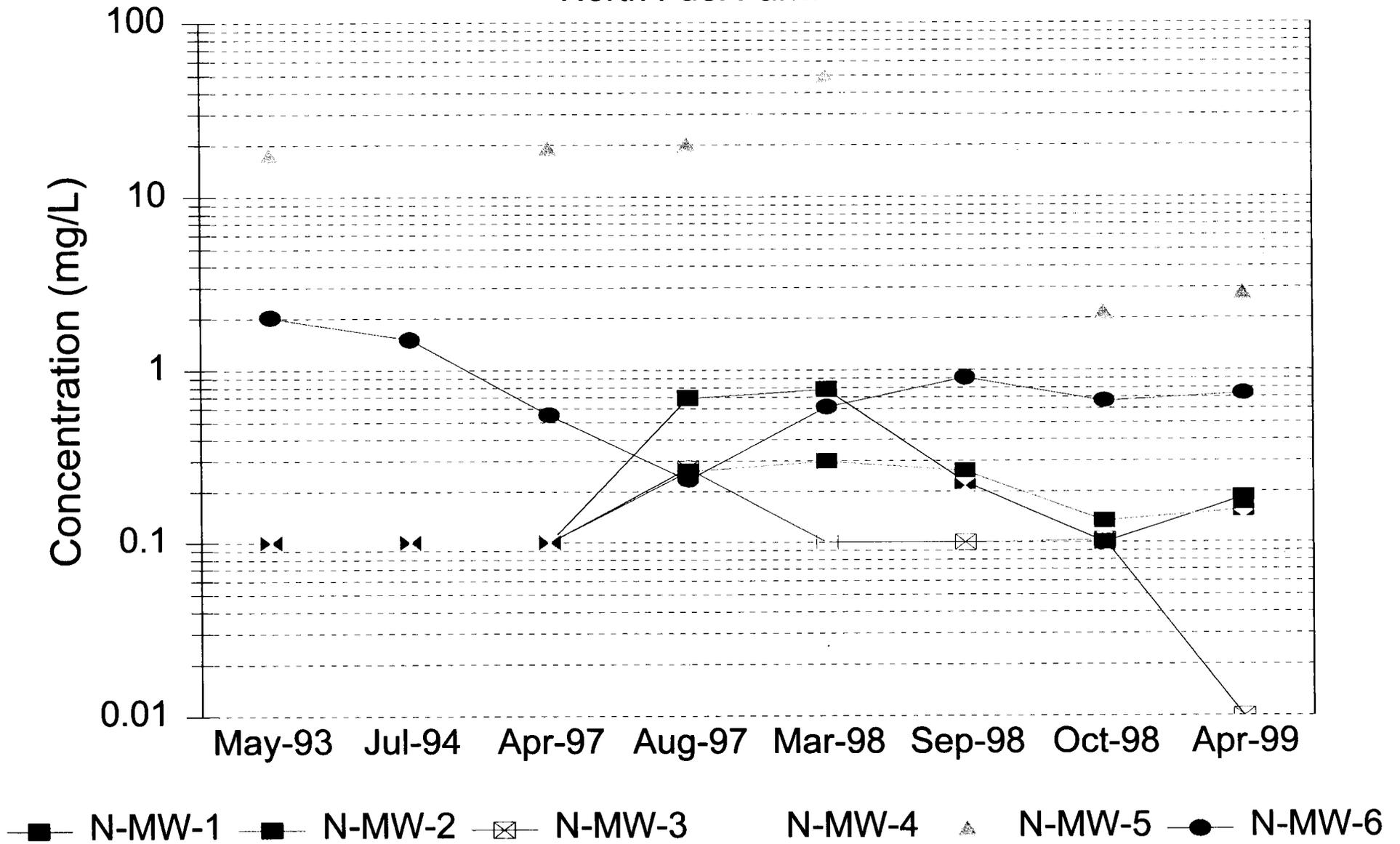
Potentiometric Surface Map

Attachment 2

Laboratory Reports and Chain-of-Custody Forms

Total TPH in Groundwater

North Fuel Farm

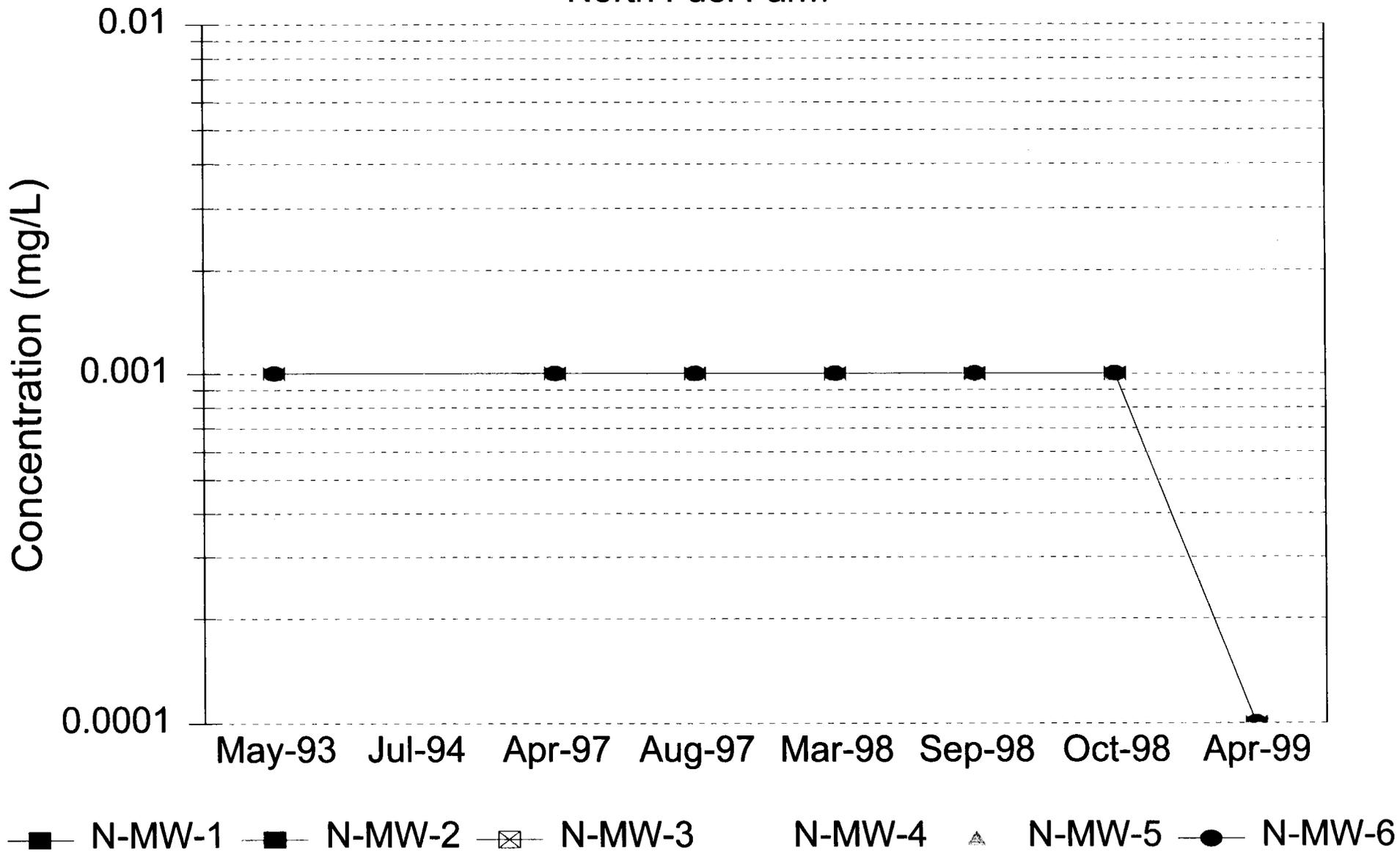


Attachment 3

Historical Benzene and TPH Concentrations

Benzene in Groundwater

North Fuel Farm



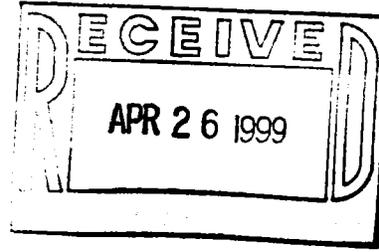


ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Founded 1972

April 22, 1999



Mr. John Stedman
Ensafe
5724 Summer Tree Drive
Memphis, TN 38184

Ref: Analytical Testing
ETC Order #/SDG 9904438
Project Description NSA
Memphis
FID # 791709

The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods 17th/18th Edition; The Solid Waste Manual SW-846; EPA Methods for the 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,

Nathan A. Pera, IV
Chief Executive Officer

rt
Attachment

ENSAFE_NAVY

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.

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.

Login
Chain-of-Custody

000002

800-588-7962
 MEMPHIS, TENNESSEE
 CHARLESTON, SC; CINCINNATI, OH; DALLAS, TX; JACKSON, TN; KNOXVILLE, TN;
 LANCASTER, PA; NASHVILLE, TN; NORFOLK, VA; PADUCAH, KY; PENSACOLA, FL;
 RALEIGH, NC; COLOGNE, GERMANY

CHAIN OF CUSTODY RECORD

CLIENT NSA / ENSAFE PROJECT MANAGER John Stedman
 LOCATION MOHS TELE/FAX NO. 901 372 7916 x 2 - 372 2454
 SAMPLERS: (SIGNATURE) Charles Juey

ANALYSIS REQUIRED

FIELD SAMPLE NUMBER	DATE	TIME	SAMPLE TYPE	TYPE/SIZE OF CONTAINER	PRESERVATION		NO. OF CONTAINERS	ANALYSIS REQUIRED			REMARKS
					TEMP.	CHEMICAL		GRO	EPH	BTEX	
NFFGMW0606	4/15	1810	H2O	LITER, 240ml/w	4°C	HCL	3	X	X	X	W/3-4 DAY TAT
NFFGMW0206		1850					3	X	X	X	TAT
NFFGMW0306		1830					5	X	X	X	FACID: 711709
NFFGMW0106		1905					3	X	X	X	BAP#0236196
NFFGMW0406		1930					3	X	X	X	
NFFGMW0506		1650					3	X	X	X	
NFFGRW0106		1750					3	X	X	X	
NFFFC041599		1940					3	X	X	X	
NFFEC041599		1950					3	X	X	X	
NFFHMW0106		1910					3	X	X	X	

RELINQUISHER: <u>Charles Juey</u>	DATE: <u>4/16/99</u>	RECEIVER: <u>Dr Rich Meade</u>	DATE: <u>4-16-99</u>
PRINTED: <u>Charles Juey</u>	TIME: _____	PRINTED: <u>Dr Rich Meade</u>	TIME: _____
COMPANY: <u>ENSAFE</u>	COMPANY: _____	COMPANY: <u>ETC</u>	COMPANY: _____

METHOD OF SHIPMENT: Hand Deliver to ETC
 SHIPMENT NO: _____
 SEND RESULTS TO: _____
 COMMENTS: Request LAB Report QC data and call PM. Before diluting any sample. Include FACID on Lab Report. NO TRIP DIARY, NOT SUPPLIED BY LAB.

COOLER RECEIPT FORM

Cooler Receipt Form
9904438.CRF p. 1

LIMS #: 9904-438 Number of Coolers: 1
Date Received: 4/16/99
VDTSR: 4/16/99 0900
PROJECT: NSA-Memphis

USE OTHER SIDE OF THIS FORM TO NOTE DETAILS CONCERNING CHECK-IN PROBLEMS

A. PRELIMINARY EXAMINATION PHASE: Date cooler was opened: 4/16/99
by (print): Richard Medina (sign): RMedina

1. Did cooler come with a shipping slip (airbill, etc.)?..... NO
If YES, enter carrier name & airbill number: Hand-Delivered

2a. Were custody seals on outside of cooler?..... NO
2b. Were custody seals on sample containers?..... NO

3. Were custody seals unbroken and intact at the date and time of arrival?..... NA

4. Did you screen samples for radioactivity using a Geiger Counter?..... NO

5. Were custody papers sealed in a plastic bag & taped inside to the lid?..... NO

6. Were custody papers filled out properly (ink, signed, etc.)?..... YES

7. Did you sign custody papers in the appropriate place?..... YES

8. Was project identifiable from custody papers? If YES, enter project name at top of this form..... YES

9. If required, was enough ice used? cooler temp: <40 c, Type of ice: Bagged Cubes YES

10. Have designated person initial here to acknowledge receipt of cooler: RM date: 4/16/99

B. LOG-IN PHASE: Date samples were logged-in: 4/16/99
by (print): Rebekah Barger (sign): R Barger

11. Describe type of packing in cooler: Bagged Ice, Bags, Bubble Wrap

12. Were all bottles sealed in separate plastic bags?..... NO

13. Did all bottles arrive unbroken and were labels in good condition?..... YES

14. Were all bottle labels complete (ID, date, time, signature, preserved, etc.)?..... YES

15. Did all bottle labels agree with custody papers?..... YES

16. Were correct containers used for the tests indicated?..... YES

17. Were correct preservatives added to samples?..... YES

18. Was a sufficient amount of sample sent for tests indicated?..... YES

19. Were bubbles absent in VOA samples? If NO, list by sample#:..... YES

20. Was the project manager called and status discussed? If YES, give details on the back of this form.... NO

21. Who was called? NA By whom? NA (date) NA

VDTSR - Validated Date/Time of Sample Receipt (Date sample is logged into LIMS system)

000004

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY TABLE

Client Name **Ensafe**
Site ID **NSA**
Memphis

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
990443801	NFFGMW0606	AQUEOUS	8021B	Aromatic Volatile Organic
990443801	NFFGMW0606	AQUEOUS	TN GRO	TPH - Volatile Range
990443801	NFFGMW0606	AQUEOUS	TN EPH	TPH - Extractable Range
990443802	NFFGMW0206	AQUEOUS	8021B	Aromatic Volatile Organic
990443802	NFFGMW0206	AQUEOUS	TN GRO	TPH - Volatile Range
990443802	NFFGMW0206	AQUEOUS	TN EPH	TPH - Extractable Range
990443803	NFFGMW0306	AQUEOUS	8021B	Aromatic Volatile Organic
990443803	NFFGMW0306	AQUEOUS	TN GRO	TPH - Volatile Range
990443803	NFFGMW0306	AQUEOUS	TN EPH	TPH - Extractable Range
990443804	NFFGMW0106	AQUEOUS	8021B	Aromatic Volatile Organic
990443804	NFFGMW0106	AQUEOUS	TN GRO	TPH - Volatile Range
990443804	NFFGMW0106	AQUEOUS	TN EPH	TPH - Extractable Range
990443805	NFFGMW0406	AQUEOUS	8021B	Aromatic Volatile Organic
990443805	NFFGMW0406	AQUEOUS	TN GRO	TPH - Volatile Range
990443805	NFFGMW0406	AQUEOUS	TN EPH	TPH - Extractable Range
990443806	NFFGMW0506	AQUEOUS	8021B	Aromatic Volatile Organic
990443806	NFFGMW0506	AQUEOUS	TN GRO	TPH - Volatile Range
990443806	NFFGMW0506	AQUEOUS	TN EPH	TPH - Extractable Range
990443807	NFFGRW0106	AQUEOUS	8021B	Aromatic Volatile Organic
990443807	NFFGRW0106	AQUEOUS	TN GRO	TPH - Volatile Range
990443807	NFFGRW0106	AQUEOUS	TN EPH	TPH - Extractable Range
990443808	NFFF041599	AQUEOUS	8021B	Aromatic Volatile Organic
990443808	NFFF041599	AQUEOUS	TN GRO	TPH - Volatile Range
990443808	NFFF041599	AQUEOUS	TN EPH	TPH - Extractable Range
143809	NFFE041599	AQUEOUS	8021B	Aromatic Volatile Organic
143809	NFFE041599	AQUEOUS	TN GRO	TPH - Volatile Range
990443809	NFFE041599	AQUEOUS	TN EPH	TPH - Extractable Range
990443810	NFFHMW0106	AQUEOUS	8021B	Aromatic Volatile Organic
990443810	NFFHMW0106	AQUEOUS	TN GRO	TPH - Volatile Range
990443810	NFFHMW0106	AQUEOUS	TN EPH	TPH - Extractable Range

Environmental Testing & Consulting, Inc.

Sample Reports

000006

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

Client Name **Ensafe**
5724 Summer Tree Drive
Memphis, TN 38184

Project # 0134-001-08-440-00
 FID # 791709

Site ID NSA
 Memphis

Date Arrived 04/16/99
 ETC Order Number 9904438

ETC Lab ID 9904438-01
Sample ID: NFFGMW0606

Matrix :AQUEOUS
 Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L	MDL	PQL		04/21/99	SW	8021B 5030B
QC Batch	X304201							
Benzene	ND		0.14	1.00				
Toluene	ND		0.12	1.00				
Ethyl Benzene	ND		0.15	1.00				
Xylenes-m,p	ND		0.29	2.00				
Xylenes-o	ND		0.17	1.00				
Surrogate Standard	% Recovery		QC Limits					
- 4-Bromofluorobenzene	104		50	150				

ND - Not Detected


 LABORATORY MANAGER

000007

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive

Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99

ETC Order Number 9904438

ETC Lab ID 9904438-02

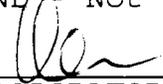
Sample ID: NFFGMW0206

Matrix :AQUEOUS

Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L	MDL	PQL		04/21/99	SW	8021B 5030B
QC Batch	X304201							
Benzene	ND		0.14	1.00				
Toluene	ND		0.12	1.00				
Ethyl Benzene	ND		0.15	1.00				
Xylenes-m,p	ND		0.29	2.00				
Xylenes-o	ND		0.17	1.00				
<u>Surrogate Standard</u>		<u>% Recovery</u>	<u>QC Limits</u>					
- 4-Bromofluorobenzene		100	50	150				

ND - Not Detected


LABORATORY MANAGER

000008

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-03
Sample ID: NFFGMW0306

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L			04/21/99	SW	8021B 5030B
QC Batch	X304201		MDL	PQL			
Benzene	ND		0.14	1.00			
Toluene	ND		0.12	1.00			
Ethyl Benzene	ND		0.15	1.00			
Xylenes-m,p	ND		0.29	2.00			
Xylenes-o	ND		0.17	1.00			
Surrogate Standard	% Recovery		QC Limits				
- 4-Bromofluorobenzene	100		50	150			

ND - Not Detected


LABORATORY MANAGER

000009

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

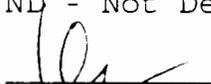
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-04
Sample ID: NFFGMW0106

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L			04/21/99	SW	8021B 5030B
QC Batch	X304201		MDL	PQL			
Benzene	ND		0.14	1.00			
Toluene	ND		0.12	1.00			
Ethyl Benzene	ND		0.15	1.00			
Xylenes-m,p	ND		0.29	2.00			
Xylenes-o	ND		0.17	1.00			
Surrogate Standard	% Recovery		QC Limits				
- 4-Bromofluorobenzene	109		50	150			

ND - Not Detected


LABORATORY MANAGER

000010

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-05
Sample ID: NFFGMW0406

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L	MDL	PQL		04/21/99	SW	8021B 5030B
QC Batch	X304201							
Benzene	ND		0.14	1.00				
Toluene	ND		0.12	1.00				
Ethyl Benzene	ND		0.15	1.00				
Xylenes-m,p	ND		0.29	2.00				
Xylenes-o	ND		0.17	1.00				
<u>Surrogate Standard</u>		<u>% Recovery</u>	<u>QC Limits</u>					
- 4-Bromofluorobenzene		96	50	150				

ND - Not Detected


LABORATORY MANAGER

000011

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

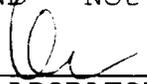
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-06
Sample ID: NFFGMW0506

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L	MDL	PQL		04/21/99	SW	8021B 5030B
QC Batch	X304201							
Benzene	ND		0.14	1.00				
Toluene	ND		0.12	1.00				
Ethyl Benzene	ND		0.15	1.00				
Xylenes-m,p	ND		0.29	2.00				
Xylenes-o	1.03		0.17	1.00				
<u>Surrogate Standard</u>		<u>% Recovery</u>	<u>QC Limits</u>					
- 4-Bromofluorobenzene		96	50	150				

ND - Not Detected


LABORATORY MANAGER

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive

Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99

ETC Order Number 9904438

ETC Lab ID 9904438-07

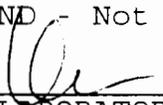
Sample ID: NFFGRW0106

Matrix :AQUEOUS

Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L			04/21/99	SW	8021B 5030B
QC Batch	X304201		MDL	PQL			
Benzene	ND		0.14	1.00			
Toluene	ND		0.12	1.00			
Ethyl Benzene	ND		0.15	1.00			
Xylenes-m,p	ND		0.29	2.00			
Xylenes-o	ND		0.17	1.00			
Surrogate Standard	% Recovery		QC Limits				
- 4-Bromofluorobenzene	100		50	150			

ND - Not Detected


LABORATORY MANAGER

000013

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive

Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-08
Sample ID: NFFF041599

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L			04/21/99	SW	8021B 5030B
QC Batch	X304201		MDL	PQL			
Benzene	ND		0.14	1.00			
Toluene	ND		0.12	1.00			
Ethyl Benzene	ND		0.15	1.00			
Xylenes-m,p	ND		0.29	2.00			
Xylenes-o	ND		0.17	1.00			
Surrogate Standard	% Recovery		QC Limits				
- 4-Bromofluorobenzene	99		50	150			

ND - Not Detected


LABORATORY MANAGER

000014

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**
5724 Summer Tree Drive
Memphis, TN 38184

Project # 0134-001-08-440-00
FID # 791709

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-09
Sample ID: NFFE041599

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L	MDL	PQL		04/21/99	SW	8021B 5030B
QC Batch	X304201							
Benzene	ND		0.14	1.00				
Toluene	ND		0.12	1.00				
Ethyl Benzene	ND		0.15	1.00				
Xylenes-m,p	ND		0.29	2.00				
Xylenes-o	ND		0.17	1.00				
Surrogate Standard	% Recovery		QC Limits					
- 4-Bromofluorobenzene	100		50	150				

ND - Not Detected


LABORATORY MANAGER

000015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**
5724 Summer Tree Drive
Memphis, TN 38184

Project # 0134-001-08-440-00
FID # 791709

Site ID NSA
Memphis

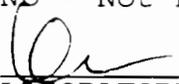
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-10
Sample ID: NFFHMW0106

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Aromatic Volatile Organics		ug/L	MDL	PQL		04/22/99	SW	8021B 5030B
QC Batch	X304201							
Benzene	ND		0.14	1.00				
Toluene	ND		0.12	1.00				
Ethyl Benzene	ND		0.15	1.00				
Xylenes-m,p	ND		0.29	2.00				
Xylenes-o	ND		0.17	1.00				
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>					
- 4-Bromofluorobenzene	109		50	150				

ND - Not Detected


LABORATORY MANAGER

000016

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

**5724 Summer Tree Drive
Memphis, TN 38184**

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-01
Sample ID: NFFGMW0606

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL	PQL	04/22/99	SW	TN GRO 5030B
QC Batch	X104221						
Gasoline Range Organics	ND		11	100			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>OC Limits</u>				
S1 - 4-Bromofluorobenzene	137		50	150			

ND - Not Detected


LABORATORY MANAGER

000017

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

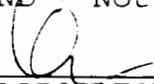
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-02
Sample ID: NFFGMW0206

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL	PQL	04/22/99	SW	TN GRO 5030B
QC Batch	X104221						
Gasoline Range Organics	ND		11	100			
Surrogate Standard	% Recovery		QC Limits				
S1 - 4-Bromofluorobenzene	102		50	150			

ND - Not Detected


LABORATORY MANAGER

000018

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**
5724 Summer Tree Drive
Memphis, TN 38184

Project # 0134-001-08-440-00
FID # 791709

Site ID NSA
Memphis

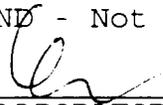
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-03
Sample ID: NFFGMW0306

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL	PQL	04/22/99	SW	TN GRO 5030B
QC Batch	X104221						
Gasoline Range Organics	ND		11	100			
Surrogate Standard	% Recovery		QC Limits				
S1 - 4-Bromofluorobenzene	110		50	150			

ND - Not Detected


LABORATORY MANAGER

000019

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-04
Sample ID: NFFGMW0106

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL	PQL	04/22/99	SW	TN GRO 5030B
QC Batch	X104221						
Gasoline Range Organics	ND		11	100			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
S1 - 4-Bromofluorobenzene	112		50	150			

ND - Not Detected


LABORATORY MANAGER

000020

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00
FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

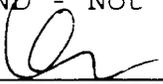
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ETC Order Number 9904438

ETC Lab ID 9904438-05
Sample ID: NFFGMW0406

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL	PQL		04/22/99	SW	TN GRO 5030B
QC Batch	X104221							
Gasoline Range Organics	ND		11	100				
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>					
S1 - 4-Bromofluorobenzene	107		50	150				

ND - Not Detected


LABORATORY MANAGER

000021

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-06
Sample ID: NFFGMW0506

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL		04/22/99	SW	TN GRO 5030B
QC Batch	X304221						
Gasoline Range Organics	141		11	100			
Surrogate Standard	% Recovery		QC Limits				
S1 - 4-Bromofluorobenzene	88		50	150			

ND - Not Detected


LABORATORY MANAGER

000022

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

Client Name **Ensafe**
 5724 Summer Tree Drive
 Memphis, TN 38184

Project # 0134-001-08-440-00
 FID # 791709

Site ID NSA
 Memphis

Date Arrived 04/16/99
 ETC Order Number 9904438

ETC Lab ID 9904438-07
Sample ID: NFFGRW0106

Matrix :AQUEOUS
 Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL PQL		04/22/99	SW	TN GRO 5030B
QC Batch	X304221						
Gasoline Range Organics	ND		11	100			
Surrogate Standard	% Recovery		QC Limits				
S1 - 4-Bromofluorobenzene	92		50	150			

ND - Not Detected


 LABORATORY MANAGER

000023

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID **9904438-08**
Sample ID: NFFF041599

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL	PQL	04/22/99	SW	TN GRO 5030B
QC Batch	X304221						
Gasoline Range Organics	ND		11	100			
Surrogate Standard	% Recovery		QC Limits				
S1 - 4-Bromofluorobenzene	94		50	150			

ND - Not Detected


LABORATORY MANAGER

000024

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive

Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99

ETC Order Number 9904438

ETC Lab ID 9904438-09

Sample ID: NFFE041599

Matrix :AQUEOUS

Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL	PQL	04/22/99	SW	TN GRO 5030B
QC Batch	X304221						
Gasoline Range Organics	ND		11	100			
Surrogate Standard	% Recovery		QC Limits				
S1 - 4-Bromofluorobenzene	92		50	150			

ND - Not Detected


LABORATORY MANAGER

000025

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

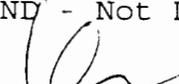
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-10
Sample ID: NFFHMW0106

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Volatile Range		ug/L	MDL		04/22/99	SW	TN GRO 5030B
QC Batch	X304221						
Gasoline Range Organics	ND		11	100			
Surrogate Standard	% Recovery		OC Limits				
S1 - 4-Bromofluorobenzene	98		50	150			

ND - Not Detected


LABORATORY MANAGER

000026

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

Client Name **Ensafe**

Project # 0134-001-08-440-00
 FID # 791709

**5724 Summer Tree Drive
 Memphis, TN 38184**

Site ID NSA
 Memphis

Date Arrived 04/16/99
 ETC Order Number 9904438

ETC Lab ID **9904438-01**
Sample ID: NFFGMW0606

Matrix :AQUEOUS
 Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L		04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090		MDL	PQL			
Extractable Hydrocarbons	0.729		0.01	0.110			
Surrogate Standard	% Recovery		QC Limits				
S1 - O-Terphenyl	99		50	150			

ND - Not Detected


 LABORATORY MANAGER

000027

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

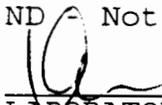
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-02
Sample ID: NFFGMW0206

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	PQL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090							
Extractable Hydrocarbons	0.156		0.01	0.120				
Surrogate Standard	% Recovery		QC Limits					
S1 - O-Terphenyl	84		50	150				

ND - Not Detected


LABORATORY MANAGER

000028

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-03
Sample ID: NFFGMW0306

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	PQL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090							
Extractable Hydrocarbons	ND		0.01	0.110				
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>OC Limits</u>					
S1 - O-Terphenyl	62		50	150				

ND - Not Detected


LABORATORY MANAGER

000029

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

Client Name **Ensafe**
 5724 Summer Tree Drive
 Memphis, TN 38184

Project # 0134-001-08-440-00
 FID # 791709

Site ID NSA
 Memphis

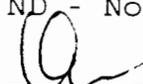
Date Arrived 04/16/99
 ETC Order Number 9904438

ETC Lab ID 9904438-04
Sample ID: NFFGMW0106

Matrix :AQUEOUS
 Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	PQL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090							
Extractable Hydrocarbons	0.183		0.01	0.100				
Surrogate Standard	% Recovery		QC Limits					
S1 - O-Terphenyl	79		50	150				

ND - Not Detected


 LABORATORY MANAGER

000030

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

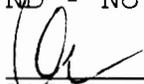
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-05
Sample ID: NFFGMW0406

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	PQL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090							
Extractable Hydrocarbons	0.138		0.01	0.100				
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>					
S1 - O-Terphenyl	59		50	150				

ND - Not Detected


LABORATORY MANAGER

000031

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**
5724 Summer Tree Drive
Memphis, TN 38184

Project # 0134-001-08-440-00
FID # 791709

Site ID NSA
Memphis

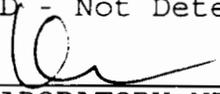
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-06
Sample ID: NFFGMW0506

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	PQL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090							
Extractable Hydrocarbons	2.74		0.01	0.100				
Surrogate Standard	% Recovery		QC Limits					
S1 - O-Terphenyl	92		50	150				

ND - Not Detected


LABORATORY MANAGER

000032

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-07
Sample ID: NFFGRW0106

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	PQL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090							
Extractable Hydrocarbons	0.213		0.01	0.110				
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>					
S1 - O-Terphenyl	100		50	150				

ND - Not Detected


LABORATORY MANAGER

000033

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**
5724 Summer Tree Drive
Memphis, TN 38184

Project # 0134-001-08-440-00
FID # 791709

Site ID NSA
Memphis

Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-08
Sample ID: NFFF041599

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090		PQL				
Extractable Hydrocarbons	ND		0.01	0.100			
Surrogate Standard	% Recovery		QC Limits				
S1 - O-Terphenyl	85		50	150			

ND - Not Detected


LABORATORY MANAGER

000034

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

5724 Summer Tree Drive
Memphis, TN 38184

Site ID NSA
Memphis

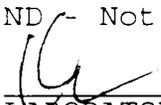
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID 9904438-09
Sample ID: NFFE041599

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L		04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090		MDL	PQL			
Extractable Hydrocarbons	ND		0.01	0.100			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>				
Sl - O-Terphenyl	79		50	150			

ND - Not Detected


LABORATORY MANAGER

000035

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Ensafe**

Project # 0134-001-08-440-00

FID # 791709

**5724 Summer Tree Drive
Memphis, TN 38184**

Site ID NSA
Memphis

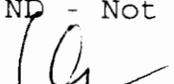
Date Arrived 04/16/99
ETC Order Number 9904438

ETC Lab ID **9904438-10**
Sample ID: NFFHMW0106

Matrix :AQUEOUS
Sample Date :04/15/99

TEST	RESULT	UNITS	DETECTION LIMIT		DATE EXTRACTED	DATE ANALYZED	BY	METHOD
TPH - Extractable Range		mg/L	MDL	PQL	04/16/99	04/16/99	JP	TN EPH 3510C
QC Batch	P02090							
Extractable Hydrocarbons	0.189		0.01	0.100				
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>					
Si - O-Terphenyl	83		50	150				

ND - Not Detected


LABORATORY MANAGER

000036

Environmental Testing & Consulting, Inc.

Quality Control Reports

GC Volatiles

000037

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC VOLATILE FRACTION - AQUEOUS

Client Name : Ensafe
Project Name : NSA
ETC Order # : 9904-438
Method (SW-846) : 8021B Volatile Fraction
5030B

HOLDING TIMES

Sample Analysis : All samples analyzed within 14 days
of collection.

QUALITY CONTROL

QC Batch Form 4 Summary
X304201 X304201LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Laboratory Control Sample FORM 3
X304201LCS/LCSD

All criteria met.

Matrix Spike / Matrix Spike Dup FORM 3
RPD : NA*
Spike Recovery : NA*

*

Due to the limited amount of sample available, no MS/MSD were
analyzed.

Refer to Laboratory Control Sample(s) for system verification.

Method Blank FORM 4
X304201LB

No Target Analytes detected above Practical Quantitation Limit.

CALIBRATION

Initial Calibration : All criteria met. FORM 6
Calibration Verification : All criteria met. FORM 7A

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC
Dilutions Required : No dilutions required.



Laboratory Manager

000038

FORM 2
WATER BTEX-VOC SURROGATE RECOVERY

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 9904-438

	CLIENT SAMPLE NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	X304201LCS	117								0
02	X304201LCSD	103								0
03	X304201LB	92								0
04	9904-438-1	104								0
05	9904-438-2	100								0
06	9904-438-3	100								0
07	9904-438-4	109								0
08	9904-438-5	96								0
09	9904-438-6	101								0
10	9904-438-6	96								0
11	9904-438-7	100								0
12	9904-438-8	99								0
13	9904-438-9	100								0
14	9904-438-10	109								0
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QC LIMITS
S1 = Bromofluorobenzene-Sur (50-150)

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

FORM 4
 BTEX-VOC METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

X304201LB

Lab Name: Contract:
 Lab Code: Case No.: SAS No.: SDG No.: 9904-438
 Lab File ID: X304201-04R Lab Sample ID:
 Instrument ID: BTX3 Date Extracted:
 Matrix: (soil/water) WATER Date Analyzed: 04/20/99
 Level: (low/med) LOW Time Analyzed: 1339

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	X304201LCS		X304201LCS	04/20/99
02	X304201LCSD		X304201LCSD	04/20/99
03	9904-438-1		X304201-48R	04/21/99
04	9904-438-2		X304201-49R	04/21/99
05	9904-438-3		X304201-50R	04/21/99
06	9904-438-4		X304201-51R	04/21/99
07	9904-438-5		X304201-52R	04/21/99
08	9904-438-6		X304201-53R	04/21/99
09	9904-438-6		X304201-54R	04/21/99
10	9904-438-7		X304201-55R	04/21/99
11	9904-438-8		X304201-56R	04/21/99
12	9904-438-9		X304201-57R	04/21/99
13	9904-438-10		X304201-58R	04/22/99
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COMMENTS:

FORM 1
BTEX-VOC ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

X304201LB

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 9904-438
 Matrix: (soil/water) WATER Lab Sample ID: _____
 Sample wt/vol: 5.000 (g/mL) ML Lab File ID: X304201-04R
 Level: (low/med) LOW Date Received: _____
 % Moisture: _____ decanted: (Y/N) _____ Date Extracted: _____
 Concentrated Extract Volume: _____ (uL) Date Analyzed: 04/20/99
 Injection Volume: _____ (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
1643-04-4-----	MTBE	1.00	U
108-20-3-----	DIPE	1.00	U
71-43-2-----	Benzene	1.00	U
108-88-3-----	Toluene	1.00	U
100-41-4-----	Ethyl Benzene	1.00	U
1330-20-7-----	m p-Xylene	2.00	U
95-47-6-----	o-Xylene	1.00	U
91-20-3-----	naphthalene	1.00	U

FORM 3
WATER BTEX-VOC LAB CONTROL SAMPLE

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 9904-438

Matrix Spike - Sample No.: X3042011cs

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
MTBE	20.0		24.1	120	46-162
DIPE	20.0		20.5	102	46-162
Benzene	40.0		43.0	108	46-162
Toluene	40.0		42.3	106	47-150
Ethyl Benzene	40.0		41.9	105	50-157
m p-Xylene	80.0		85.8	107	48-158
o-Xylene	40.0		42.3	106	48-158

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
MTBE	20.0	22.5	112	7	20	46-162
DIPE	20.0	20.8	104	2	20	46-162
Benzene	40.0	42.4	106	2	20	46-162
Toluene	40.0	41.6	104	2	20	47-150
Ethyl Benzene	40.0	41.0	102	3	20	50-157
m p-Xylene	80.0	83.9	105	2	20	48-158
o-Xylene	40.0	41.7	104	2	20	48-158

Column to be used to flag recovery and RPD values with an asterisk
* Values outside of QC limits

RPD: 0 out of 7 outside limits
Spike Recovery: 0 out of 14 outside limits

COMMENTS:

Environmental Testing & Consulting, Inc.

**Quality Control Reports
GC Volatiles**

000043

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC VOLATILE FRACTION - AQUEOUS

Client Name : Ensafe
Project Name : NSA
ETC Order # : 9904-438
Method (SW-846) : TN GRO
5030B

HOLDING TIMES

Sample Analysis : All samples analyzed within 14 days
of collection.

QUALITY CONTROL

QC Batch Form 4 Summary
X104221 X104221BLB
X304221 X304221BLB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.*

*

Surrogate recovery was flagged for high recovery in X104221BLB.

Laboratory Control Sample FORM 3

X104221BLCS/LCSD
X304221BLCS/LCSD

All criteria met.

Matrix Spike / Matrix Spike Dup FORM 3

RPD : NA*

Spike Recovery : NA*

*

Due to the limited amount of sample available, no MS/MSD were
analyzed.

Refer to Laboratory Control Sample(s) for system verification.

Method Blank FORM 4

X104221BLB
X304221BLB

No Target Analytes detected above Practical Quantitation Limit.

CALIBRATION

Initial Calibration : All criteria met. FORM 6
Calibration Verification : All criteria met. FORM 7A

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC
Dilutions Required : No dilutions required.



Laboratory Manager

000044

FORM 2
WATER GRO-VOC SURROGATE RECOVERY

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 9904-438

	CLIENT SAMPLE NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	X104221BLB	699*								1
02	X104221BLCS	121								0
03	9904-438-1	137								0
04	9904-438-2	102								0
05	9904-438-3	110								0
06	9904-438-4	112								0
07	9904-438-5	107								0
08	X104221BLCS D	112								0
09										
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QC LIMITS
 S1 = Bromofluorobenzene Sur (50-150)

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

FORM 4
GRO-VOC METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

X104221BLB

Lab Name: Contract:
 Lab Code: Case No.: SAS No.: SDG No.: 9904-438
 Lab File ID: 104221B-01R Lab Sample ID:
 Instrument ID: GRO1 Date Extracted:
 Matrix: (soil/water) WATER Date Analyzed: 04/22/99
 Level: (low/med) LOW Time Analyzed: 0938

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	X104221BLCS		104221BLCS	04/22/99
02	9904-438-1		104221B-04R	04/22/99
03	9904-438-2		104221B-05R	04/22/99
04	9904-438-3		104221B-06R	04/22/99
05	9904-438-4		104221B-07R	04/22/99
06	9904-438-5		104221B-08R	04/22/99
07	X104221BLCSD		104221BLCSD	04/22/99
08				
09				
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COMMENTS:

FORM 1
GRO-VOC ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

X104221BLB

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 9904-438
 Matrix: (soil/water) WATER Lab Sample ID: _____
 Sample wt/vol: _____ (g/mL) ML Lab File ID: 104221B-01R
 Level: (low/med) MED Date Received: _____
 % Moisture: _____ decanted: (Y/N) _____ Date Extracted: _____
 Concentrated Extract Volume: _____ (uL) Date Analyzed: 04/22/99
 Injection Volume: _____ (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg) UG/L	Q
-----	Total GRO	10.0	U

FORM 3
WATER GRO-VOC LAB CONTROL SAMPLE

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 9904-438
 Matrix Spike - Sample No.: x104221blcs

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Total GRO	1000		911	91	70-130

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Total GRO	1000	943	94	3	20	70-130

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits

RPD: 0 out of 1 outside limits
 Spike Recovery: 0 out of 2 outside limits

COMMENTS: _____

FORM 2
WATER TPH-VOA SURROGATE RECOVERY

Lab Name:

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 9904-438

	CLIENT SAMPLE NO.	S1 #	S2 #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	X304221BLB	88								0
02	X304221BLCS	94								0
03	9904-438-6	88								0
04	9904-438-7	92								0
05	9904-438-8	94								0
06	9904-438-9	92								0
07	9904-438-10	98								0
08	X304221BLCS D	88								0
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S1 = Bromofluorobenzene Sur (50-150) QC LIMITS

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

FORM 4
TPH-VOA METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

X304221BLB

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 9904-438
 Lab File ID: 304221B-01R Lab Sample ID: _____
 Instrument ID: GRO3 Date Extracted: _____
 Matrix: (soil/water) WATER Date Analyzed: 04/22/99
 Level: (low/med) LOW Time Analyzed: 0939

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	X304221BLCS		304221BLCS	04/22/99
02	9904-438-6		304221B-03R	04/22/99
03	9904-438-7		304221B-04R	04/22/99
04	9904-438-8		304221B-05R	04/22/99
05	9904-438-9		304221B-06R	04/22/99
06	9904-438-10		304221B-07R	04/22/99
07	X304221BLCS		304221BLCS	04/22/99
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COMMENTS:

FORM 1
 TPH-VOA ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

X304221BLB

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 9904-438
 Matrix: (soil/water) WATER Lab Sample ID: _____
 Sample wt/vol: _____ (g/mL) ML Lab File ID: 304221B-01R
 Level: (low/med) LOW Date Received: _____
 % Moisture: _____ decanted: (Y/N) _____ Date Extracted: _____
 Concentrated Extract Volume: _____ (uL) Date Analyzed: 04/22/99
 Injection Volume: _____ (uL) Dilution Factor: 1.0
 GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
-----	Total GRO	10.0	U

FORM 3
WATER TPH-VOA LAB CONTROL SAMPLE

Lab Name: _____ Contract: _____
 Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 9904-438
 Matrix Spike - Sample No.: X304221Blcs

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Total GRO	180		208	116	70-130

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Total GRO	180	186	103	12	20	70-130

Column to be used to flag recovery and RPD values with an asterisk
 * Values outside of QC limits

RPD: 0 out of 1 outside limits
 Spike Recovery: 0 out of 2 outside limits

COMMENTS: _____

Environmental Testing & Consulting, Inc.

Quality Control Reports

GC Method - EPH

000053

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC EXTRACTABLE FRACTION - AQUEOUS

Client Name : Ensafe
Project Name : NSA
ETC Order # : 9904-438
Method (SW-846) : TN EPH
 : 3510C

HOLDING TIMES

Sample Extraction : All aqueous samples extracted within 7 days.
Sample Analysis : All samples analyzed within 40 days of
 extraction.

QUALITY CONTROL

QC Batch Form 4 Summary
P02090 P02090LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Laboratory Control Sample FORM 3
P02090LCS/LCSD

All criteria met.

Matrix Spike / Matrix Spike Dup FORM 3
RPD : NA*
Spike Recovery : NA*

*
Due to the limited amount of sample available, no MS/MSD were
extracted.

Refer to Laboratory Control Sample(s) for system verification.

Method Blank FORM 4
P02090LB

No Target Analytes detected above Practical Quantitation Limit.

CALIBRATION

Initial Calibration : All criteria met. FORM 6
Calibration Verification : All criteria met. FORM 7

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC
Dilutions Required : No dilutions required.

Detection limits for several samples were raised due to the minimum
sample volume provided instead of the nominal 1000 mL method volume.



Laboratory Manager

000054

FORM 2
WATER EPH-EXT SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 9904-438

	CLIENT SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	OTHER	TOT OUT
01	PO2090LB	101				0
02	PO2090-LCS	99				0
03	PO2090-LCSD	111				0
04	9904-438-1	99				0
05	9904-438-2	84				0
06	9904-438-3	62				0
07	9904-438-4	79				0
08	9904-438-5	59				0
09	9904-438-6	92				0
10	9904-438-7	100				0
11	9904-438-8	85				0
12	9904-438-9	79				0
13	9904-438-10	83				0
14	9904-438-6	93				0
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

SMC1 = OTP Surr QC LIMITS
(50-150)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
EPH-EXT METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

PO2090LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 9904-438

Lab File ID: 1041601-16R

Lab Sample ID:

Date Analyzed: 04/16/99

Time Analyzed: 1405

GC Column: DB5MS ID: 0.25 (mm)

Heated Purge: (Y/N) N

Instrument ID: DRO1

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

SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01		1041601-17R	1413
02		1041601-18R	1421
03		1041601-28R	1542
04		1041601-29R	1550
05		1041601-30R	1558
06		1041601-31R	1607
07		1041601-32R	1615
08		1041601-33R	1623
09		1041601-34R	1631
10		1041601-35R	1639
11		1041601-36R	1647
12		1041601-37R	1655
13		1041801-04R	0933
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
30			

COMMENTS:

FORM 1
 EPH-EXT ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

PO2090LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 9904-438

Matrix: (soil/water) WATER

Lab Sample ID:

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

Lab File ID: 1041601-16R

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 04/16/99

GC Column: DB5MS ID: 0.25 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
-----	DRO Range 1	100	U
-----	OIL Range 2	100	U

FORM 3
WATER EPH-EXT LAB CONTROL SAMPLE

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 9904-438

Matrix Spike - Sample No.: P02090-LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
DRO Range 1	915		536	58	50-100
OIL Range 2	890		568	64	50-100

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
DRO Range 1	915	618	68	16	20	50-100
OIL Range 2	890	625	70	9	20	50-100

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

* Values outside of QC limits

RPD: 0 out of 2 outside limits

Spike Recovery: 0 out of 4 outside limits

COMMENTS:
