379SERBSF10,624

379SERBSF10,624

Site Name (Subject):	STALLINGS SALVAGE
Site ID (Document ID):	NCSFN0406894
Document Name (DocType):	Correspondence (C)
Report Segment:	
Description:	START Trip Report
Date of Document:	2/24/2000
Date Received:	2/25/2000
Box: *Enter SF and # with no spaces*	SF10,624
Access Level:	PUBLIC
Division:	WASTE MANAGEMENT
Section:	SUPERFUND
Program (Document Group):	SERB (SERB)
Document Category:	FACILITY

Print Report for Record | **Go to New Blank Record** | **Go to New Record - (default to last record values)** | **Delete Record**

Tetra Tech EM Inc.

Gwinnett Corporate Center ◆ 1750 Corporate Drive, Suite 735 ◆ Norcross, GA 30093 ◆ (770) 935-1542 ◆ FAX (770) 935-9049

February 24, 2000

RECEIVED

FEB 25 2000

SUPERFUND SECTION

Dan LaMontagne, Head
Site Evaluation and Removal Branch
North Carolina Department of Environment and Natural Resources
Superfund Section, Division of Waste Management
401 Oberlin Road, Suite 150, MSC 1646
Raleigh, NC 27699-4811

Subject: **Trip Report**
Stallings Salvage Site
Monroe, Union County, North Carolina

Dear Mr. LaMontagne:

The Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START) is submitting one copy of the trip report for the original reconnaissance conducted at the Stallings Salvage site on December 30, 1998.

If you have any questions or need additional copies of the report, please contact me at (770) 717-2344.

Sincerely,

Stacy L Campbell

Stacy L. Campbell
START Project Manager, Region 4
Tetra Tech EM Inc.

contains recycled fiber and is recyclable

Tetra Tech EM Inc.

Gwinnett Corporate Center ◆ 1750 Corporate Drive, Suite 735 ◆ Norcross, GA 30093 ◆ (770) 935-1542 ◆ FAX (770) 935-9049

February 5, 1999

RECEIVED

FEB 25 2000

SUPERFUND SECTION

Fred Stroud, On-Scene Coordinator
U.S. Environmental Protection Agency Region 4
Emergency Response and Removal Branch
61 Forsyth Street, SW, 11th Floor
Atlanta, Georgia 30303

Subject: **Trip Report**
Stalling Salvage Site
Monroe, Union County, North Carolina
TDD No. 04-9812-0016

Dear Mr. Stroud:

Enclosed is a copy of the trip report for the sampling conducted at the Stalling Salvage Site on December 30, 1998. If you have any questions or need additional copies of the report, please contact me at (770) 717-2344.

Sincerely,

Stacy L. Campbell

Stacy L. Campbell
START Project Manager

cc: Douglas Thompson, Project Officer (letter only)
Tracy Poole, START Emergency Response Coordinator
START File

contains recycled fiber and is recyclable

TRIP REPORT
STALLING SALVAGE SITE
MONROE, UNION COUTY, NORTH CAROLINA

1.0 SITUATION

This trip report has been prepared in accordance with the requirements of Technical Direction Document (TDD) No. 04-9812-0016, which the U.S. Environmental Protection Agency (EPA) Region 4 assigned to the Tetra Tech EM Inc. Superfund Technical Assessment and Response Team (START). The scope of this TDD was to conduct sampling and documentation at the Stalling Salvage site in Monroe, Union County, North Carolina. START was tasked to prepare a site health and safety plan, mobilize to the site, perform air monitoring and waste sampling, document on-site activities in a logbook (see Appendix A), document site conditions with a still camera (see Appendix B), and prepare a trip report. This report discusses the site background and summarizes field activities.

2.0 BACKGROUND

The Stalling Salvage Site (site) is located on the west side of Secrest Avenue between Simpson and Cureton Streets in Monroe, Union County, North Carolina. The site is located in a mixed residential and commercial area (see Figures 1 and 2).

Access to the building was unrestricted. Vegetation has grown up around the building, and vagrants have apparently been living inside. The closest residence is 200 to 300 feet south of the site. A warehouse leased by the LC Davis Company is located 50 feet west of the site. The contents of the warehouse are unknown, although the LC Davis Company manufactures industrial adhesives. The Wampler Poultry Plant is located 75 feet north of the site. Tyson Foods is located on the east side of Secrest Avenue; the poultry processing plant for the entire region is located approximately 1,000 feet south of the site on Secrest Avenue. Richardson Creek is located approximately 0.5 mile west of the site, and runoff from the site enters this creek through storm drains. The site and the surrounding homes and businesses are connected to municipal water and sewer services.

Mr. Paul Stallings currently owns the site, which was acquired through foreclosure proceedings approximately 10 years ago. The previous owner, Mr. Bill Stallings, operates a business called Stallings

Salvage at another location in Monroe and is the brother of Paul Stallings. Paul Stallings is currently seriously ill and living in a local nursing home. His son, Morris Stallings, has power of attorney, and has indicated that he does not have the funds to remove the waste from the site due to the high health care costs for his father's long-term care. It is unknown if Bill Stallings would be willing to remove the waste, since he may not be aware of his potential liability as a former operator.

The site was referred to the North Carolina Superfund Section (NCSS) by the North Carolina Division of Water Quality based on a report by Lieutenant Neal Speer, City of Monroe Fire Marshall. The NCSS referred the site to EPA. The site is an old wooden "World War II era" cold storage building that was used by Stallings Salvage, a building salvage company. The building was used to store old building materials recovered from facilities that had been abandoned, gone out of business, or had been damaged by fires. The building was also used for mixing latex paint. The facility has been abandoned for approximately 10 years.

Based on an inspection of the site on December 5, 1998, Lt. Speer reported that approximately 30 to 40 percent of the building has collapsed. Various types of non-hazardous debris, including cardboard and furniture, are scattered throughout the building, and an estimated two to three tractor trailer loads of paint, mostly latex, are staged in various sizes of containers inside the building. At least one pallet of 5-gallon buckets contains recycled mineral spirits, at least one pallet of 2-gallon pails contains carpet adhesive, and several 55-gallon drums inside the building are labeled "flammable" and are believed to contain paint. The containers appear to be covered, although the drums are rusted due to exposure to weather from the collapsed roof. Some of the paint containers have leaked, but no releases appear to have escaped the building. One large (1,000 to 2,000-gallon) aboveground storage tank (AST) is located outside the east wall of the building and is believed to be empty (see Appendix B, pp. B-2 and B-3).

3.0 SUMMARY

On December 30, 1998, START personnel met On-Scene Coordinator (OSC) Fred Stroud and Emergency Response and Removal Services (ERRS) contractor Clay M. Corman Environmental Services, Inc., on site to begin sampling activities. The site consists of a single-story wooden building that is 30 to 40 percent collapsed, situated on approximately 1 acre of property. Access to the site was previously unrestricted, but during the site visit, ERRS installed an 8-foot chain-link fence around the building. The site building is full of debris and contains numerous drums and containers of waste or product scattered

contain latex paint, recycled mineral spirits, and flammable liquids. Most of the drums and containers on site are staged on pallets, and many of the palletized drums and containers currently support the collapsed roof.

START began sampling activities by screening the facility with air monitoring equipment consisting of a photoionization detector, a flame ionization detector, and a combustible gas indicator. A radiation scan of the facility was also conducted with a radiation meter. No readings above background were detected with any of the instruments. After the building was screened, sampling operations began at the OSC's direction.

The OSC directed START to collect four samples from drums and containers located in the building. START selected the four containers to be sampled based on ease of access and FID readings. The samples were numbered SSS-D1 through SSS-D4. All samples were collected using disposable glass drum thieves, and were placed in two 40-milliliter glass jars for volatile organic compound (VOC) analysis, and one 16-ounce glass jar for semivolatile organic compounds (SVOC) analysis. Sample number SSS-3 was sent for complete analysis, including metals, pesticides, polychlorinated biphenyls (PCB). cyanide, VOCs, and SVOCs. All samples were shipped by FedEx to Environmental Testing and Consulting located in Memphis, Tennessee.

4.0 ANALYTICAL SUMMARY

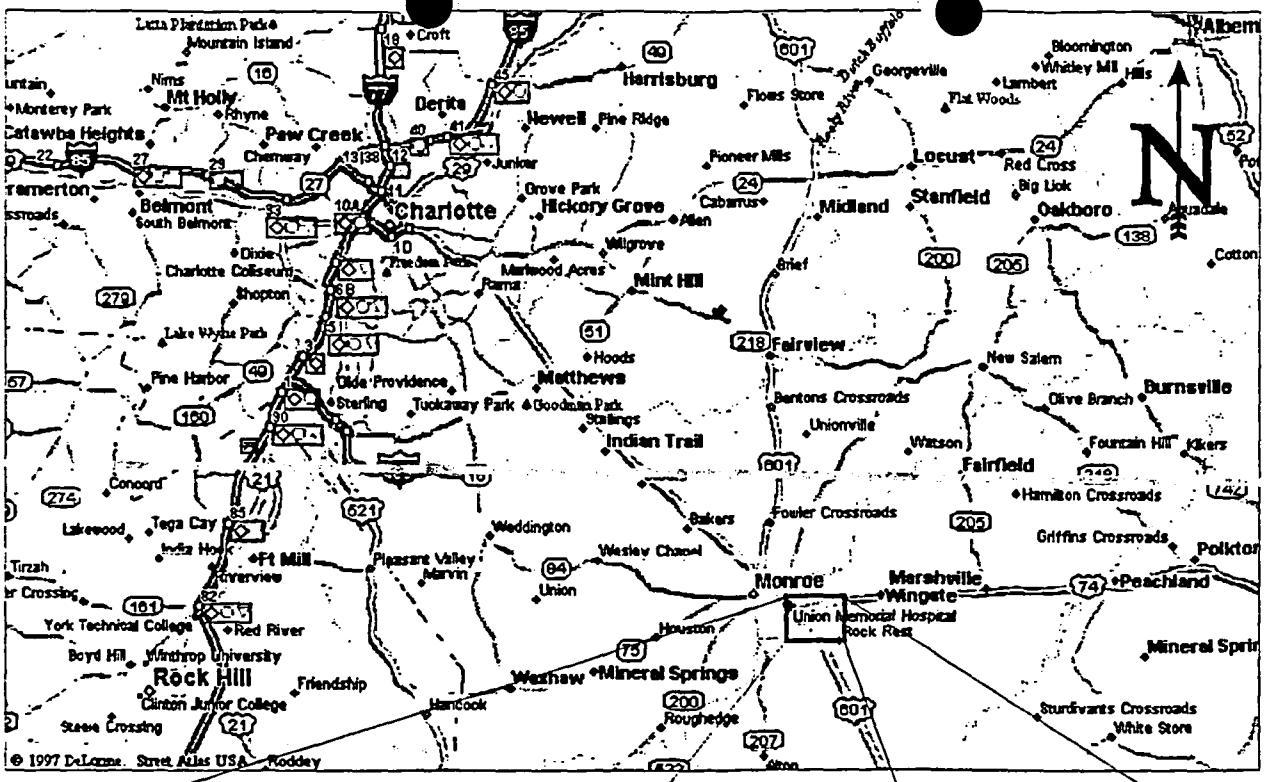
Analytical results show that all samples except SSS-D1 contain high concentrations of VOCs; sample SSS-D1 had no detectable levels of VOCs. Sample SSS-D2 contains ethylbenzene (14,000 milligrams/kilogram [mg/kg]), napthalene (20,300 mg/kg), toluene (155,000 mg/kg), 1.2,4-trimethylbenzene (1,150 mg/kg), 1,3,5-trimethylbenzene (1,200 mg/kg), and total xylenes (69,400, mg/kg). Sample SSS-D4 had elevated levels of VOCs; total xylenes of 449 mg/kg was the highest concentration. Sample SSS-D3 also had elevated levels of VOCs; 3,600 mg/kg of 1,3,5-trimethylbenzene was the highest detected level. No samples had detectable concentrations of SVOCs. A complete analysis was ordered for sample SSS-D3, which exhibited no detectable concentrations of pesticides or PCBs in the sample. Sample SSS-D3 was also tested for metals, and low concentrations of calcium (7.5 mg/kg), iron (2.09 mg/kg), and zinc (1.34 mg/kg) were detected. A complete analytical report is included in Appendix D.

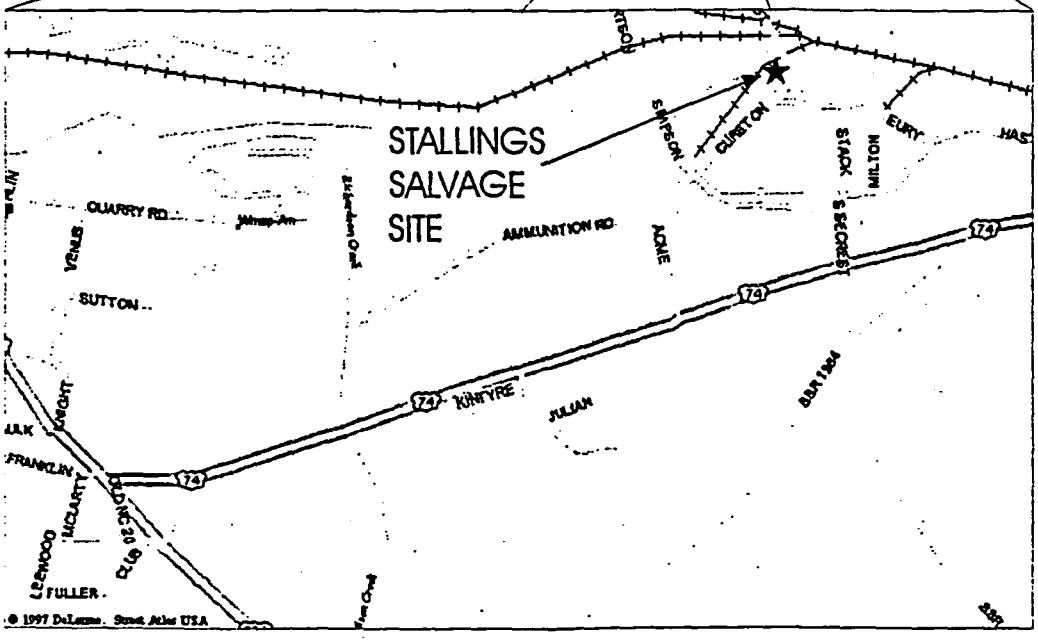
5.0 CONCLUSION

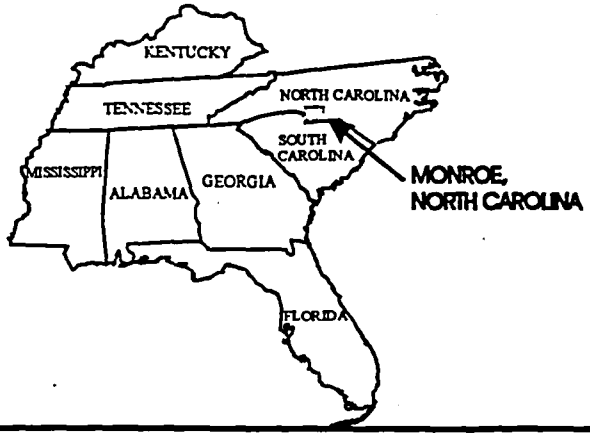
The approximately 1-acre Stallings Salvage Site contains numerous drums and containers of paint and adhesive, recycled mineral spirits, unknown products, and a large amount of nonhazardous debris, including furniture and cardboard. The overall condition of the drums and containers on site is fair to poor, and most of the drums are rusted from exposure to the weather due to the collapsed roof. Many of the drums and containers are supporting the collapsed portions of the roof. An 8-foot chain-link fence currently surrounds the site.

On December 30, 1998, under the direction of the OSC, START provided air monitoring, conducted waste sampling, and documented site conditions and activities. START documented on-site activities with written lognotes, diagrams, and still photographs. Air monitoring equipment did not identify ambient air readings above background during the site visit. Four containers were sampled, and all of the samples were sent to Environmental Testing and Consulting Inc., in Memphis, Tennessee for analysis.

Due to the potential fire hazard from flammable materials inside the building, the wooden construction of the building, the make-up of the debris, and the proximity of the site to neighboring homes and businesses, further federal involvement at the Stallings Salvage site is anticipated. No further START activities under this TDD are expected.



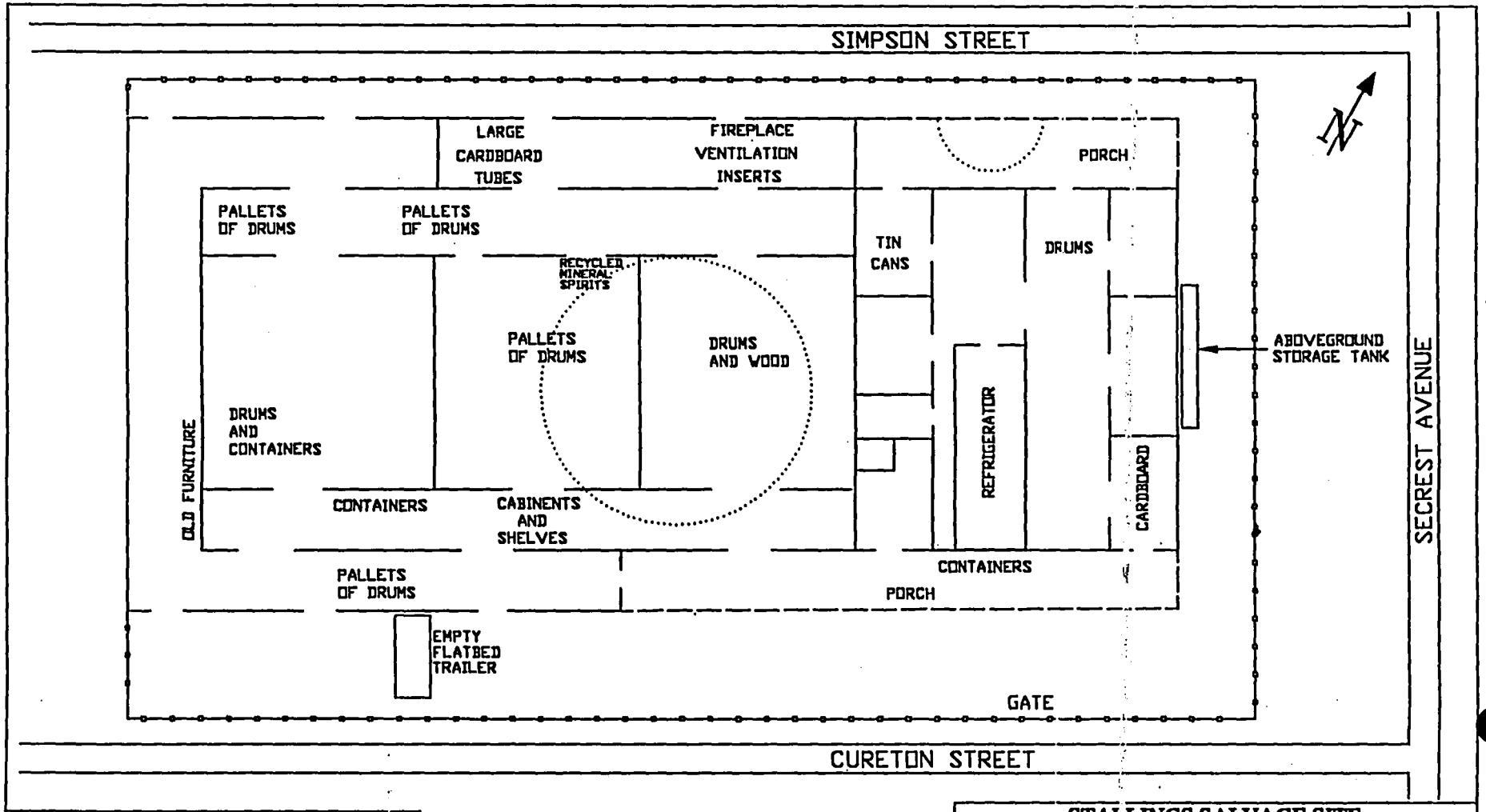




STALLINGS SALVAGE SITE
MONROE, UNION COUNTY, NORTH CAROLINA
TDD No. 04-9812-0016

FIGURE 1 - SITE LOCATION MAP

TETRA TECH EM INC. START



LEGEND

- COLLAPSED ROOF
- COVERED OVERHANG
- FENCE

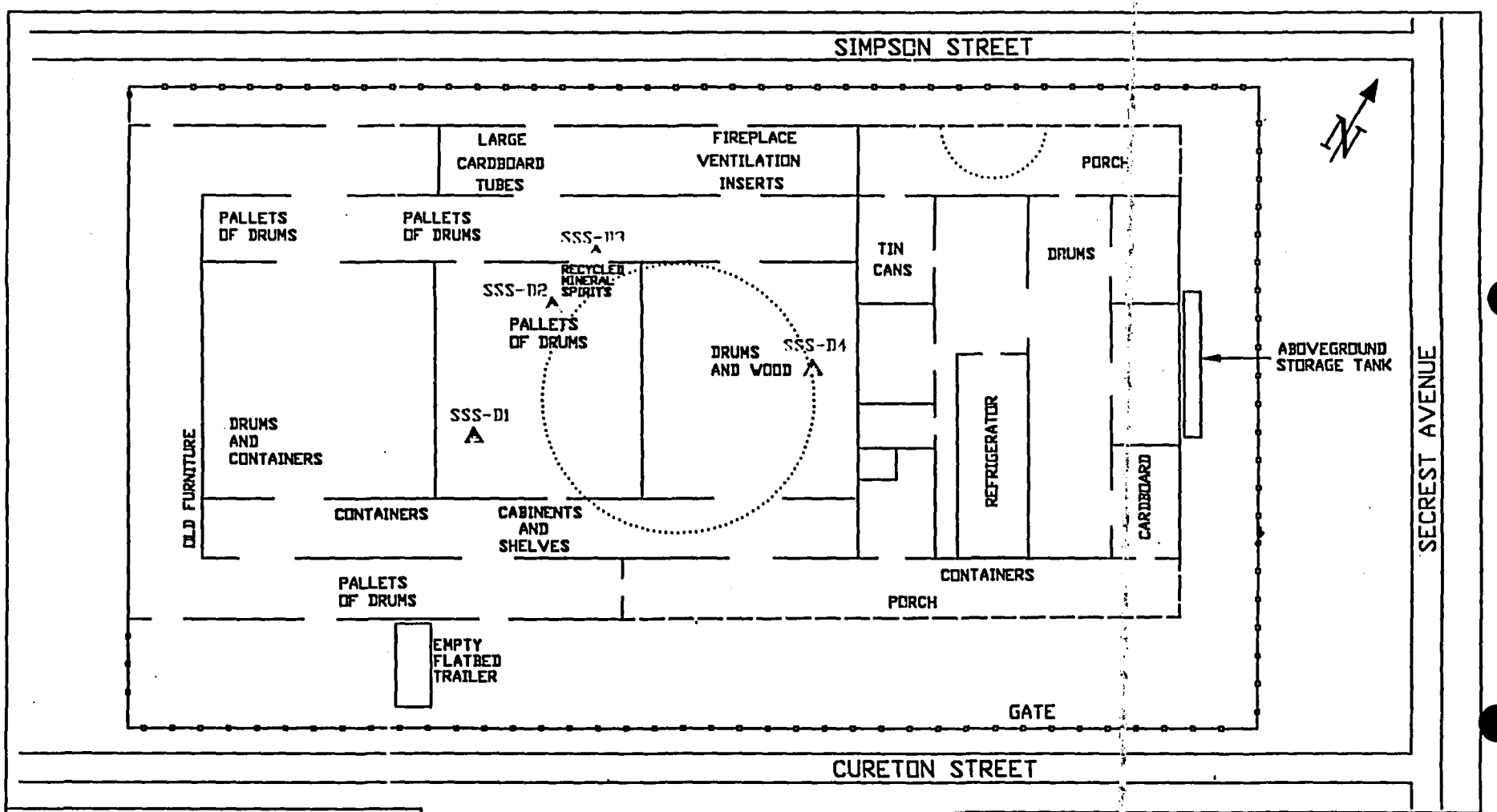
NOT TO SCALE

STALLINGS SALVAGE SITE
MONROE, UNION COUNTY, NORTH CAROLINA
TOD No. 04-9812-0016

FIGURE 2 - SITE DIAGRAM MAP

TETRA TECH EM INC.

START



LEGEND

- COLLAPSED ROOF
- COVERED OVERHANG
- FENCE
- SAMPLE LOCATION

NOT TO SCALE

STARLINGS SALVAGE SITE
MONROE, UNION COUNTY, NORTH CAROLINA
TOD No. 04-9812-0016

FIGURE 3 - SAMPLE LOCATION MAP

TETRA TECH EM INC. START

APPENDIX A
LOGOOK NOTES
(10 Pages)

INCH CM

MEASUREMENT CONVERSIONS

IF YOU KNOW	MULTIPLY BY	TO FIND
LENGTH		
inches	2.540	centimeters
feet	30.480	centimeters
yards	0.914	meters
miles	1.609	kilometers
millimeters	0.039	inches
centimeters	0.393	inches
meters	3.280	feet
meters	1.093	yards
kilometers	0.621	miles
WEIGHT		
ounces	28.350	grams
pounds	0.453	kilograms
grams	0.035	ounces
kilograms	2.204	pounds
VOLUME		
fluid ounces	29.573	milliliters
pints	0.473	liters
quarts	0.946	liters
gallons (U.S.)	3.785	liters
milliliters	0.033	fluid ounces
liters	1.056	quarts
liters	0.264	gallons (U.S.)
TEMPERATURE		
°C = (°F - 32) x .555		
°F = (°C x 1.8) + 32		

Inches	Decimals of foot	Milli-meters
1/16	.0052	1.5875
1/8	.0104	3.1750
3/16	.0156	4.7625
1/4	.0208	6.3500
5/16	.0260	7.9350
3/8	.0313	9.5250
1/2	.0417	12.700
5/8	0521	15.875
3/4	0625	19.050
7/8	.0729	22.225
1"	.0833	25.400
2"	.1667	50.800
3"	.2500	76.200
4"	.3333	101.60
5"	.4167	127.00
6"	.5000	152.40
7"	.5833	177.80
8"	.6667	203.20
9"	.7500	228.60
10"	.8333	254.00
11"	.9167	279.40
1 foot	1.0000	304.80

~~S41~~ 04-S-0345

"Rite in the Rain"®
ALL-WEATHER WRITING PAPER

LEGAL DOCUMENT
DO NOT DESTROY

Name Stallings Salvage Site

Address 1750 Corporate Dr. Suite 735
Norcross, GA 30093

Phone 770-935-1542

Project Stallings Salvage Site
Monroe, Union County, N. Carolina

04-9812-0016

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CONTENTS

PAGE	REFERENCE	DATE

Tuesday, December 29, 1998

0800 START members Stacy Campbell and Gregory Kowalski leave Norcross, GA office and mobilize to Monroe, NC - Stallings Salvage Site.

0900 OSC Fred Stroud calls to inform START that Fire Marshall will meet us on-site for recon.

1200 START breaks for lunch.

1230 START checks-in to hotel and calls Fire Marshall to coordinate recon of site.

1300 START leaves hotel for site. Will call Fire Marshall and give him cell phone number.

1400 START arrives at site. Have not heard back from Fire Marshall. No ERRS on site. Placed call and left message with OSC concerning current situation.

1430 START called Fire Marshall's office, spoke to someone who said that Fire Marshall is in a meeting for the rest of the day.

Stacy L Campbell 12/29/98

Tuesday Dec. 29, 1998

1440 START calls OSC to inform of situation. START begins checking equipment to see if the humidity will affect them.

1545 START has not heard from OSC yet. START leaves site for the day. Called OSC to inform of departure. End of day. Close of business.

Stacy R Campbell 12/29/98

Wednesday – December 30, 1998

0700 START and OSC on site. START calibrates air monitoring equipment for the day's fieldwork.

0730 Equipment has been calibrated. SCBA units are ready to don when backup ERRS arrives. START is preparing for site recon.

0740 ERRS arrives on site. Chris Leggett of CMC is PM.

0745 START enters building for recon with OSC.

0815 START & OSC exit building. OSC sent CMC to get a light stand to illuminate drums to be sampled. Chris Leggett will be the backup for START while in Level B.

0820 CMC trackhoe operator Donnie Anderson begins removing tall vegetation from alongside the building.

0830 Michael Wilson with the city of Monroe arrives on site to inform OSC of main water

Stacy R Campbell 12/30/98

12/30/98

line that runs alongside the building.
0835 Mr. Wilson departs site.
0930 Chris Leggett arrives on site with generator and lights.
1030 Lights are set up in the areas to be sampled. START prepares for sample collection. The first entry will be to collect HAZCAT samples to determine which samples to send to the lab.
1045 START enters building in Level B Chris Leggett of CMC is backup. Begin collection of HAZCAT samples.
1115 PID readings as follows:
Sample 1 → 0 ppm
Sample 2 → 2600 ppm
Sample 3 → 170 ppm
Sample 4 → 160 ppm
1130 Only able to open 4 containers for sample collection. OSC decides that 4 samples will be fine and START should pick which sample gets full scan.
1145 START off site for lunch.
1215 START returns to site from lunch.

Stacy L Campbell 12/30/98

12/30/98

1220 START begins labeling jars for sample collection. No analytical TDD at the office yet. Tracy Poole instructs START to go ahead and sample and he will inform START when TDD arrives.
1230 START dons level B equipment; Chris Leggett is backup. Begin sampling procedures.
1245 Sample # SSS-D1 collected from Drum 1.
1315 Sample # SSS-D2 collected from Drum 2 - this drum has a flammable label and has a stamp that states UN 1293.
1335 Sample # SSS-D3 collected from a 5-gal. pail with label "recycled mineral spirits".
1350 START stops sampling to change out air tanks.
1355 Resume sampling.
1405 Sample # SSS-D4 collected from Drum 4.
1425 Sampling complete. Access to many drums/containers on-site

12/30/98

was restricted by a collapsed floor and roof. The 4 containers sampled were the only ones "safely accessable" and able to open.

1430 START exits building.

1445 START begins loading equipment back into vehicle.

1545 START speaks to lab coordinator Paula McLaren and learns that a verbal analytical TDD has been approved. Samples will be shipped today to ETC SC laboratory.

1600 START departs site for hotel, to label and ship samples.

1630 START arrives at hotel. Begin packaging samples for shipment.

1800 Complete packaging of samples to send to Environmental Testing & Consulting 2924 Walnut Grove Rd. Memphis, TN 38111. Leave hotel for Fed Ex at Charlotte Airport. End of day. Close of business.

Stacy L Campbell

[NOTE: The following notes were transcribed from another notebook. The other notebook was used by John Schendel to record information collected during a reconnaissance of the site performed on 12/21/98.]

CITY OF MONROE

LIEUTENANT
Neal A. Speer
Department of Public Safety

P.O. Box 69
Monroe, N.C. 28111-0069
Bus. (704) 282-4706
FAX (704) 282-4720

Stallings Salvage
Secrest Ave
Monroe, Union County, N.C.

12/21/98

John S. Schendel, Tetra Tech EM, Inc.

Fred Strand 12/22/98, phone: 404-562-8705
404-562-8706

John Schendel 1/8/99

12/21/98

5:35 AM - Arrived at site.

Those present: John Schendel, TETRA TECH EM, INC.
Fred Strand, U.S. EPA

Weather: Cloudy, high humidity.
Cool
Light breeze

9:40 AM - Fire Marshall arrives: Neal A. Spear

10:05 AM - N.C. Superfund person arrives: Doug Rumford.

10:10 AM - Enter building. Fire Marshall said that building may have been used by a grocery wholesaler named "Biggers Bros."

Currently, the owners are trying to find a buyer for the property who will have the site cleaned up.

Between 11 AM and 12 AM - Neal Spear and Doug Rumford leave site.

Around 11:30 AM - Fred Strand leaves site.

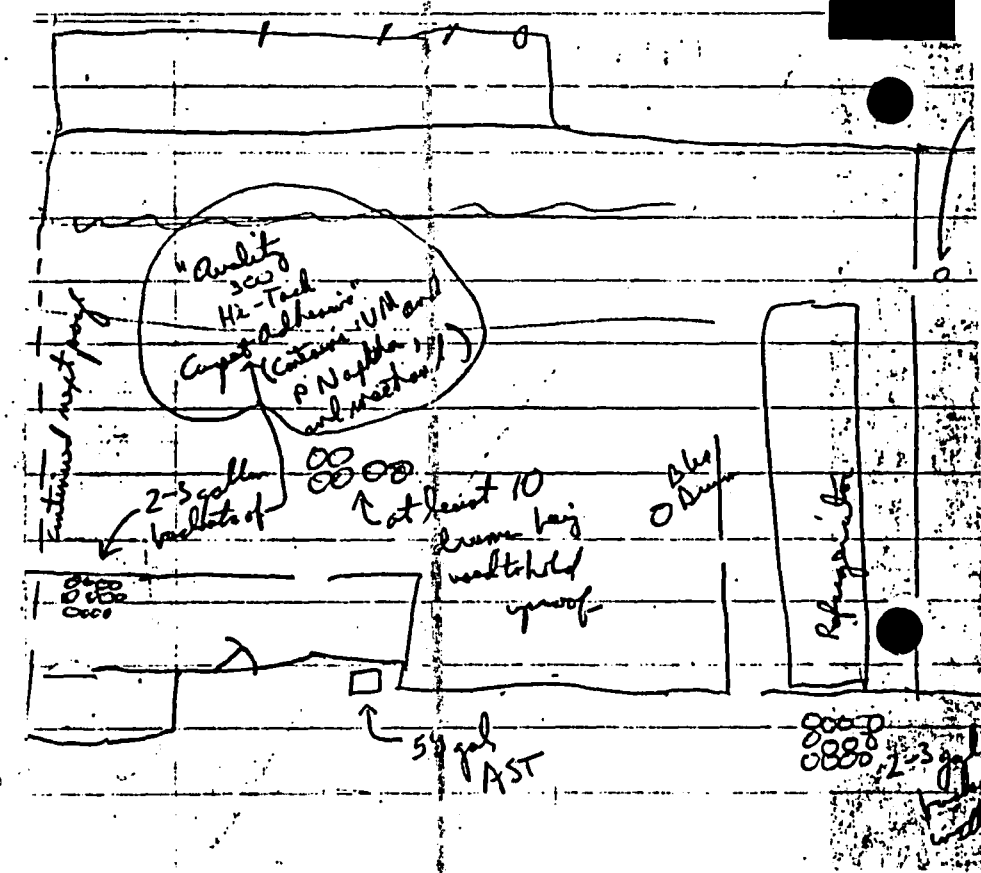
12:20 PM - John Schendel leaves site.

Current wea. ther: mild, temperature
slight breeze
partly cloudy.

JS 1/8/99

1/8/99 John Schendel

JS 1/8/99



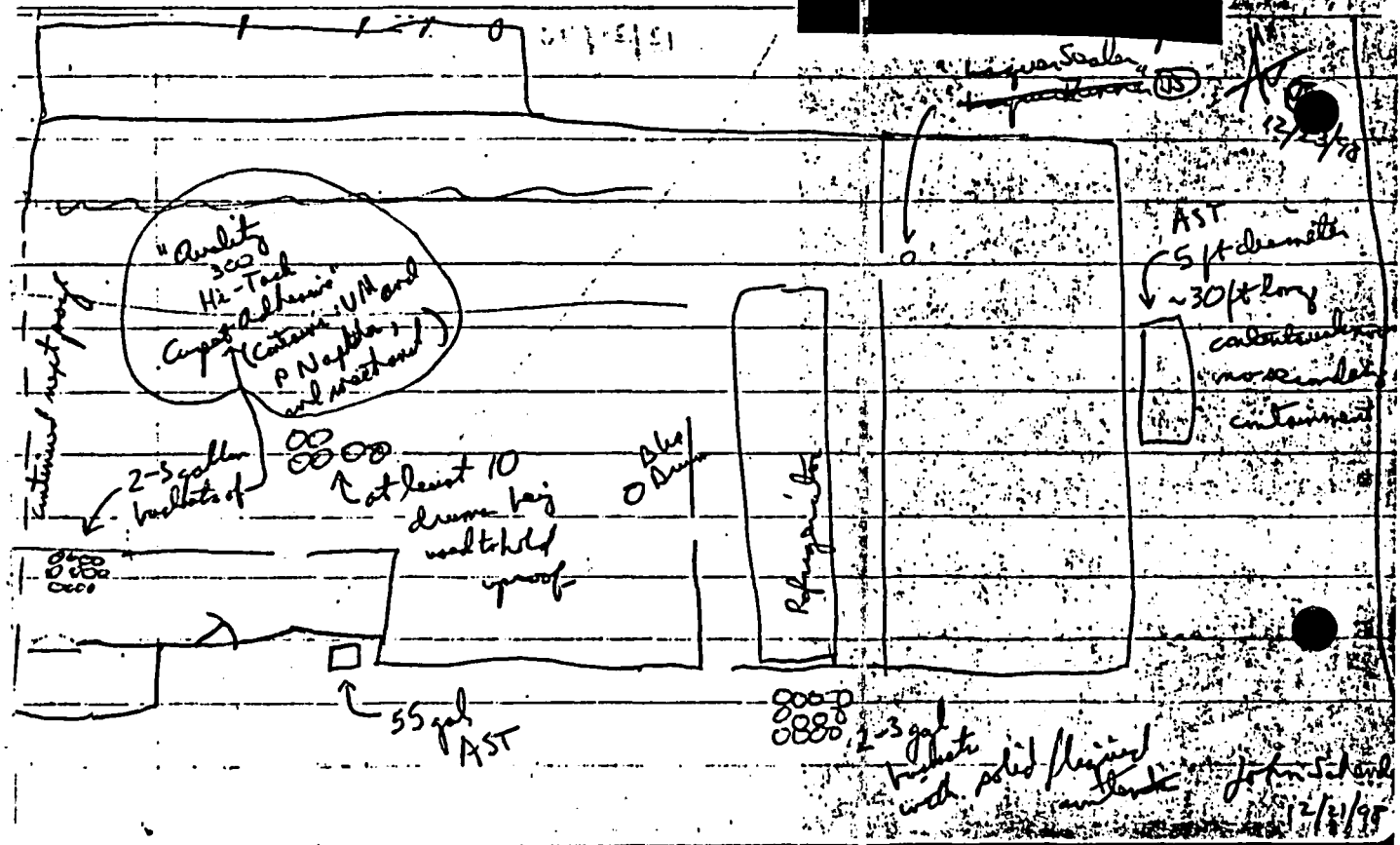
JS 1/8/99

1/8/99 John Schendel

1 at site.
present: John Schendel, TETRA TECH EM, INC.
Fred Strood, U.S. EPA
: Cloudy, high humidity.
Cool
Light breeze
Marshall arrives: Neal A. Spear
Rumford person arrives:
Rumford.
building. Fire Marshall said
building may have been used
company wholesale named
Bros."
, the owners are trying to find
/or the property who will
site cleaned up.
12 AM - Neal Spear and
Rumford leave site.
1 - Fred Strood leaves site.
Schendel leaves site.
weather: mild temperature
slight breeze
partly cloudy.

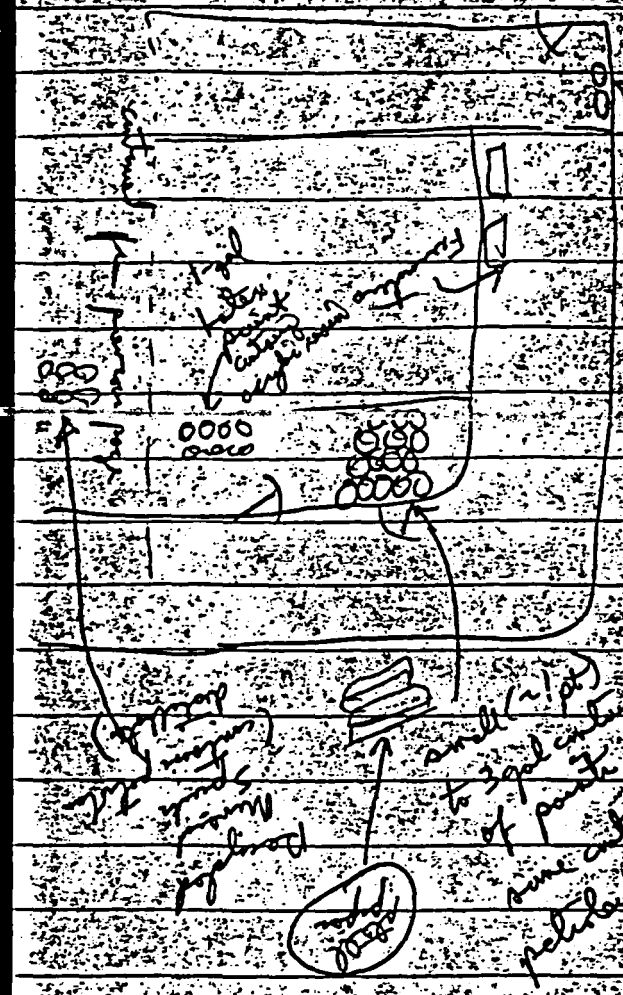
JS 1/5/99

JS 1/5/99



JS 1/8/99

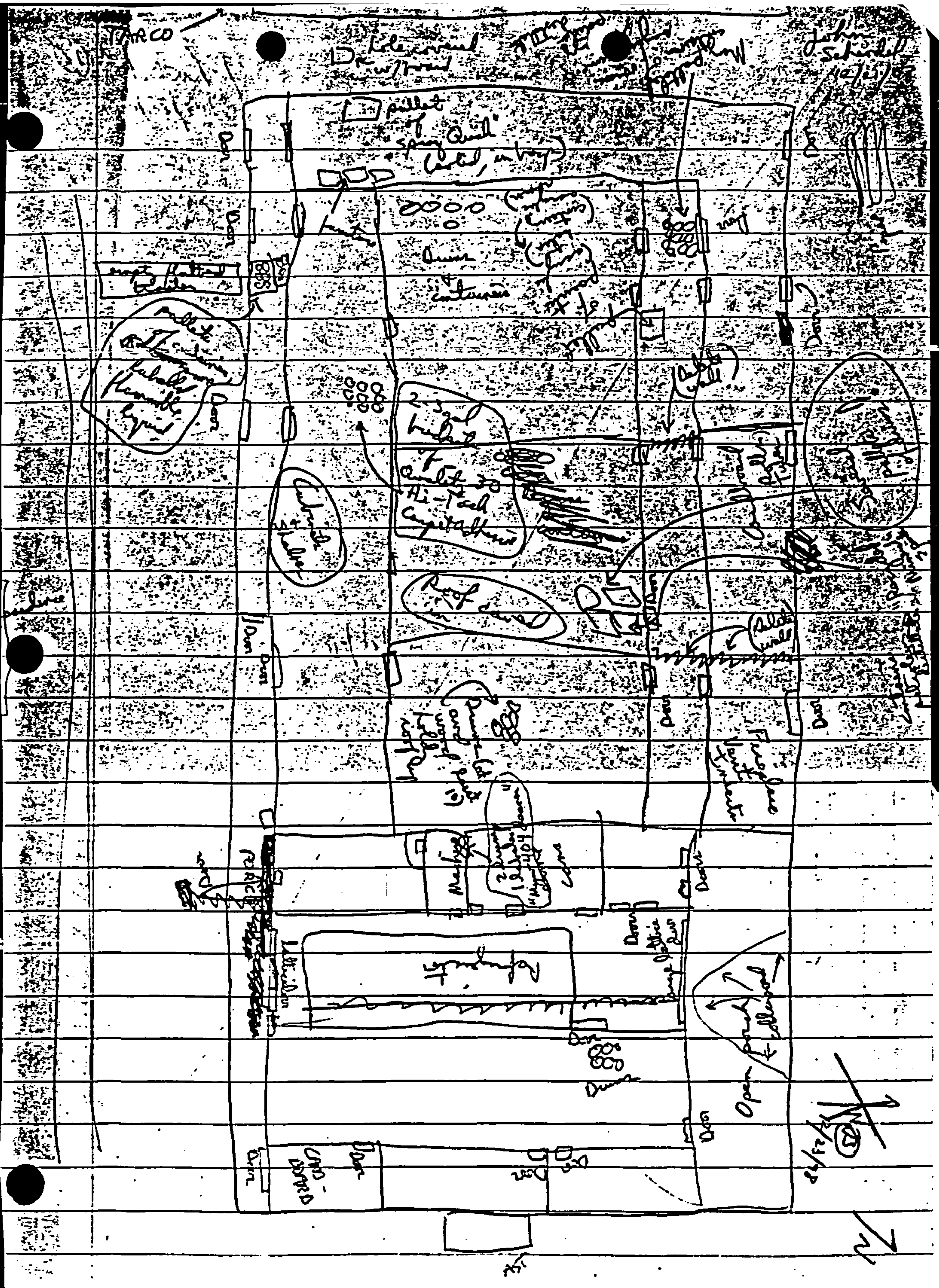
1/8/99 John Schendel



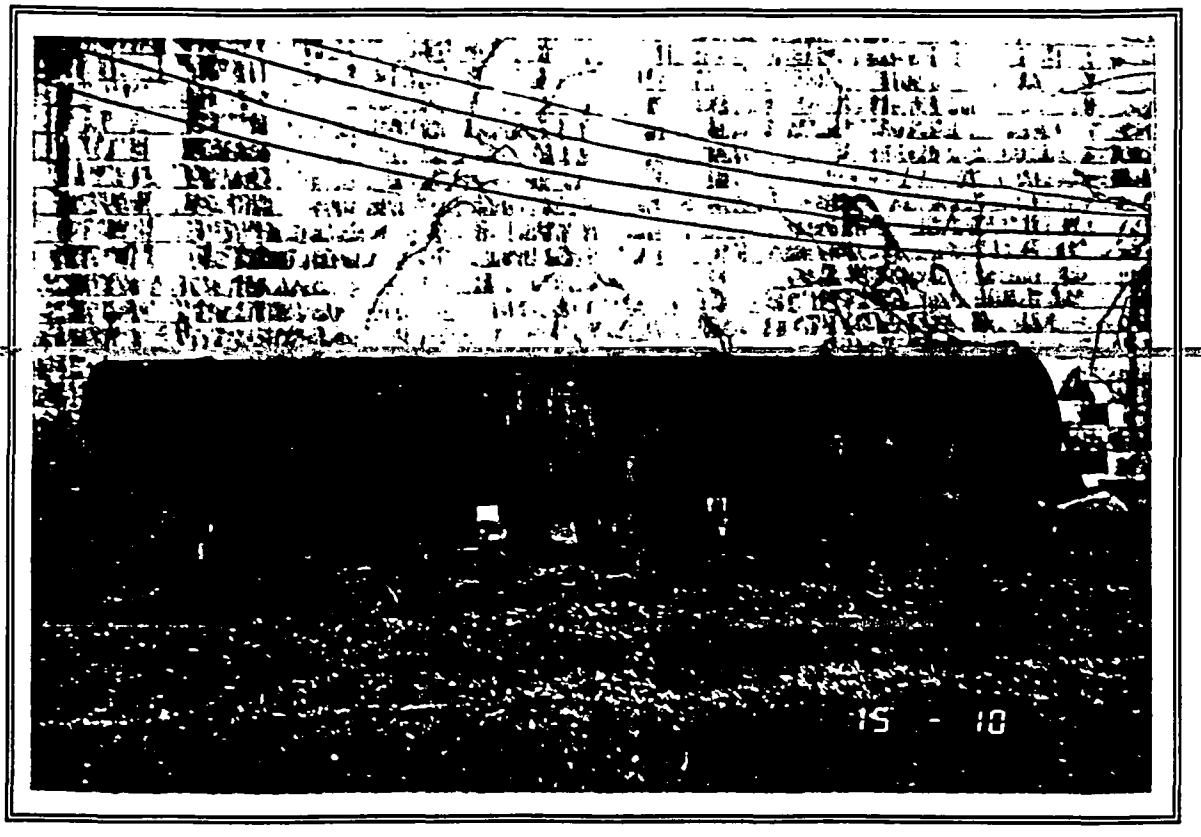
John Sidell
12/21/98

John Schuld
12/21/98

John Schuld 1/8/90


TARCO
John Schendel
pallet of spray Quik
Drums + containers
Door
2-3 gal buckets of Quikote
Hi-Tech
Cardboards + Pallets
Roof in caved
Debris wall
Open

APPENDIX B
PHOTOGRAPHIC LOG
(12 Pages)



OFFICIAL PHOTOGRAPH NO. 3
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	The aboveground storage tank.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	Southwest		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

OFFICIAL PHOTOGRAPH NO. 5
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Interior of on-site building showing debris scattered throughout the area.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	East		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

OFFICIAL PHOTOGRAPH NO. 6
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Interior of the on-site building showing the scattered debris and collapsed roof.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	Northwest		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

OFFICIAL PHOTOGRAPH NO. 7
U.S. ENVIRONMENTAL PROTECTION AGENCY

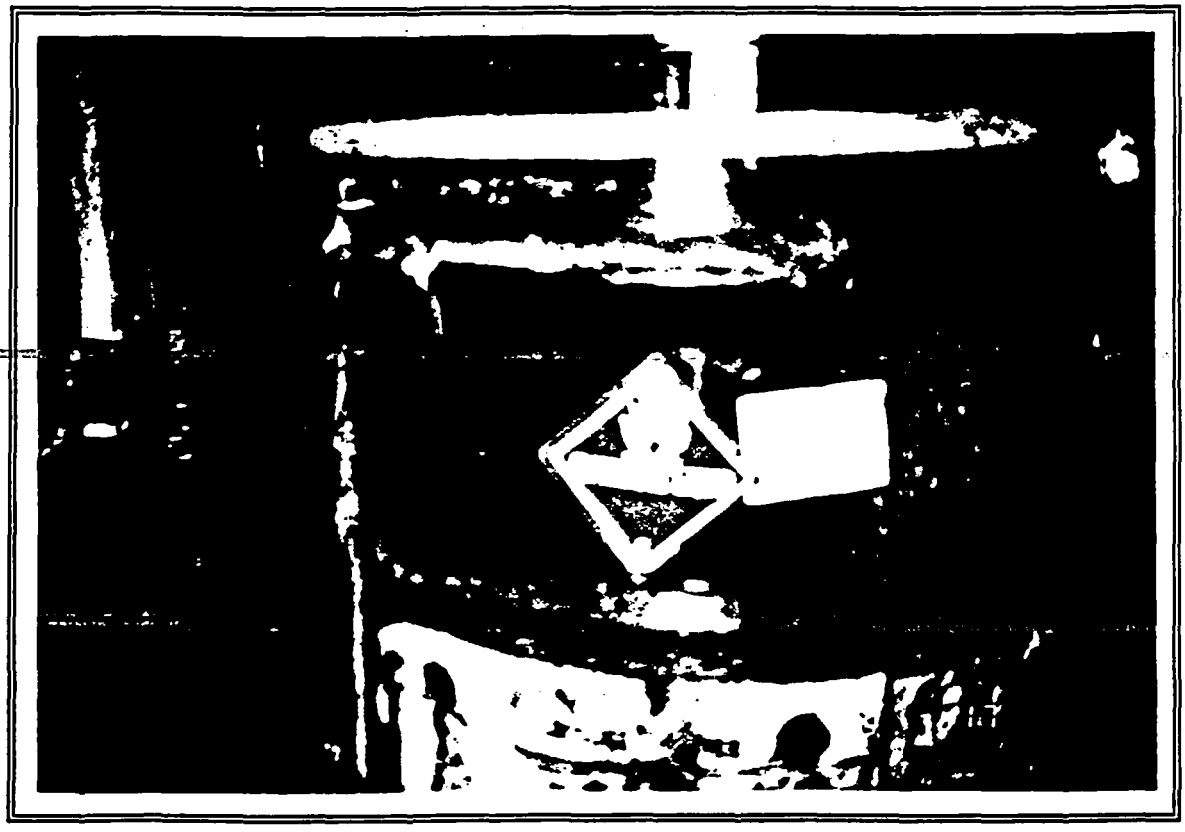
Subject:	Pallets of latex paint located inside the building.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	Southeast		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

OFFICIAL PHOTOGRAPH NO. 8
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	The collapsed roof.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	Southeast		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

OFFICIAL PHOTOGRAPH NO. 9
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sample SSS-1, collected from the drum at left.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	Northeast		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START



OFFICIAL PHOTOGRAPH NO. 10
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sample SSS-2, collected from the drum in the foreground with the flammable label.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	Northeast		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

OFFICIAL PHOTOGRAPH NO. 11
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sample SSS-3, collected from the bucket in foreground.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	South		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

OFFICIAL PHOTOGRAPH NO. 12
U.S. ENVIRONMENTAL PROTECTION AGENCY

Subject:	Sample SSS-4, collected from drum at left.		
Location:	Stallings Salvage Site Monroe, Union County, North Carolina		
Orientation:	Northwest		
TDD Number:	04-9812-0016	**Date:**	December 30, 1998
Photographer:	Stacy Campbell, START	**Witness:**	Gregory Kowalski, START

APPENDIX C
TABLE OF WITNESSES
(One Page)

TABLE OF WITNESSES
Stallings Salvage Site
Monroe, Union County, North Carolina

Fred Stroud, On-Scene Coordinator
U. S. Environmrntal Protection Agency, Region 4
61 Forsyth Street, 11th Floor
Atlanta, Georgia 30303
(404) 562-8751

Lieutenant Neal Speer, Fire Marshall
Department of Public Safety
P. O. Box 69
Monroe, North Carolina 28111-0069
(704) 282-4706

Stacy Campbell
Gregory Kowalski
Tetra Tech EM Inc.
Superfund Technical Assistance and Response Team (START)
1750 Corporate Drive, Suite 735
Norcross, Georgia 30093
(770) 935-1542

Donnie Anderson
Chris Leggett
CMC, Inc.
2601 Wilmore Road
Nicholasville, Kentucky 40356
(800) 766-0671

APPENDIX D
ANALYTICAL REPORT
(140 Pages)

Tetra Tech EM Inc.

Gwinnett Corporate Center ◆ 1750 Corporate Drive, Suite 735 ◆ Norcross, GA 30093 ◆ (770) 935-1542 ◆ FAX (770) 935-9049

MEMORANDUM

TO: Stacy Campbell
Superfund Technical Assessment and Response Team (START) Project Manager

FROM: Paula MacLaren
START Quality Assurance Officer

THROUGH: R. Steve Pierce
START Leader, U.S. Environmental Protection Agency (EPA) Region 4

SUBJECT: Stallings Salvage Site Analytical Data
Technical Direction Document No. 04-9812-0023

DATE: January 29, 1999

Environmental Testing & Consulting, Inc., analyzed four waste samples collected on December 30, 1998, at the Stallings Salvage site in Monroe, North Carolina. The samples were analyzed for the following parameters:

- Volatile organic compounds (VOC)
- Semivolatile organic compounds (SVOC)

In addition, one sample was analyzed for pesticides, polychlorinated biphenyls (PCB), target analyte list (TAL) metals, and total cyanide. The laboratory data package was received within the required 2-week turnaround time period. All sample analytical holding times were met. The following quality control samples were analyzed:

- **VOC analysis:** The laboratory blank was free of contaminants. All samples required dilutions because of elevated levels of contaminants or matrix interferences. Matrix spike and matrix spike duplicate (MS/MSD) analyses were performed on samples not within this sample delivery group (SDG). Their percent recoveries may not be representative of matrix interferences with this SDG and, therefore, not evaluated in this

contains recycled fiber and is recyclable

TABLE 1
STALLINGS SALVAGE SITE
ANALYTICAL DATA[a]

Waste Samples
Collected on December 30, 1998

Parameters	Sample Identification and Location		
	SSS-D1	SSS-D2	SSS-D4
	Drum No. 1	Drum No. 2	Drum No. 4
Volatile Organic Compounds (µg/kg)			
Benzene	ND	ND	16,400
n-Butylbenzene	ND	ND	17,300
sec-Butylbenzene	ND	ND	16,800
Ethylbenzene	ND	14,000,000	100,000
Isopropylbenzene	ND	ND	11,200
4-Isopropyltoluene	ND	ND	11,800
Naphthalene	ND	20,300,000	10,500
n-Propylbenzene	ND	ND	22,500
Toluene	ND	155,000,000	10,500
1,2,4-Trimethylbenzene	ND	1,150,000	60,300
1,3,5-Trimethylbenzene	ND	1,200,000	61,400
Xylenes, total	ND	69,400,000	449,000
Semivolatile Organic Compounds (µg/kg)			
SW-846 Method 8270C compounds	ND	ND	ND

Notes:

[a] Environmental Testing & Consulting, Inc., performed the sample analyses.

µg/kg Microgram per kilogram
ND Not detected

TABLE 2
STALLINGS SALVAGE SITE
ANALYTICAL DATA[a]

Waste Sample
Collected on December 30, 1998

Parameter	Sample Identification and Location SSS-D3 Drum No. 3
Volatile Organic Compounds (µg/kg)	
n-Butylbenzene	2,070,000
sec-Butylbenzene	1,200,000
Ethylbenzene	466,000
Isopropylbenzene	473,000
4-Isopropyltoluene	998,000
Naphthalene	627,000
n-Propylbenzene	1,140,000
Toluene	2,200,000
1,2,4-Trimethylbenzene	3,520,000
1,3,5-Trimethylbenzene	3,600,000
Xylenes, total	3,510,000
Semivolatile Organic Compounds (µg/kg)	
SW-846 Method 8270C compounds	ND
Pesticides (µg/kg)	
SW-846 Method 8081 compounds	ND
Polychlorinated Biphenyls (µg/kg)	
SW-846 Method 8082 compounds	ND
Target Analyte List Metals (mg/kg)	
Aluminum	ND
Antimony	ND
Arsenic	ND
Barium	ND
Beryllium	ND

TABLE 2 (continued)
STALLINGS SALVAGE SITE
ANALYTICAL DATA[a]

Waste Sample
Collected on December 30, 1998

Parameter	Sample Identification and Location SSS-D3 Drum No. 3
Target Analyte List Metals (mg/kg) (continued)	
Cadmium	ND
Calcium	9.30 B
Chromium	ND
Cobalt	ND
Copper	ND
Iron	2.09
Lead	ND
Magnesium	ND
Manganese	ND
Mercury	ND
Nickel	ND
Potassium	ND
Selenium	ND
Silver	ND
Sodium	20
Thallium	ND
Vanadium	ND
Zinc	1.34
General Chemistry (mg/kg)	
Total cyanide	ND

Notes: [a] Environmental Testing & Consulting, Inc.. performed the sample analyses.
µg/kg Microgram per kilogram
mg/kg Milligram per kilogram
B Calcium (1.8 mg/kg) was present in the laboratory blank.
ND Not detected

ENVIRONMENTAL TESTING & CONSULTING, INC.
2924 Walnut Grove Road • Memphis, TN 38111 • (901) 327-2750 • FAX (901) 327-6334
Founded 1972

January 14, 1999

Ms. Paula MacLaren
Tetra Tech EM, Inc.
1750 Corporate Drive
Suite 735
Norcross, GA 30093

Ref: Analytical Testing
ETC Order # 9812A10
Project Description Stallings Salvage

Project # 981216

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

TETRA_TECHEM

Certifications

Tennessee	*#TN02027*	*Mississippi*	
Arkansas		*Oklahoma*	*#9311*
Alabama	*#40730*	*Virginia*	*#00106*
Kentucky	*#90047*	*Washington*	*#C248*
North Carolina	*#415*	*US Army Corps of Engineers*	
South Carolina	*#84002002*		

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.

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

ANALYTICAL SUMMARY TABLE

Client Name Tetra Tech EM, Inc.
Site ID Stallings Salvage

ETC Sample ID	Field ID	Matrix	Method	Method Description
9812A1001	SSS-D1	LIQUID	8260B	GC/MS Volatile Organics
9812A1001	SSS-D1	LIQUID	8270C	GC/MS Base/Neutral & Acid
9812A1002	SSS-D2	LIQUID	8260B	GC/MS Volatile Organics
9812A1002	SSS-D2	LIQUID	8270C	GC/MS Base/Neutral & Acid
9812A1003	SSS-D3	LIQUID	8081A	Organochlorine Pesticides
9812A1003	SSS-D3	LIQUID	8082	PCBs
9812A1003	SSS-D3	LIQUID	8260B	GC/MS Volatile Organics
9812A1003	SSS-D3	LIQUID	8270C	GC/MS Base/Neutral & Acid
9812A1003	SSS-D3	LIQUID	6010B	Silver
9812A1003	SSS-D3	LIQUID	6010B	Aluminum
9812A1003	SSS-D3	LIQUID	6010B	Arsenic
9812A1003	SSS-D3	LIQUID	6010B	Barium
9812A1003	SSS-D3	LIQUID	6010B	Beryllium
9812A1003	SSS-D3	LIQUID	6010B	Calcium
9812A1003	SSS-D3	LIQUID	6010B	Cadmium
9812A1003	SSS-D3	LIQUID	9010B	Total Cyanide
9812A1003	SSS-D3	LIQUID	6010B	Cobalt
9812A1003	SSS-D3	LIQUID	6010B	Chromium
9812A1003	SSS-D3	LIQUID	6010B	Copper
9812A1003	SSS-D3	LIQUID	6010B	Iron
9812A1003	SSS-D3	LIQUID	7471A	Mercury
9812A1003	SSS-D3	LIQUID	6010B	Potassium
9812A1003	SSS-D3	LIQUID	6010B	Magnesium
9812A1003	SSS-D3	LIQUID	6010B	Manganese
9812A1003	SSS-D3	LIQUID	6010B	Sodium
9812A1003	SSS-D3	LIQUID	6010B	Nickel
9812A1003	SSS-D3	LIQUID	6010B	Lead
9812A1003	SSS-D3	LIQUID	6010B	Antimony
9812A1003	SSS-D3	LIQUID	6010B	Selenium
9812A1003	SSS-D3	LIQUID	6010B	Thallium
9812A1003	SSS-D3	LIQUID	6010B	Vanadium
9812A1003	SSS-D3	LIQUID	6010B	Zinc
9812A1004	SSS-D4	LIQUID	8260B	GC/MS Volatile Organics
9812A1004	SSS-D4	LIQUID	8270C	GC/MS Base/Neutral & Acid

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc. Project # 981216

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID **9812A10-03**
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Metals Digestion Batch	V2-LQ-32				01/11/99	NR	3050A
Mercury Digestion Batch	V4-SO-54				01/07/99	RM	7471A
Silver	<0.700	mg/Kg	0.700	1026	01/13/99	TD	6010B
Aluminum	<4.00	mg/Kg	4.00	1026	01/13/99	TD	6010B
Arsenic	<5.00	mg/Kg	5.00	1026	01/13/99	TD	6010B
Barium	<0.200	mg/Kg	0.200	1026	01/13/99	TD	6010B
Beryllium	<0.100	mg/Kg	0.100	1026	01/13/99	TD	6010B
Calcium	9.30	mg/Kg	1.00	1026	01/13/99	TD	6010B
Cadmium	<0.400	mg/Kg	0.400	1026	01/13/99	TD	6010B
Cobalt	<0.700	mg/Kg	0.700	1026	01/13/99	TD	6010B
Chromium	<0.700	mg/Kg	0.700	1026	01/13/99	TD	6010B
Copper	<0.600	mg/Kg	0.600	1026	01/13/99	TD	6010B
Iron	2.09	mg/Kg	0.700	1026	01/13/99	TD	6010B
Mercury	<0.020	mg/Kg	0.020	1405	01/07/99	RM	7471A
Potassium	<20.0	mg/Kg	20.0	1026	01/13/99	TD	6010B
Magnesium	<3.00	mg/Kg	3.00	1026	01/13/99	TD	6010B
Manganese	<0.200	mg/Kg	0.200	1026	01/13/99	TD	6010B
Sodium	20.0	mg/Kg	20.0	1026	01/13/99	TD	6010B
Nickel	<1.50	mg/Kg	1.50	1026	01/13/99	TD	6010B
Lead	<4.50	mg/Kg	4.50	1026	01/13/99	TD	6010B
Antimony	<3.20	mg/Kg	3.20	1026	01/13/99	TD	6010B
Selenium	<7.50	mg/Kg	7.50	1026	01/13/99	TD	6010B
Thallium	<5.00	mg/Kg	5.00	1026	01/13/99	TD	6010B
Vanadium	<0.800	mg/Kg	0.800	1026	01/13/99	TD	6010B
Zinc	1.34	mg/Kg	1.00	1026	01/13/99	TD	6010B

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

INORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc. Project # 981216

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID **9812A10-03**
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	TIME ANALYZED	DATE ANALYZED	BY	METHOD
Total Cyanide	<0.100	mg/Kg	0.100	0830	01/07/99	GD	9010B

LABORATORY MANAGER

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-01
Sample ID: SSS-D1

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/13/99	LS	
QC Batch	V3011301	ug/Kg					
Acetone	ND	ug/Kg	50000				
Acrolein	ND	ug/Kg	50000				
Acetonitrile	ND	ug/Kg	25000				
Acrylonitrile	ND	ug/Kg	50000				
Benzene	ND	ug/Kg	2500				
Bromobenzene	ND	ug/Kg	2500				
Bromochloromethane	ND	ug/Kg	2500				
Bromodichloromethane	ND	ug/Kg	2500				
Bromoform	ND	ug/Kg	2500				
Bromomethane (Methyl Bromide)	ND	ug/Kg	2500				
n-Butylbenzene	ND	ug/Kg	2500				
sec-Butylbenzene	ND	ug/Kg	2500				
tert-Butylbenzene	ND	ug/Kg	2500				
Carbon Disulfide	ND	ug/Kg	2500				
Carbon Tetrachloride	ND	ug/Kg	2500				
Chlorobenzene	ND	ug/Kg	2500				
Chlorodibromomethane	ND	ug/Kg	2500				
Chloroethane	ND	ug/Kg	2500				
2-Chloroethylvinyl Ether	ND	ug/Kg	50000				
Chloroform	ND	ug/Kg	2500				
Chloromethane	ND	ug/Kg	2500				
2-Chlorotoluene	ND	ug/Kg	2500				
4-Chlorotoluene	ND	ug/Kg	2500				
1,2-Dibromo-3-Chloropropane	ND	ug/Kg	2500				
1,2-Dibromoethane	ND	ug/Kg	2500				
Dibromomethane	ND	ug/Kg	2500				
1,2-Dichlorobenzene	ND	ug/Kg	2500				
1,3-Dichlorobenzene	ND	ug/Kg	2500				
1,4-Dichlorobenzene	ND	ug/Kg	2500				
Dichlorodifluoromethane	ND	ug/Kg	2500				
1,1-Dichloroethane	ND	ug/Kg	2500				
1,2-Dichloroethane	ND	ug/Kg	2500				
1,1-Dichloroethene	ND	ug/Kg	2500				
cis-1,2-Dichloroethene	ND	ug/Kg	2500				
trans-1,2-Dichloroethene	ND	ug/Kg	2500				
1,2-Dichloropropane	ND	ug/Kg	2500				
1,3-Dichloropropane	ND	ug/Kg	2500				
2,2-Dichloropropane	ND	ug/Kg	2500				
1,1-Dichloropropene	ND	ug/Kg	2500				
cis-1,3-Dichloropropene	ND	ug/Kg	2500				
trans-1,3-Dichloropropene	ND	ug/Kg	2500				
Ethyl Acetate	ND	ug/Kg	50000				

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-01
Sample ID: SSS-D1

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/13/99	LS	
Ethylbenzene	ND	ug/Kg	2500				
Hexachlorobutadiene	ND	ug/Kg	2500				
2-Hexanone (MBK)	ND	ug/Kg	12500				
Isopropylbenzene	ND	ug/Kg	2500				
4-Isopropyltoluene	ND	ug/Kg	2500				
Methylene Chloride	ND	ug/Kg	25000				
Methyl Ethyl Ketone	ND	ug/Kg	50000				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	50000				
Methyl-tertbutyl-Ether	ND	ug/Kg	2500				
Naphthalene	ND	ug/Kg	2500				
n-Propylbenzene	ND	ug/Kg	2500				
Styrene	ND	ug/Kg	2500				
1,1,1,2-Tetrachloroethane	ND	ug/Kg	2500				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	2500				
Tetrachloroethene	ND	ug/Kg	2500				
Toluene	ND	ug/Kg	2500				
1,2,3-Trichlorobenzene	ND	ug/Kg	2500				
1,2,4-Trichlorobenzene	ND	ug/Kg	2500				
1,1,1-Trichloroethane	ND	ug/Kg	2500				
1,1,2-Trichloroethane	ND	ug/Kg	2500				
Trichloroethene	ND	ug/Kg	2500				
Trichlorofluoromethane	ND	ug/Kg	2500				
1,2,3-Trichloropropane	ND	ug/Kg	2500				
1,2,4-Trimethylbenzene	ND	ug/Kg	2500				
1,3,5-Trimethylbenzene	ND	ug/Kg	2500				
Vinyl Acetate	ND	ug/Kg	50000				
Vinyl Chloride	ND	ug/Kg	2500				
Xylenes (Total)	ND	ug/Kg	2500				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	92	70	134
S2 - Toluene-d8	98	85	111
S3 - 4-Bromofluorobenzene	92	81	117

LABORATORY MANAGER

ND - Not Detected

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-1

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.2 (g/mL) G Lab File ID: 0801008

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/13/99

GC Column: ID: 2.00 (mm) Dilution Factor: 50.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				
16.				
17.				
18.				
19.				
20.				
21.				
22.				
23.				
24.				
25.				
26.				
27.				
28.				
29.				
30.				

FORM I VOA-GCMS-TIC

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-02
Sample ID: SSS-D2

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/08/99	LS	
QC Batch	V3010801	ug/Kg					
Acetone	ND	ug/Kg	20000000				
Acrolein	ND	ug/Kg	20000000				
Acetonitrile	ND	ug/Kg	10000000				
Acrylonitrile	ND	ug/Kg	20000000				
Benzene	ND	ug/Kg	1000000				
Bromobenzene	ND	ug/Kg	1000000				
Bromochloromethane	ND	ug/Kg	1000000				
Bromodichloromethane	ND	ug/Kg	1000000				
Bromoform	ND	ug/Kg	1000000				
Bromomethane (Methyl Bromide)	ND	ug/Kg	1000000				
n-Butylbenzene	ND	ug/Kg	1000000				
sec-Butylbenzene	ND	ug/Kg	1000000				
tert-Butylbenzene	ND	ug/Kg	1000000				
Carbon Disulfide	ND	ug/Kg	1000000				
Carbon Tetrachloride	ND	ug/Kg	1000000				
Chlorobenzene	ND	ug/Kg	1000000				
Chlorodibromomethane	ND	ug/Kg	1000000				
Chloroethane	ND	ug/Kg	1000000				
2-Chloroethylvinyl Ether	ND	ug/Kg	20000000				
Chloroform	ND	ug/Kg	1000000				
Chloromethane	ND	ug/Kg	1000000				
2-Chlorotoluene	ND	ug/Kg	1000000				
4-Chlorotoluene	ND	ug/Kg	1000000				
1,2-Dibromo-3-Chloropropane	ND	ug/Kg	1000000				
1,2-Dibromoethane	ND	ug/Kg	1000000				
Dibromomethane	ND	ug/Kg	1000000				
1,2-Dichlorobenzene	ND	ug/Kg	1000000				
1,3-Dichlorobenzene	ND	ug/Kg	1000000				
1,4-Dichlorobenzene	ND	ug/Kg	1000000				
Dichlorodifluoromethane	ND	ug/Kg	1000000				
1,1-Dichloroethane	ND	ug/Kg	1000000				
1,2-Dichloroethane	ND	ug/Kg	1000000				
1,1-Dichloroethene	ND	ug/Kg	1000000				
cis-1,2-Dichloroethene	ND	ug/Kg	1000000				
trans-1,2-Dichloroethene	ND	ug/Kg	1000000				
1,2-Dichloropropane	ND	ug/Kg	1000000				
1,3-Dichloropropane	ND	ug/Kg	1000000				
2,2-Dichloropropane	ND	ug/Kg	1000000				
1,1-Dichloropropene	ND	ug/Kg	1000000				
cis-1,3-Dichloropropene	ND	ug/Kg	1000000				
trans-1,3-Dichloropropene	ND	ug/Kg	1000000				
Ethyl Acetate	ND	ug/Kg	20000000				

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Tetra Tech EM, Inc.**

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID **9812A10-02**
Sample ID: SSS-D2

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/08/99	LS	
Ethylbenzene	14000000	ug/Kg	1000000				
Hexachlorobutadiene	ND	ug/Kg	1000000				
2-Hexanone (MBK)	ND	ug/Kg	5000000				
Isopropylbenzene	ND	ug/Kg	1000000				
4-Isopropyltoluene	ND	ug/Kg	1000000				
Methylene Chloride	ND	ug/Kg	10000000				
Methyl Ethyl Ketone	ND	ug/Kg	20000000				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	20000000				
Methyl-tertbutyl-Ether	ND	ug/Kg	1000000				
Naphthalene	20300000	ug/Kg	1000000				
n-Propylbenzene	ND	ug/Kg	1000000				
Styrene	ND	ug/Kg	1000000				
1,1,1,2-Tetrachloroethane	ND	ug/Kg	1000000				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	1000000				
Tetrachloroethene	ND	ug/Kg	1000000				
Toluene	155000000	ug/Kg	1000000				
1,2,3-Trichlorobenzene	ND	ug/Kg	1000000				
1,2,4-Trichlorobenzene	ND	ug/Kg	1000000				
1,1,1-Trichloroethane	ND	ug/Kg	1000000				
1,1,2-Trichloroethane	ND	ug/Kg	1000000				
Trichloroethene	ND	ug/Kg	1000000				
Trichlorofluoromethane	ND	ug/Kg	1000000				
1,2,3-Trichloropropane	ND	ug/Kg	1000000				
1,2,4-Trimethylbenzene	1150000	ug/Kg	1000000				
1,3,5-Trimethylbenzene	1200000	ug/Kg	1000000				
Vinyl Acetate	ND	ug/Kg	20000000				
Vinyl Chloride	ND	ug/Kg	1000000				
Xylenes (Total)	69400000	ug/Kg	1000000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	92	70	134
S2 - Toluene-d8	102	85	111
S3 - 4-Bromofluorobenzene	107	81	117

LABORATORY MANAGER

ND - Not Detected

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-2

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.2 (g/mL) G Lab File ID: 1001012

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/08/99

GC Column: ID: 2.00 (mm) Dilution Factor: 20000.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 14

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 111-84-2	NONANE	20.53	19900000	NJ
2. 4923-77-7	CYCLOHEXANE, 1-ETHYL-2-METHY	20.97	10600000	NJ
3. 5911-04-6	NONANE, 3-METHYL-	21.22	10100000	NJ
4. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	23.24	8110000	NJ
5. 1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	23.50	19500000	NJ
6. 93-53-8	BENZENEACETALDEHYDE, .ALPHA.	23.87	7140000	NJ
7. 1120-21-4	UNDECANE	23.94	13600000	NJ
8. 1758-88-9	BENZENE, 2-ETHYL-1,4-DIMETHY	24.04	11900000	NJ
9. 99-87-6	BENZENE, 1-METHYL-4-(1-METHY	24.12	13300000	NJ
10. 934-80-5	BENZENE, 4-ETHYL-1,2-DIMETHY	24.21	31400000	NJ
11. 527-53-7	BENZENE, 1,2,3,5-TETRAMETHYL	24.98	17300000	NJ
12. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	25.06	28700000	NJ
13. 2039-89-6	BENZENE, 2-ETHENYL-1,4-DIMET	25.68	9410000	NJ
14. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	25.77	7400000	NJ
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID **9812A10-03**
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/11/99	LS	
QC Batch	V3011101	ug/Kg					
Acetone	ND	ug/Kg	5000000				
Acrolein	ND	ug/Kg	5000000				
Acetonitrile	ND	ug/Kg	2500000				
Acrylonitrile	ND	ug/Kg	5000000				
Benzene	ND	ug/Kg	250000				
Bromobenzene	ND	ug/Kg	250000				
Bromochloromethane	ND	ug/Kg	250000				
Bromodichloromethane	ND	ug/Kg	250000				
Bromoform	ND	ug/Kg	250000				
Bromomethane (Methyl Bromide)	ND	ug/Kg	250000				
n-Butylbenzene	2070000	ug/Kg	250000				
sec-Butylbenzene	1200000	ug/Kg	250000				
tert-Butylbenzene	ND	ug/Kg	250000				
Carbon Disulfide	ND	ug/Kg	250000				
Carbon Tetrachloride	ND	ug/Kg	250000				
Chlorobenzene	ND	ug/Kg	250000				
Chlorodibromomethane	ND	ug/Kg	250000				
Chloroethane	ND	ug/Kg	250000				
2-Chloroethylvinyl Ether	ND	ug/Kg	5000000				
Chloroform	ND	ug/Kg	250000				
Chloromethane	ND	ug/Kg	250000				
2-Chlorotoluene	ND	ug/Kg	250000				
4-Chlorotoluene	ND	ug/Kg	250000				
1,2-Dibromo-3-Chloropropane	ND	ug/Kg	250000				
1,2-Dibromoethane	ND	ug/Kg	250000				
Dibromomethane	ND	ug/Kg	250000				
1,2-Dichlorobenzene	ND	ug/Kg	250000				
1,3-Dichlorobenzene	ND	ug/Kg	250000				
1,4-Dichlorobenzene	ND	ug/Kg	250000				
Dichlorodifluoromethane	ND	ug/Kg	250000				
1,1-Dichloroethane	ND	ug/Kg	250000				
1,2-Dichloroethane	ND	ug/Kg	250000				
1,1-Dichloroethene	ND	ug/Kg	250000				
cis-1,2-Dichloroethene	ND	ug/Kg	250000				
trans-1,2-Dichloroethene	ND	ug/Kg	250000				
1,2-Dichloropropane	ND	ug/Kg	250000				
1,3-Dichloropropane	ND	ug/Kg	250000				
2,2-Dichloropropane	ND	ug/Kg	250000				
1,1-Dichloropropene	ND	ug/Kg	250000				
cis-1,3-Dichloropropene	ND	ug/Kg	250000				
trans-1,3-Dichloropropene	ND	ug/Kg	250000				
Ethyl Acetate	ND	ug/Kg	5000000				

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Tetra Tech EM, Inc.**

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID **9812A10-03**
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/11/99	LS	
Ethylbenzene	466000	ug/Kg	250000				
Hexachlorobutadiene	ND	ug/Kg	250000				
2-Hexanone (MBK)	ND	ug/Kg	1250000				
Isopropylbenzene	473000	ug/Kg	250000				
4-Isopropyltoluene	998000	ug/Kg	250000				
Methylene Chloride	ND	ug/Kg	2500000				
Methyl Ethyl Ketone	ND	ug/Kg	5000000				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	5000000				
Methyl-tertbutyl-Ether	ND	ug/Kg	250000				
Naphthalene	627000	ug/Kg	250000				
n-Propylbenzene	1140000	ug/Kg	250000				
Styrene	ND	ug/Kg	250000				
1,1,1,2-Tetrachloroethane	ND	ug/Kg	250000				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	250000				
Tetrachloroethene	ND	ug/Kg	250000				
Toluene	2200000	ug/Kg	250000				
1,2,3-Trichlorobenzene	ND	ug/Kg	250000				
1,2,4-Trichlorobenzene	ND	ug/Kg	250000				
1,1,1-Trichloroethane	ND	ug/Kg	250000				
1,1,2-Trichloroethane	ND	ug/Kg	250000				
Trichloroethene	ND	ug/Kg	250000				
Trichlorofluoromethane	ND	ug/Kg	250000				
1,2,3-Trichloropropane	ND	ug/Kg	250000				
1,2,4-Trimethylbenzene	3520000	ug/Kg	250000				
1,3,5-Trimethylbenzene	3600000	ug/Kg	250000				
Vinyl Acetate	ND	ug/Kg	5000000				
Vinyl Chloride	ND	ug/Kg	250000				
Xylenes (Total)	3510000	ug/Kg	250000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	101	70	134
S2 - Toluene-d8	104	85	111
S3 - 4-Bromofluorobenzene	105	81	117

LABORATORY MANAGER

ND - Not Detected

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-3

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.2 (g/mL) G Lab File ID: 1501015

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/11/99

GC Column: ID: 2.00 (mm) Dilution Factor: 5000.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 111-84-2	NONANE	20.53	31200000	NJ
2. 4926-78-7	CYCLOHEXANE, 1-ETHYL-4-METHY	20.93	18400000	NJ
3. 871-83-0	NONANE, 2-METHYL-	21.72	8680000	NJ
4. 29053-04-1	CYCLOPENTANE, 1-METHYL-3-(2-	22.16	2180000	NJ
5. 124-18-5	DECANE	22.30	11600000	NJ
6. 69770-96-3	CYCLOPENTANONE, 2-METHYL-4-(	22.37	3460000	NJ
7. 7058-05-1	CYCLOHEXANE, 1-ETHYL-2,3-DIM	22.51	3100000	NJ
8. 526-73-8	BENZENE, 1,2,3-TRIMETHYL-	23.24	3550000	NJ
9. 1072-05-5	HEPTANE, 2,6-DIMETHYL-	23.36	5460000	NJ
10. 13151-34-3	DECANE, 3-METHYL-	23.49	3290000	NJ
11. 91-17-8	NAPHTHALENE, DECAHYDRO-	23.84	3630000	NJ
12. 1120-21-4	UNDECANE	23.94	10200000	NJ
13. 2958-76-1	NAPHTHALENE, DECAHYDRO-2-MET	24.93	8320000	NJ
14. 2958-76-1	NAPHTHALENE, DECAHYDRO-2-MET	25.27	2600000	NJ
15. 112-40-3	DODECANE	25.76	2500000	NJ
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-04
Sample ID: SSS-D4

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/13/99	LS	
QC Batch	V3011301	ug/Kg					
Acetone	ND	ug/Kg	100000				
Acrolein	ND	ug/Kg	100000				
Acetonitrile	ND	ug/Kg	50000				
Acrylonitrile	ND	ug/Kg	100000				
Benzene	16,400	ug/Kg	5000				
Bromobenzene	ND	ug/Kg	5000				
Bromochloromethane	ND	ug/Kg	5000				
Bromodichloromethane	ND	ug/Kg	5000				
Bromoform	ND	ug/Kg	5000				
Bromomethane (Methyl Bromide)	ND	ug/Kg	5000				
n-Butylbenzene	17,300	ug/Kg	5000				
sec-Butylbenzene	16,800	ug/Kg	5000				
tert-Butylbenzene	ND	ug/Kg	5000				
Carbon Disulfide	ND	ug/Kg	5000				
Carbon Tetrachloride	ND	ug/Kg	5000				
Chlorobenzene	ND	ug/Kg	5000				
Chlorodibromomethane	ND	ug/Kg	5000				
Chloroethane	ND	ug/Kg	5000				
2-Chloroethylvinyl Ether	ND	ug/Kg	100000				
Chloroform	ND	ug/Kg	5000				
Chloromethane	ND	ug/Kg	5000				
2-Chlorotoluene	ND	ug/Kg	5000				
4-Chlorotoluene	ND	ug/Kg	5000				
1,2-Dibromo-3-Chloropropane	ND	ug/Kg	5000				
1,2-Dibromoethane	ND	ug/Kg	5000				
Dibromomethane	ND	ug/Kg	5000				
1,2-Dichlorobenzene	ND	ug/Kg	5000				
1,3-Dichlorobenzene	ND	ug/Kg	5000				
1,4-Dichlorobenzene	ND	ug/Kg	5000				
Dichlorodifluoromethane	ND	ug/Kg	5000				
1,1-Dichloroethane	ND	ug/Kg	5000				
1,2-Dichloroethane	ND	ug/Kg	5000				
1,1-Dichloroethene	ND	ug/Kg	5000				
cis-1,2-Dichloroethene	ND	ug/Kg	5000				
trans-1,2-Dichloroethene	ND	ug/Kg	5000				
1,2-Dichloropropane	ND	ug/Kg	5000				
1,3-Dichloropropane	ND	ug/Kg	5000				
2,2-Dichloropropane	ND	ug/Kg	5000				
1,1-Dichloropropene	ND	ug/Kg	5000				
cis-1,3-Dichloropropene	ND	ug/Kg	5000				
trans-1,3-Dichloropropene	ND	ug/Kg	5000				
Ethyl Acetate	ND	ug/Kg	100000				

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-04
Sample ID: SSS-D4

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Volatile Organics							8260B
					01/13/99	LS	
Ethylbenzene	100,000	ug/Kg	5000				
Hexachlorobutadiene	ND	ug/Kg	5000				
2-Hexanone (MBK)	ND	ug/Kg	25000				
Isopropylbenzene	11,200	ug/Kg	5000				
4-Isopropyltoluene	11,800	ug/Kg	5000				
Methylene Chloride	ND	ug/Kg	50000				
Methyl Ethyl Ketone	ND	ug/Kg	100000				
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	100000				
Methyl-tertbutyl-Ether	ND	ug/Kg	5000				
Naphthalene	10,500	ug/Kg	5000				
n-Propylbenzene	22,500	ug/Kg	5000				
Styrene	ND	ug/Kg	5000				
1,1,1,2-Tetrachloroethane	ND	ug/Kg	5000				
1,1,2,2-Tetrachloroethane	ND	ug/Kg	5000				
Tetrachloroethene	ND	ug/Kg	5000				
Toluene	10,500	ug/Kg	5000				
1,2,3-Trichlorobenzene	ND	ug/Kg	5000				
1,2,4-Trichlorobenzene	ND	ug/Kg	5000				
1,1,1-Trichloroethane	ND	ug/Kg	5000				
1,1,2-Trichloroethane	ND	ug/Kg	5000				
Trichloroethene	ND	ug/Kg	5000				
Trichlorofluoromethane	ND	ug/Kg	5000				
1,2,3-Trichloropropane	ND	ug/Kg	5000				
1,2,4-Trimethylbenzene	60,300	ug/Kg	5000				
1,3,5-Trimethylbenzene	61,400	ug/Kg	5000				
Vinyl Acetate	ND	ug/Kg	100000				
Vinyl Chloride	ND	ug/Kg	5000				
Xylenes (Total)	449,000	ug/Kg	5000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Dibromofluoromethane	91	70	134
S2 - Toluene-d8	100	85	111
S3 - 4-Bromofluorobenzene	98	81	117

LABORATORY MANAGER

ND - Not Detected

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-4

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.3 (g/mL) G Lab File ID: 0701007

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/13/99

GC Column: ID: 2.00 (mm) Dilution Factor: 100.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

Number TICs found: 15

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 1678-91-7	CYCLOHEXANE, ETHYL-	19.38	79900	NJ
2. 3073-66-3	CYCLOHEXANE, 1,1,3-TRIMETHYL	19.53	78800	NJ
3. 2216-33-3	OCTANE, 3-METHYL-	20.01	108000	NJ
4. 2040-95-1	CYCLOPENTANE, BUTYL-	20.44	84100	NJ
5. 111-84-2	NONANE	20.53	685000	NJ
6. 5911-04-6	NONANE, 3-METHYL-	21.22	224000	NJ
7. 871-83-0	NONANE, 2-METHYL-	21.72	180000	NJ
8. 124-18-5	DECANE	22.30	228000	NJ
9. 53966-52-2	2-OCTENE, 4-ETHYL-	22.37	97800	NJ
10. 108-67-8	BENZENE, 1,3,5-TRIMETHYL-	23.24	84900	NJ
11. 6975-98-0	DECANE, 2-METHYL-	23.37	57900	NJ
12. 493-02-7	NAPHTHALENE, DECAHYDRO-, TRA	23.85	55100	NJ
13. 50746-53-7	CYCLOPENTANE, 1-METHYL-2-(2-	24.95	129000	NJ
14. 2958-76-1	NAPHTHALENE, DECAHYDRO-2-MET	25.27	55400	NJ
15. 112-40-3	DODECANE	25.76	66900	NJ
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-01
Sample ID: SSS-D1

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid							8270C
				01/05/99	01/08/99	CB	
QC Batch	P04098	ug/Kg					
Acenaphthene	ND	ug/Kg	1000000				
Acenaphthylene	ND	ug/Kg	1000000				
Aniline	ND	ug/Kg	1000000				
Anthracene	ND	ug/Kg	1000000				
Benzidine	ND	ug/Kg	4000000				
Benzoic Acid	ND	ug/Kg	10000000				
Benzo(a)anthracene	ND	ug/Kg	1000000				
Benzo(b)fluoranthene	ND	ug/Kg	1000000				
Benzo(k)fluoranthene	ND	ug/Kg	1000000				
Benzo(g,h,i)perylene	ND	ug/Kg	1000000				
Benzo(a)pyrene	ND	ug/Kg	1000000				
Benzyl Alcohol	ND	ug/Kg	1000000				
Bis(2-chloroethyl)ether	ND	ug/Kg	1000000				
Bis(2-chloroethoxy)methane	ND	ug/Kg	1000000				
Bis(2-chloroisopropyl)ether	ND	ug/Kg	1000000				
Bis(2-ethylhexyl) phthalate	ND	ug/Kg	1000000				
4-Bromophenyl phenyl ether	ND	ug/Kg	1000000				
Butyl benzyl phthalate	ND	ug/Kg	1000000				
Carbazole	ND	ug/Kg	2000000				
4-Chloroaniline	ND	ug/Kg	1000000				
4-Chloro-3-methylphenol	ND	ug/Kg	1000000				
2-Chloronaphthalene	ND	ug/Kg	1000000				
2-Chlorophenol	ND	ug/Kg	1000000				
4-Chlorophenyl phenyl ether	ND	ug/Kg	1000000				
Chrysene	ND	ug/Kg	1000000				
Dibenzo(a,h)anthracene	ND	ug/Kg	1000000				
Dibenzofuran	ND	ug/Kg	1000000				
Di-n-butyl phthalate	ND	ug/Kg	1000000				
1,2-Dichlorobenzene	ND	ug/Kg	1000000				
1,3-Dichlorobenzene	ND	ug/Kg	1000000				
1,4-Dichlorobenzene	ND	ug/Kg	1000000				
3,3'-Dichlorobenzidine	ND	ug/Kg	1000000				
2,4-Dichlorophenol	ND	ug/Kg	1000000				
Diethyl phthalate	ND	ug/Kg	1000000				
2,4-Dimethylphenol	ND	ug/Kg	1000000				
Dimethyl phthalate	ND	ug/Kg	1000000				
4,6-Dinitro-2-methylphenol	ND	ug/Kg	2000000				
2,4-Dinitrophenol	ND	ug/Kg	4020000				
2,4-Dinitrotoluene	ND	ug/Kg	1000000				
2,6-Dinitrotoluene	ND	ug/Kg	1000000				
Di-n-octyl phthalate	ND	ug/Kg	1000000				
1,2-Diphenylhydrazine	ND	ug/Kg	1000000				

LABORATORY MANAGER

ND - Not Detected

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-1

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.6 (g/mL) G Lab File ID: 1901022

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/08/99

GC Column: DB-5MS ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: _____(mL) Soil Aliquot Volume: _____(uL)

Number TICs found: 11

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 112-35-6	ETHANOL, 2-[2-(2-METHOXYETHO	6.02	181000	NJ
2. 112-27-6	TRIETHYLENE GLYCOL	6.18	554000	NJ
3. 98-92-0	NIACINAMIDE	7.56	111000	NJ
4. 112-27-6	TRIETHYLENE GLYCOL	8.33	1500000	NJ
5. 637-07-0	CLOFIBRATE	8.69	112000	NJ
6. 112-27-6	TRIETHYLENE GLYCOL	10.76	2520000	NJ
7. 23778-52-1	2,5,8,11,14-PENTAOXAHEXADECA	13.10	7660000	NJ
8. 60-33-3	9,12-OCTADECADIENOIC ACID (Z	13.50	70300	NJ
9. 112-80-1	OLEIC ACID	13.53	164000	NJ
10. 23778-52-1	2,5,8,11,14-PENTAOXAHEXADECA	15.20	25300000	NJ
11. 33100-27-5	15-CROWN-5	17.07	34800000	NJ
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-02
Sample ID: SSS-D2

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				01/05/99	01/08/99	CB	8270C
QC Batch	P04098	ug/Kg					
Acenaphthene	ND	ug/Kg	1000000				
Acenaphthylene	ND	ug/Kg	1000000				
Aniline	ND	ug/Kg	1000000				
Anthracene	ND	ug/Kg	1000000				
Benzidine	ND	ug/Kg	4000000				
Benzoic Acid	ND	ug/Kg	10000000				
Benzo(a)anthracene	ND	ug/Kg	1000000				
Benzo(b)fluoranthene	ND	ug/Kg	1000000				
Benzo(k)fluoranthene	ND	ug/Kg	1000000				
Benzo(g,h,i)perylene	ND	ug/Kg	1000000				
Benzo(a)pyrene	ND	ug/Kg	1000000				
Benzyl Alcohol	ND	ug/Kg	1000000				
Bis(2-chloroethyl)ether	ND	ug/Kg	1000000				
Bis(2-chloroethoxy)methane	ND	ug/Kg	1000000				
Bis(2-chloroisopropyl)ether	ND	ug/Kg	1000000				
Bis(2-ethylhexyl) phthalate	ND	ug/Kg	1000000				
4-Bromophenyl phenyl ether	ND	ug/Kg	1000000				
Butyl benzyl phthalate	ND	ug/Kg	1000000				
Carbazole	ND	ug/Kg	2000000				
4-Chloroaniline	ND	ug/Kg	1000000				
4-Chloro-3-methylphenol	ND	ug/Kg	1000000				
2-Chloronaphthalene	ND	ug/Kg	1000000				
2-Chlorophenol	ND	ug/Kg	1000000				
4-Chlorophenyl phenyl ether	ND	ug/Kg	1000000				
Chrysene	ND	ug/Kg	1000000				
Dibenzo(a,h)anthracene	ND	ug/Kg	1000000				
Dibenzofuran	ND	ug/Kg	1000000				
Di-n-butyl phthalate	ND	ug/Kg	1000000				
1,2-Dichlorobenzene	ND	ug/Kg	1000000				
1,3-Dichlorobenzene	ND	ug/Kg	1000000				
1,4-Dichlorobenzene	ND	ug/Kg	1000000				
3,3'-Dichlorobenzidine	ND	ug/Kg	1000000				
2,4-Dichlorophenol	ND	ug/Kg	1000000				
Diethyl phthalate	ND	ug/Kg	1000000				
2,4-Dimethylphenol	ND	ug/Kg	1000000				
Dimethyl phthalate	ND	ug/Kg	1000000				
4,6-Dinitro-2-methylphenol	ND	ug/Kg	2000000				
2,4-Dinitrophenol	ND	ug/Kg	4020000				
2,4-Dinitrotoluene	ND	ug/Kg	1000000				
2,6-Dinitrotoluene	ND	ug/Kg	1000000				
Di-n-octyl phthalate	ND	ug/Kg	1000000				
1,2-Diphenylhydrazine	ND	ug/Kg	1000000				

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Tetra Tech EM, Inc.**

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID **9812A10-02**
Sample ID: SSS-D2

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid							8270C
				01/05/99	01/08/99	CB	
Fluoranthene	ND	ug/Kg	1000000				
Fluorene	ND	ug/Kg	1000000				
Hexachlorobenzene	ND	ug/Kg	1000000				
Hexachlorobutadiene	ND	ug/Kg	1000000				
Hexachlorocyclopentadiene	ND	ug/Kg	1000000				
Hexachloroethane	ND	ug/Kg	1000000				
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	1000000				
Isophorone	ND	ug/Kg	1000000				
2-Methylnaphthalene	ND	ug/Kg	1000000				
2-Methylphenol	ND	ug/Kg	1000000				
3-Methylphenol	ND	ug/Kg	1000000				
4-Methylphenol	ND	ug/Kg	1000000				
Naphthalene	13600000	ug/Kg	1000000				
2-Nitroaniline	ND	ug/Kg	1000000				
3-Nitroaniline	ND	ug/Kg	1000000				
4-Nitroaniline	ND	ug/Kg	1000000				
Nitrobenzene	ND	ug/Kg	1000000				
2-Nitrophenol	ND	ug/Kg	1000000				
4-Nitrophenol	ND	ug/Kg	1000000				
N-Nitrosodimethylamine	ND	ug/Kg	1000000				
N-Nitrosodiphenylamine	ND	ug/Kg	1000000				
N-Nitroso-di-n-propylamine	ND	ug/Kg	1000000				
Pentachlorophenol	ND	ug/Kg	2000000				
Phenanthrene	ND	ug/Kg	1000000				
Phenol	ND	ug/Kg	1000000				
Pyrene	ND	ug/Kg	1000000				
Pyridine	ND	ug/Kg	1000000				
1,2,4-Trichlorobenzene	ND	ug/Kg	1000000				
2,4,5-Trichlorphenol	ND	ug/Kg	1000000				
2,4,6-Trichlorophenol	ND	ug/Kg	1000000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	126 Q	25	110
S2 - 2-Fluorobiphenyl	95	33	114
S3 - 4-Terphenyl-d14	87	37	115
S4 - Phenol-d6	84	11	125
S5 - 2,4,6-Tribromophenol	73	9	134
S6 - 2-Fluorophenol	Q	10	119

LABORATORY MANAGER

ND - Not Detected

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-2

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.6 (g/mL) G Lab File ID: 0401002

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/11/99

GC Column: DB-5MS ID: 0.25 (mm) Dilution Factor: 100.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

Number TICs found: 21

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 108-10-1	METHYL ISOBUTYL KETONE	2.76	877000	NJ
2. 108-88-3	TOLUENE	2.98	22000000	NJ
3. 111-65-9	OCTANE	3.26	1140000	NJ
4. 1678-91-7	CYCLOHEXANE, ETHYL-	3.57	1130000	NJ
5. 7667-60-9	CYCLOHEXANE, 1,2,4-TRIMETHYL	3.74	1070000	NJ
6. 100-41-4	ETHYLBENZENE	3.79	7770000	NJ
7. 106-42-3	P-XYLENE	4.03	7410000	NJ
8. 111-84-2	NONANE	4.06	4270000	NJ
9. 3728-55-0	1-ETHYL-3-METHYLCYCLOHEXANE	4.14	1900000	NJ
10. 2051-30-1	OCTANE, 2,6-DIMETHYL-	4.29	8500000	NJ
11. 17301-94-9	NONANE, 4-METHYL-	4.47	4520000	NJ
12. 124-18-5	DECANE	4.70	11200000	NJ
13. 1678-93-9	CYCLOHEXANE, BUTYL-	4.93	9950000	NJ
14. 1074-43-7	BENZENE, 1-METHYL-3-PROPYL-	5.03	7950000	NJ
15. 2870-04-4	BENZENE, 2-ETHYL-1,3-DIMETHY	5.07	15100000	NJ
16. 99-87-6	BENZENE, 1-METHYL-4-(1-METHY	5.20	12200000	NJ
17. 488-23-3	BENZENE, 1,2,3,4-TETRAMETHYL	5.44	3940000	NJ
18. 95-93-2	BENZENE, 1,2,4,5-TETRAMETHYL	5.47	6680000	NJ
19.	UNKNOWN	12.23	1000000	J
20. 60-33-3	9,12-OCTADECADIENOIC ACID (Z	14.78	2730000	NJ
21. 56554-35-9	9,17-OCTADECADIENAL, (Z)-	15.08	5940000	NJ
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FORM I BNA-GCMS-TIC

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-03
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid				01/05/99	01/08/99	CB	8270C
QC Batch	P04098	ug/Kg					
Acenaphthene	ND	ug/Kg	1000000				
Acenaphthylene	ND	ug/Kg	1000000				
Aniline	ND	ug/Kg	1000000				
Anthracene	ND	ug/Kg	1000000				
Benzidine	ND	ug/Kg	4000000				
Benzoic Acid	ND	ug/Kg	10000000				
Benzo(a)anthracene	ND	ug/Kg	1000000				
Benzo(b)fluoranthene	ND	ug/Kg	1000000				
Benzo(k)fluoranthene	ND	ug/Kg	1000000				
Benzo(g,h,i)perylene	ND	ug/Kg	1000000				
Benzo(a)pyrene	ND	ug/Kg	1000000				
Benzyl Alcohol	ND	ug/Kg	1000000				
Bis(2-chloroethyl)ether	ND	ug/Kg	1000000				
Bis(2-chloroethoxy)methane	ND	ug/Kg	1000000				
Bis(2-chloroisopropyl)ether	ND	ug/Kg	1000000				
Bis(2-ethylhexyl) phthalate	ND	ug/Kg	1000000				
4-Bromophenyl phenyl ether	ND	ug/Kg	1000000				
Butyl benzyl phthalate	ND	ug/Kg	1000000				
Carbazole	ND	ug/Kg	2000000				
4-Chloroaniline	ND	ug/Kg	1000000				
4-Chloro-3-methylphenol	ND	ug/Kg	1000000				
2-Chloronaphthalene	ND	ug/Kg	1000000				
2-Chlorophenol	ND	ug/Kg	1000000				
4-Chlorophenyl phenyl ether	ND	ug/Kg	1000000				
Chrysene	ND	ug/Kg	1000000				
Dibenzo(a,h)anthracene	ND	ug/Kg	1000000				
Dibenzofuran	ND	ug/Kg	1000000				
Di-n-butyl phthalate	ND	ug/Kg	1000000				
1,2-Dichlorobenzene	ND	ug/Kg	1000000				
1,3-Dichlorobenzene	ND	ug/Kg	1000000				
1,4-Dichlorobenzene	ND	ug/Kg	1000000				
3,3'-Dichlorobenzidine	ND	ug/Kg	1000000				
2,4-Dichlorophenol	ND	ug/Kg	1000000				
Diethyl phthalate	ND	ug/Kg	1000000				
2,4-Dimethylphenol	ND	ug/Kg	1000000				
Dimethyl phthalate	ND	ug/Kg	1000000				
4,6-Dinitro-2-methylphenol	ND	ug/Kg	2000000				
2,4-Dinitrophenol	ND	ug/Kg	4020000				
2,4-Dinitrotoluene	ND	ug/Kg	1000000				
2,6-Dinitrotoluene	ND	ug/Kg	1000000				
Di-n-octyl phthalate	ND	ug/Kg	1000000				
1,2-Diphenylhydrazine	ND	ug/Kg	1000000				

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-03
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid							8270C
				01/05/99	01/08/99	CB	
Fluoranthene	ND	ug/Kg	1000000				
Fluorene	ND	ug/Kg	1000000				
Hexachlorobenzene	ND	ug/Kg	1000000				
Hexachlorobutadiene	ND	ug/Kg	1000000				
Hexachlorocyclopentadiene	ND	ug/Kg	1000000				
Hexachloroethane	ND	ug/Kg	1000000				
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	1000000				
Isophorone	ND	ug/Kg	1000000				
2-Methylnaphthalene	ND	ug/Kg	1000000				
2-Methylphenol	ND	ug/Kg	1000000				
3-Methylphenol	ND	ug/Kg	1000000				
4-Methylphenol	ND	ug/Kg	1000000				
Naphthalene	839,000J	ug/Kg	1000000				
2-Nitroaniline	ND	ug/Kg	1000000				
3-Nitroaniline	ND	ug/Kg	1000000				
4-Nitroaniline	ND	ug/Kg	1000000				
Nitrobenzene	ND	ug/Kg	1000000				
2-Nitrophenol	ND	ug/Kg	1000000				
4-Nitrophenol	ND	ug/Kg	1000000				
N-Nitrosodimethylamine	ND	ug/Kg	1000000				
N-Nitrosodiphenylamine	ND	ug/Kg	1000000				
N-Nitroso-di-n-propylamine	ND	ug/Kg	1000000				
Pentachlorophenol	ND	ug/Kg	2000000				
Phenanthrene	ND	ug/Kg	1000000				
Phenol	ND	ug/Kg	1000000				
Pyrene	ND	ug/Kg	1000000				
Pyridine	ND	ug/Kg	1000000				
1,2,4-Trichlorobenzene	ND	ug/Kg	1000000				
2,4,5-Trichlorphenol	ND	ug/Kg	1000000				
2,4,6-Trichlorophenol	ND	ug/Kg	1000000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	Q	25	110
S2 - 2-Fluorobiphenyl	93	33	114
S3 - 4-Terphenyl-d14	92	37	115
S4 - Phenol-d6	Q	11	125
S5 - 2,4,6-Tribromophenol	69	9	134
S6 - 2-Fluorophenol	Q	10	119

LABORATORY MANAGER

ND - Not Detected

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-3

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.5 (g/mL) G Lab File ID: 0501003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/11/99

GC Column: DB-5MS ID: 0.25 (mm) Dilution Factor: 100.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

Number TICs found: 17

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 67078-75-5	2,2-DIMETHYL-1-OXA-2-SILACYC	3.73	843000	NJ
2. 3221-61-2	OCTANE, 2-METHYL-	3.80	1060000	NJ
3. 95-47-6	BENZENE, 1,2-DIMETHYL-	4.02	832000	NJ
4. 111-84-2	NONANE	4.06	5150000	NJ
5. 19489-10-2	CIS-1-ETHYL-3-METHYL-CYCLOHE	4.14	1350000	NJ
6. 111-84-2	NONANE	4.17	950000	NJ
7. 37689-15-9	CYCLOPENTENE, 1-(3-METHYLBUT	4.23	1540000	NJ
8. 3788-32-7	CYCLOPENTANE, (2-METHYLPROPY	4.30	4790000	NJ
9. 14676-29-0	HEPTANE, 3-ETHYL-2-METHYL-	4.34	3460000	NJ
10. 17301-94-9	NONANE, 4-METHYL-	4.47	5900000	NJ
11. 1678-81-5	CYCLOHEXANE, 1,2,3-TRIMETHYL	4.50	6480000	NJ
12. 124-18-5	DECANE	4.71	50300000	NJ
13. 141-93-5	BENZENE, 1,3-DIETHYL-	5.06	4000000	NJ
14. 6975-98-0	DECANE, 2-METHYL-	5.09	3770000	NJ
15. 1120-21-4	UNDECANE	5.30	23100000	NJ
16. 504-44-9	HEXADECANE, 2,6,11,15-TETRAM	6.39	948000	NJ
17. 629-50-5	TRIDECANE	6.61	1060000	NJ
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-04
Sample ID: SSS-D4

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid							8270C
				01/06/99	01/08/99	CB	
QC Batch	P04099	ug/Kg					
Acenaphthene	ND	ug/Kg	1000000				
Acenaphthylene	ND	ug/Kg	1000000				
Aniline	ND	ug/Kg	1000000				
Anthracene	ND	ug/Kg	1000000				
Benzidine	ND	ug/Kg	4000000				
Benzoic Acid	ND	ug/Kg	10000000				
Benzo(a)anthracene	ND	ug/Kg	1000000				
Benzo(b)fluoranthene	ND	ug/Kg	1000000				
Benzo(k)fluoranthene	ND	ug/Kg	1000000				
Benzo(g,h,i)perylene	ND	ug/Kg	1000000				
Benzo(a)pyrene	ND	ug/Kg	1000000				
Benzyl Alcohol	ND	ug/Kg	1000000				
Bis(2-chloroethyl)ether	ND	ug/Kg	1000000				
Bis(2-chloroethoxy)methane	ND	ug/Kg	1000000				
Bis(2-chloroisopropyl)ether	ND	ug/Kg	1000000				
Bis(2-ethylhexyl) phthalate	ND	ug/Kg	1000000				
4-Bromophenyl phenyl ether	ND	ug/Kg	1000000				
Butyl benzyl phthalate	ND	ug/Kg	1000000				
Carbazole	ND	ug/Kg	2000000				
4-Chloroaniline	ND	ug/Kg	1000000				
4-Chloro-3-methylphenol	ND	ug/Kg	1000000				
2-Chloronaphthalene	ND	ug/Kg	1000000				
2-Chlorophenol	ND	ug/Kg	1000000				
4-Chlorophenyl phenyl ether	ND	ug/Kg	1000000				
Chrysene	ND	ug/Kg	1000000				
Dibenzo(a,h)anthracene	ND	ug/Kg	1000000				
Dibenzofuran	ND	ug/Kg	1000000				
Di-n-butyl phthalate	ND	ug/Kg	1000000				
1,2-Dichlorobenzene	ND	ug/Kg	1000000				
1,3-Dichlorobenzene	ND	ug/Kg	1000000				
1,4-Dichlorobenzene	ND	ug/Kg	1000000				
3,3'-Dichlorobenzidine	ND	ug/Kg	1000000				
2,4-Dichlorophenol	ND	ug/Kg	1000000				
Diethyl phthalate	ND	ug/Kg	1000000				
2,4-Dimethylphenol	ND	ug/Kg	1000000				
Dimethyl phthalate	ND	ug/Kg	1000000				
4,6-Dinitro-2-methylphenol	ND	ug/Kg	2000000				
2,4-Dinitrophenol	ND	ug/Kg	4020000				
2,4-Dinitrotoluene	ND	ug/Kg	1000000				
2,6-Dinitrotoluene	ND	ug/Kg	1000000				
Di-n-octyl phthalate	ND	ug/Kg	1000000				
1,2-Diphenylhydrazine	ND	ug/Kg	1000000				

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-04
Sample ID: SSS-D4

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
GC/MS Base/Neutral & Acid							8270C
				01/06/99	01/08/99	CB	
Fluoranthene	ND	ug/Kg	1000000				
Fluorene	ND	ug/Kg	1000000				
Hexachlorobenzene	ND	ug/Kg	1000000				
Hexachlorobutadiene	ND	ug/Kg	1000000				
Hexachlorocyclopentadiene	ND	ug/Kg	1000000				
Hexachloroethane	ND	ug/Kg	1000000				
Indeno(1,2,3-cd)pyrene	ND	ug/Kg	1000000				
Isophorone	ND	ug/Kg	1000000				
2-Methylnaphthalene	ND	ug/Kg	1000000				
2-Methylphenol	ND	ug/Kg	1000000				
3-Methylphenol	ND	ug/Kg	1000000				
4-Methylphenol	ND	ug/Kg	1000000				
Naphthalene	ND	ug/Kg	1000000				
2-Nitroaniline	ND	ug/Kg	1000000				
3-Nitroaniline	ND	ug/Kg	1000000				
4-Nitroaniline	ND	ug/Kg	1000000				
Nitrobenzene	ND	ug/Kg	1000000				
2-Nitrophenol	ND	ug/Kg	1000000				
4-Nitrophenol	ND	ug/Kg	1000000				
N-Nitrosodimethylamine	ND	ug/Kg	1000000				
N-Nitrosodiphenylamine	ND	ug/Kg	1000000				
N-Nitroso-di-n-propylamine	ND	ug/Kg	1000000				
Pentachlorophenol	ND	ug/Kg	2000000				
Phenanthrene	ND	ug/Kg	1000000				
Phenol	ND	ug/Kg	1000000				
Pyrene	ND	ug/Kg	1000000				
Pyridine	ND	ug/Kg	1000000				
1,2,4-Trichlorobenzene	ND	ug/Kg	1000000				
2,4,5-Trichlorphenol	ND	ug/Kg	1000000				
2,4,6-Trichlorophenol	ND	ug/Kg	1000000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Nitrobenzene-d5	69	25	110
S2 - 2-Fluorobiphenyl	76	33	114
S3 - 4-Terphenyl-d14	77	37	115
S4 - Phenol-d6	35	11	125
S5 - 2,4,6-Tribromophenol	27	9	134
S6 - 2-Fluorophenol	30	10	119

LABORATORY MANAGER

ND - Not Detected

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

CLIENT SAMPLE NO.

9812-A10-4

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Sample ID:

Sample wt/vol: 0.6 (g/mL) G Lab File ID: 0801006

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/08/99

GC Column: DB-5MS ID: 0.25 (mm) Dilution Factor: 100.0

Soil Extract Volume:_____(mL) Soil Aliquot Volume: _____(uL)

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	2.83	1080000	J
2. 4254-15-3	(S)-(+)-1,2-PROPANEDIOL	3.24	7660000	NJ
3. 124-18-5	DECANE	5.11	1340000	NJ
4. 13151-34-3	DECANE, 3-METHYL-	5.56	884000	NJ
5. 1120-21-4	UNDECANE	5.74	1930000	NJ
6. 74367-33-2	PROPANOIC ACID, 2-METHYL-, 2	7.70	808000	NJ
7. 109-21-7	BUTANOIC ACID, BUTYL ESTER	7.87	1190000	NJ
8.				
9.				
10.				
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ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name **Tetra Tech EM, Inc.**

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID **9812A10-03**
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
PCBs							8082
				01/05/99	01/08/99	RG	
PCB-1016	ND	ug/Kg	1000				
PCB-1221	ND	ug/Kg	1000				
PCB-1232	ND	ug/Kg	1000				
PCB-1242	ND	ug/Kg	1000				
PCB-1248	ND	ug/Kg	1000				
PCB-1254	ND	ug/Kg	1000				
PCB-1260	ND	ug/Kg	1000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Tetrachloro-m-xylene	103	20	122
S2 - Decachlorobiphenyl	117	17	141

LABORATORY MANAGER

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ORGANIC ANALYSIS DATA SHEET

Client Name Tetra Tech EM, Inc.

1750 Corporate Drive
Suite 735
Norcross, GA 30093

Site ID Stallings Salvage

Project # 981216
FID #

Date Arrived 12/31/98
ETC Order Number 9812A10

ETC Lab ID 9812A10-03
Sample ID: SSS-D3

Matrix :LIQUID
Sample Date :12/30/98

TEST	RESULT	UNITS	DETECTION LIMIT	DATE EXTRACTED	DATE ANALYZED	BY	METHOD
Organochlorine Pesticides							8081A
				01/05/99	01/05/99	RG	
QC Batch	P06042	ug/Kg					
Aldrin	ND	ug/Kg	80.0				
Alpha-BHC	ND	ug/Kg	80.0				
Beta-BHC	ND	ug/Kg	80.0				
Delta-BHC	ND	ug/Kg	80.0				
Gamma-BHC (Lindane)	ND	ug/Kg	80.0				
alpha-Chlordane	ND	ug/Kg	80.0				
gamma-Chlordane	ND	ug/Kg	80.0				
Chlordane (Technical)	ND	ug/Kg	800				
4,4'-DDD	ND	ug/Kg	80.0				
4,4'-DDE	ND	ug/Kg	80.0				
4,4'-DDT	ND	ug/Kg	80.0				
Dieldrin	ND	ug/Kg	80.0				
Endosulfan I	ND	ug/Kg	80.0				
Endosulfan II	ND	ug/Kg	80.0				
Endosulfan Sulfate	ND	ug/Kg	80.0				
Endrin	ND	ug/Kg	80.0				
Endrin Aldehyde	ND	ug/Kg	80.0				
Endrin Ketone	ND	ug/Kg	80.0				
Heptachlor	ND	ug/Kg	80.0				
Heptachlor Epoxide	ND	ug/Kg	80.0				
Methoxychlor	ND	ug/Kg	80.0				
Toxaphene	ND	ug/Kg	8000				

Surrogate Standard	% Recovery	QC Limits	
S1 - Tetrachloro-m-xylene	51	39	130
S2 - Decachlorobiphenyl	65	64	154

LABORATORY MANAGER

ND - Not Detected

Environmental Testing & Consulting, Inc.

Quality Control Reports
Inorganics

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
INORGANICS

Client Name : _Tetra Tech EM, Inc.
Project Name : _Stallings Salvage

ETC Order # : _9812-A10

HOLDING TIMES

Sample Analysis : All samples analyzed within Method Specified Holding Times.

CALIBRATION

Laboratory Control Sample : All criteria met.

QUALITY CONTROL

Matrix Spike
Spike Recovery : All analytes within QC limits

Method Blank
No Target Analytes detected above Detection Limit.

Laboratory Manager

Environmental Testing & Consulting, Inc.
Inorganic QC Data Summary

Client Name Tetra Tech EM, Inc.
Project Stallings Salvage

ETC Order Number 9812-A10
File Name 9812-A10.Q C

Method Blank

Analyte	Date Analyzed	Blank Concentration mg/Kg	QC Batch
Cyanide	01/07/99	<0.100	CY010799

Calibration Verification (CV)

Analyte	Date Analyzed	CV Conc mg/Kg	CV Conc Found	% Difference
Cyanide	01/07/99	0.200	0.190	5.0

Laboratory Control Sample (LCS)

Analyte	Date Analyzed	LCS Conc mg/Kg	LCS Conc Found	% Recovery	QC Limits
Cyanide	01/07/99	20.0	19.0	95.0	70-130

Matrix Spike/Matrix Spike Duplicate

Sample ID	Analyte	Spike mg/Kg	Sample mg/Kg	MS Conc Found	MS % Recovery	QC Limits	RPD
9812-A10-03 MS	Cyanide	1.93	<0.100	1.57	81	70 - 130	
9812-A10-03 MSD	Cyanide	1.99	<0.100	1.66	83	70 - 130	5.6

000039

Environmental Testing & Consulting, Inc.

Quality Control Reports

Metals (ICP/GFAA/CV)

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
METALS - LIQUID

Client Name : Tetra Tech EM, Inc.
Project Name : Stallings Salvage

ETC Order # : 9812-A10

HOLDING TIMES

QC Batch(s) for this order : ICP/GFAA V2-LQ-32
Mercury V4-SO-54

Sample Analysis : All samples digested and analyzed within 180 days of collection.
Mercury Analysis : All samples analyzed within 28 days of collection.

CALIBRATION

Initial Calibration : All criteria met.
Continuing Calibration : All criteria met.

SAMPLE ANALYSIS

Instrumentation : Thermo Jarrell Ash Enviro-I ICP
Varian 640Z Zeeman Graphite Furnace
Perkin Elmer 5100ZL Graphite Furnace
Perkin Elmer 6000 Graphite Furnace
Thermo Jarrell Ash AA-Scan 4 Graphite Furnace
CETAC M-6000A Mercury Analyzer
Dilutions Required : No dilutions required.*
*
Dilution Tests were not performed due to final results reported were less than 25 times the detection limits.

QUALITY CONTROL

9812-A10.MQCBLANK
Method Blank
V2-LQ-32BLK - ICP/GFAA Metals
V4-SO-54BLK - Mercury

Calcium identified in V2-LQ-32 at 1.80 mg/Kg.

9812-A10.MQCLCS
Laboratory Control Sample(s)
V2-LQ-32LCS - ICP/GFAA Metals
V4-SO-54LCS - Mercury

All criteria met.

Dilution Test - Dilution result must agree within 10% of original result when sample is diluted by a factor of 5.

Post Digestion Spike - Recovery must be +/-15% of expected value.

Laboratory Manager

LIQUID METHOD BLANK
METALS

Lab Name Environmental Testing and Consulting, Inc

			QC Batch
Laboratory ID	ICP/GFAA Metals	V2-LQ-32 BLK	V2-LQ-32
Laboratory ID	Mercury	V4-SO-54 BLK	V4-SO-54
Date Sample Prepared		01/11/99	ICP/GFAA Metals
		01/07/99	Mercury

Metals	Concentration mg/Kg	Detection Limit mg/Kg	Date Analyzed	Method
Silver	<0.700	0.700	01/11/99	6010B
Aluminum	<4.00	4.00	01/11/99	6010B
Arsenic	<5.00	5.00	01/11/99	6010B
Barium	<0.200	0.200	01/11/99	6010B
Beryllium	<0.100	0.100	01/11/99	6010B
Calcium	1.80	1.00	01/11/99	6010B
Cadmium	<0.400	0.400	01/11/99	6010B
Cobalt	<0.700	0.700	01/11/99	6010B
Chromium	<0.700	0.700	01/11/99	6010B
Copper	<0.600	0.600	01/11/99	6010B
Iron	<0.700	0.700	01/11/99	6010B
Potassium	<20.0	20.0	01/11/99	6010B
Magnesium	<3.00	3.00	01/11/99	6010B
Manganese	<0.200	0.200	01/11/99	6010B
Sodium	<20.0	20.0	01/11/99	6010B
Nickel	<1.50	1.50	01/11/99	6010B
Lead	<4.50	4.50	01/11/99	6010B
Antimony	<3.20	3.20	01/11/99	6010B
Selenium	<7.50	7.50	01/11/99	6010B
Thallium	<5.00	5.00	01/11/99	6010B
Vanadium	<0.800	0.800	01/11/99	6010B
Zinc	<1.00	1.00	01/11/99	6010B
Mercury	<0.020	0.020	01/07/99	7471A

LIQUID LABORATORY CONTROL SAMPLE
METALS

Lab Name: Environmental Testing and Consulting, Inc

				QC Batch
Laboratory Control ID	ICP/GFAA Metals	V2-LQ-32	LCS	V2-LQ-32
	Mercury	V4-SO-54	LCS	V4-SO-54

Date Prepared	ICP/GFAA Metals	01/11/99
	Mercury	01/07/99

Metals	Spike Added mg/Kg	Found mg/Kg	% R	#	QC Limits	
Silver	20.0	21.5	108		80	120
Aluminum	200	209	105		80	120
Arsenic	100	106	106		80	120
Barium	200	190	95		80	120
Beryllium	20.0	20.5	103		80	120
Calcium	400	437	109		80	120
Cadmium	20.0	20.9	105		80	120
Cobalt	100	106	106		80	120
Chromium	40.0	41.4	104		80	120
Copper	40.0	41.0	103		80	120
Iron	200	206	103		80	120
Potassium	400	423	106		80	120
Magnesium	400	427	107		80	120
Manganese	20.0	20.7	104		80	120
Sodium	400	440	110		80	120
Nickel	100	107	107		80	120
Lead	100	104	104		80	120
Antimony	200	221	111		80	120
Selenium	100	103	103		80	120
Thallium	100	107	107		80	120
Vanadium	100	102	102		80	120
Zinc	20.0	22.5	113		80	120
Mercury	0.167	0.162	97		80	120

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

Environmental Testing & Consulting, Inc.

Quality Control Reports

GC/MS Volatiles

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS - LIQUID

Client Name : Tetra Tech EM, Inc.
Project Name : Stallings Salvage

ETC Order # : 9812-A10
Method (SW-846) : 8260B/5030B

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup FORM 3
9901-264-01 RPD : All analytes within QC limits.
Spike Recovery : All analytes within QC limits.

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

Method Blank FORM 4
V301081LB
V301111LB
V301131LB

No Target Analytes detected above the reporting limit.

CALIBRATION

BFB Daily 12 Hour Tune : All criteria met. FORM 5
Initial Calibration : All criteria met. FORM 6
Calibration Verification : All criteria met. FORM 7

Volatile Internal Standard Area and RT FORM 8
Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC, 5971MSD
Dilutions Required : No dilutions required.*
*
Dilutions were performed on samples associated with this project to bring the Target Analyte(s) within calibration range.

Sample ID	Dilutions Performed
9812-A10-01	1:2500
9812-A10-02	1:1000000
9812-A10-03	1:250000
9812-A10-04	1:5000

Laboratory Manager

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS - LIQUID

Client Name : Tetra Tech EM, Inc.
Project Name : Stallings Salvage

ETC Order # : 9812-A10
Method (SW-846) : 8260B/5030B

HOLDING TIMES

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

QUALITY CONTROL

QC Batch	Form 4 Summary
V3010801	V301081LB
V3011101	V301111LB
V3011301	V301131LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Laboratory Control Sample FORM 3
V301081LCS
V301111LCS
V301131LCS

All criteria met.*
*
Furan, Hexane, and Methylene Chloride were flagged outside QC Limits in V301081LCS. Furan and Hexane were not Target Analytes associated with this project. Methylene Chloride was not identified in associated project samples. The data was not affected.

Furan was flagged for high recovery in V301111LCS. This analyte was not a Target Analyte associated with this project. The data was not affected.

Furan, Tetrahydrofuran, and Methylene Chloride were flagged outside QC Limits in V301131LCS. Furan and Tetrahydrofuran were not Target Analytes associated with this project. Methylene Chloride was not identified in associated project samples. The data was not affected.

Matrix Spike / Matrix Spike Dup FORM 3
9901-053-03 RPD : All analytes within QC limits.
Spike Recovery : All analytes within QC limits.

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

Matrix Spike / Matrix Spike Dup FORM 3
9901-096-01 RPD : All analytes within QC limits.
Spike Recovery : All analytes within QC limits.*
*
Recoveries for 1,1-Dichloroethene were flagged for high recovery in the Matrix Spike and Matrix Spike Duplicate.

Recovery for Toleune was flagged for high recovery in the Matrix Spike. MSD recovery was within QC Limits.

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

FORM 2
SOIL VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Level: (low/med) LOW

	CLIENT SAMPLE NO.	SMC1 #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER	TOT OUT
01	V301081LB	98	97	98		0
02	9901-053-3	99	101	102		0
03	9812-A10-1	92	99	96		0
04	9812-A10-2	92	102	107		0
05	9812-A10-4	90	103	104		0
06	V301081LCS	96	98	107		0
07	9901-053-3MS	100	102	106		0
08	9901-053-3MS	99	100	108		0
09	V301111LCS	102	102	112		0
10	V301111LB	92	100	103		0
11	9901-096-1	100	101	104		0
12	9812-A10-1	88	100	95		0
13	9812-A10-4	92	101	104		0
14	9812-A10-3	94	102	103		0
15	9812-A10-3	101	104	105		0
16	9901-096-1MS	97	100	111		0
17	9901-096-1MS	100	98	106		0
18	V301131LCS	97	103	114		0
19	V301131LB	91	99	98		0
20	9901-264-1	95	99	99		0
21	9812-A10-4	91	100	98		0
22	9812-A10-1	92	98	92		0
23	9901-264-1MS	94	98	99		0
24	9901-264-1MS	98	100	95		0
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1	= Dibromofluoromethane	(70-134)
SMC2 (TOL)	= Toluene-d8	(85-111)
SMC3 (BFB)	= Bromofluorobenzene	(81-117)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V301081LB

Lab Name: ETC, INC. Contract:

Lab Code: Lab Prep Batch: V3010801 SDG No.: 9812-A10

Lab File ID: 0302005 Lab Sample ID:

Date Analyzed: 01/08/99 Time Analyzed: 1421

GC Column: ID: 2 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOC3

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	9901-053-3		0701009	1655
02	9812-A10-1		0901011	1809
03	9812-A10-2		1001012	1846
04	9812-A10-4		1201014	2000
05	V301081LCS		1301015	2037
06	9901-053-3MS		1401016	2114
07	9901-053-3MS		1501017	2151
08				
09				
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COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301081LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3010801

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/08/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
67-64-1	Acetone	40.0	U
75-05-8	Acetonitrile	40.0	U
107-02-8	Acrolein	40.0	U
107-13-1	Acrylonitrile	40.0	U
107-05-1	Allyl chloride	2.00	U
71-43-2	Benzene	2.00	U
108-86-1	Bromobenzene	2.00	U
74-97-5	Bromochloromethane	2.00	U
75-27-4	Bromodichloromethane	2.00	U
75-25-2	Bromoform	2.00	U
74-83-9	Bromomethane	2.00	U
104-51-8	n-Butylbenzene	2.00	U
135-98-8	sec-Butylbenzene	2.00	U
98-06-6	tert-Butylbenzene	2.00	U
75-15-0	Carbon Disulfide	2.00	U
56-23-5	Carbon Tetrachloride	2.00	U
108-90-7	Chlorobenzene	2.00	U
124-48-1	Chlorodibromomethane	2.00	U
75-00-3	Chloroethane	2.00	U
110-75-0	2-Chloroethyl vinyl ether	40.0	U
67-66-3	Chloroform	2.00	U
74-87-3	Chloromethane	2.00	U
126-99-8	Chloroprene	2.00	U
95-49-8	2-Chlorotoluene	2.00	U
106-43-4	4-Chlorotoluene	2.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	U
106-93-4	1,2-Dibromoethane	2.00	U
74-95-3	Dibromomethane	2.00	U
95-50-1	1,2-Dichlorobenzene	2.00	U
541-73-1	1,3-Dichlorobenzene	2.00	U
106-46-7	1,4-Dichlorobenzene	2.00	U
110-57-6	trans-1,4-Dichloro-2-butene	2.00	U
67-64-1	Dichlorodifluoromethane	2.00	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301081LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3010801

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/08/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-34-3	1,1-Dichloroethane	2.00	U
107-06-2	1,2-Dichloroethane	2.00	U
75-35-4	1,1-Dichloroethene	2.00	U
156-59-4	cis-1,2-Dichloroethene	2.00	U
156-60-5	trans-1,2-Dichloroethene	2.00	U
78-87-5	1,2-Dichloropropane	2.00	U
142-28-9	1,3-Dichloropropane	2.00	U
590-20-7	2,2-Dichloropropane	2.00	U
563-58-6	1,1-Dichloropropene	2.00	U
10061-01-5	cis-1,3-Dichloropropene	2.00	U
10061-02-6	trans-1,3-Dichloropropene	2.00	U
108-20-3	Di isopropyl ether	10.0	U
123-91-1	1,4-Dioxane	200	U
141-78-6	Ethyl Acetate	10.0	U
100-41-4	Ethylbenzene	2.00	U
97-63-2	Ethyl methacrylate	2.00	U
110-00-9	Furan	2.00	U
87-63-3	Hexachlorobutadiene	2.00	U
110-54-3	Hexane	2.00	U
591-78-6	2-Hexanone	10.0	U
74-88-4	Iodomethane	2.00	U
78-83-1	Isobutyl Alcohol	200	U
98-82-8	Isopropylbenzene	2.00	U
99-87-6	4-Isopropyltoluene	2.00	U
126-98-7	Methacrylonitrile	20.0	U
75-09-2	Methylene Chloride	2.00	U
78-93-3	Methyl-Ethyl Ketone	40.0	U
80-62-6	Methyl methacrylate	2.00	U
108-10-1	4-Methyl-2-Pentanone	10.0	U
1634-04-4	Methyl-tertbutyl-Ether	10.0	U
91-20-3	Naphthalene	2.00	U
76-01-7	Pentachloroethane	2.00	U
107-12-0	Propionitrile	20.0	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301081LB

Lab Name: ETC,INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3010801

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302005

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/08/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume:_____(uL) Soil Aliquot Volume: _____(uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
109-60-4	n-Propyl Acetate	2.00	U
103-65-1	n-Propylbenzene	2.00	U
100-42-5	Styrene	2.00	U
630-20-6	1,1,1,2-Tetrachloroethane	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane	2.00	U
127-18-4	Tetrachloroethene	2.00	U
109-99-9	Tetrahydrofuran	2.00	U
87-61-6	1,2,3-Trichlorobenzene	2.00	U
108-88-3	Toluene	2.00	U
71-55-6	1,1,1-Trichloroethane	2.00	U
79-00-5	1,1,2-Trichloroethane	2.00	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	2.00	U
79-01-6	Trichloroethene	2.00	U
75-69-4	Trichlorofluoromethane	2.00	U
96-18-4	1,2,3-Trichloropropane	2.00	U
95-63-6	1,2,4-Trimethylbenzene	2.00	U
120-82-1	1,2,4-Trichlorobenzene	2.00	U
108-67-8	1,3,5-Trimethylbenzene	2.00	U
108-05-4	Vinyl Acetate	40.0	U
75-01-4	Vinyl Chloride	2.00	U
1330-20-7	Xylene-mp	2.00	U
95-47-6	Xylene-o	2.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	2.00	U

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V3010801

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301081LCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Acetone	200		175	88	59-151
Acetonitrile	2000		1550	78	57-143
Acrolein	200		221	110	59-134
Acrylonitrile	200		135	68	60-146
Allyl chloride	200		155	78	74-120
Benzene	200		189	94	72-124
Bromobenzene	200		178	89	77-120
Bromochloromethane	200		204	102	74-120
Bromodichloromethane	200		198	99	68-119
Bromoform	200		211	106	66-136
Bromomethane	200		190	95	40-134
n-Butylbenzene	200		183	92	69-129
sec-Butylbenzene	200		201	100	72-127
tert-Butylbenzene	200		190	95	73-126
Carbon Disulfide	200		138	69	60-133
Carbon Tetrachloride	200		216	108	64-123
Chlorobenzene	200		185	92	77-112
Chlorodibromomethane	200		203	102	72-118
Chloroethane	200		172	86	64-142
2-Chloroethyl vinyl eth	200		104	52	22-165
Chloroform	200		189	94	70-115
Chloromethane	200		163	82	58-139
Chloroprene	200		200	100	73-118
2-Chlorotoluene	200		191	96	65-132
4-Chlorotoluene	200		186	93	67-127
1,2-Dibromo-3-chloropro	200		179	90	56-134
1,2-Dibromoethane	200		181	90	74-118
Dibromomethane	200		196	98	75-114

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V3010801

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301081LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
1,2-Dichlorobenzene	200		173	86	80-113
1,3-Dichlorobenzene	200		171	86	77-119
1,4-Dichlorobenzene	200		170	85	78-116
trans-1,4-Dichloro-2-bu	200		184	92	62-138
Dichlorodifluoromethane	200		186	93	48-145
1,1-Dichloroethane	200		184	92	76-118
1,2-Dichloroethane	200		191	96	62-124
1,1-Dichloroethene	200		164	82	69-121
cis-1,2-Dichloroethene	200		192	96	76-114
trans-1,2-Dichloroethen	200		198	99	72-121
1,2-Dichloropropane	200		192	96	64-133
1,3-Dichloropropane	200		182	91	68-128
2,2-Dichloropropane	200		207	104	67-132
1,1-Dichloropropene	200		203	102	76-117
cis-1,3-Dichloropropene	200		192	96	77-120
trans-1,3-Dichloroprope	200		189	94	73-124
Di isopropyl ether	200		191	96	62-160
1,4-Dioxane	4000		3330	83	56-131
Ethyl Acetate	200		182	91	52-151
Ethylbenzene	200		198	99	77-111
Ethyl methacrylate	400		377	94	57-140
Furan	200		304	152*	52-124
Hexachlorobutadiene	200		202	101	69-137
Hexane	200		271	136*	70-130
2-Hexanone	200		199	100	53-144
Iodomethane	200		212	106	51-153
Isobutyl Alcohol	4000		3740	94	60-134
Isopropylbenzene	200		197	98	74-125

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V3010801

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301081LCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
4-Isopropyltoluene	200		187	94	72-127
Methacrylonitrile	2000		2030	102	70-125
Methylene Chloride	200		104	52*	76-115
Methyl-Ethyl Ketone	200		167	84	55-151
Methyl methacrylate	400		369	92	57-147
4-Methyl-2-Pentanone	200		198	99	42-144
Methyl-tertbutyl-Ether	200		165	82	62-122
Naphthalene	200		173	86	53-124
Pentachloroethane	200		191	96	78-126
Propionitrile	2000		1840	92	58-139
n-Propyl Acetate	200		283	142	88-170
n-Propylbenzene	200		200	100	75-125
Styrene	200		191	96	77-117
1,1,1,2-Tetrachloroetha	200		200	100	79-113
1,1,2,2-Tetrachloroetha	200		167	84	67-126
Tetrachloroethene	200		224	112	77-115
Tetrahydrofuran	200		154	77	76-181
1,2,3-Trichlorobenzene	200		190	95	62-132
Toluene	200		208	104	77-115
1,1,1-Trichloroethane	200		203	102	63-122
1,1,2-Trichloroethane	200		186	93	69-117
1,1,2-trichloro-1,2,2-t	200		147	74	70-130
Trichloroethene	200		198	99	75-113
Trichlorofluoromethane	200		185	92	55-130
1,2,3-Trichloropropane	200		180	90	62-130
1,2,4-Trimethylbenzene	200		184	92	69-126
1,2,4-Trichlorobenzene	200		175	88	68-132
1,3,5-Trimethylbenzene	200		190	95	69-128

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V3010801

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301081LCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	200		194	97	28-146
Vinyl Chloride	200		168	84	65-134
Xylene-mp	400		382	96	77-115
Xylene-o	200		193	96	77-115

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

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 3 out of 88 outside limits

COMMENTS:

FORM 3
SOIL VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC,INC. Lab Prep Batch: V3010801

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: 9901-053-3 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
Benzene	100	0.000	96.4	96	72-124
Chlorobenzene	100	0.000	88.5	88	77-112
1,1-Dichloroethene	100	0.000	118	118	69-121
Toluene	100	0.000	110	110	77-115
Trichloroethene	100	0.000	99.1	99	75-113

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	200	198	99	3	20	72-124
Chlorobenzene	200	184	92	4	20	77-112
1,1-Dichloroethene	200	216	108	9	20	69-121
Toluene	200	223	112	2	20	77-115
Trichloroethene	200	209	104	5	20	75-113

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

FORM III VOA-GCMS

FORM 4
VOA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

V301111LB

Lab Name: ETC, INC. Contract:

Lab Code: Lab Prep Batch: V3011101 SDG No.: 9812-A10

Lab File ID: 0302004 Lab Sample ID:

Date Analyzed: 01/11/99 Time Analyzed: 1340

GC Column: ID: 2 (mm) Heated Purge: (Y/N) Y

Instrument ID: VOC3

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V301111LCS		0201002LCS	1206
02	9901-096-1		0501005	1528
03	9812-A10-1		1201012	1946
04	9812-A10-4		1301013	2023
05	9812-A10-3		1401014	2100
06	9812-A10-3		1501015	2137
07	9901-096-1MS		1601016	2213
08	9901-096-1MS		1701017	2250
09				
10				
11				
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COMMENTS:

FORM IV VOA-GCMS

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3011101

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/11/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
67-64-1	Acetone	40.0	U
75-05-8	Acetonitrile	40.0	U
107-02-8	Acrolein	40.0	U
107-13-1	Acrylonitrile	40.0	U
107-05-1	Allyl chloride	2.00	U
71-43-2	Benzene	2.00	U
108-86-1	Bromobenzene	2.00	U
74-97-5	Bromochloromethane	2.00	U
75-27-4	Bromodichloromethane	2.00	U
75-25-2	Bromoform	2.00	U
74-83-9	Bromomethane	2.00	U
104-51-8	n-Butylbenzene	2.00	U
135-98-8	sec-Butylbenzene	2.00	U
98-06-6	tert-Butylbenzene	2.00	U
75-15-0	Carbon Disulfide	2.00	U
56-23-5	Carbon Tetrachloride	2.00	U
108-90-7	Chlorobenzene	2.00	U
124-48-1	Chlorodibromomethane	2.00	U
75-00-3	Chloroethane	2.00	U
110-75-0	2-Chloroethyl vinyl ether	40.0	U
67-66-3	Chloroform	2.00	U
74-87-3	Chloromethane	2.00	U
126-99-8	Chloroprene	2.00	U
95-49-8	2-Chlorotoluene	2.00	U
106-43-4	4-Chlorotoluene	2.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	U
106-93-4	1,2-Dibromoethane	2.00	U
74-95-3	Dibromomethane	2.00	U
95-50-1	1,2-Dichlorobenzene	2.00	U
541-73-1	1,3-Dichlorobenzene	2.00	U
106-46-7	1,4-Dichlorobenzene	2.00	U
110-57-6	trans-1,4-Dichloro-2-butene	2.00	U
67-64-1	Dichlorodifluoromethane	2.00	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3011101

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/11/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-34-3	1,1-Dichloroethane	2.00	U
107-06-2	1,2-Dichloroethane	2.00	U
75-35-4	1,1-Dichloroethene	2.00	U
156-59-4	cis-1,2-Dichloroethene	2.00	U
156-60-5	trans-1,2-Dichloroethene	2.00	U
78-87-5	1,2-Dichloropropane	2.00	U
142-28-9	1,3-Dichloropropane	2.00	U
590-20-7	2,2-Dichloropropane	2.00	U
563-58-6	1,1-Dichloropropene	2.00	U
10061-01-5	cis-1,3-Dichloropropene	2.00	U
10061-02-6	trans-1,3-Dichloropropene	2.00	U
108-20-3	Di isopropyl ether	10.0	U
123-91-1	1,4-Dioxane	200	U
141-78-6	Ethyl Acetate	10.0	U
100-41-4	Ethylbenzene	2.00	U
97-63-2	Ethyl methacrylate	2.00	U
110-00-9	Furan	2.00	U
87-63-3	Hexachlorobutadiene	2.00	U
110-54-3	Hexane	2.00	U
591-78-6	2-Hexanone	10.0	U
74-88-4	Iodomethane	2.00	U
78-83-1	Isobutyl Alcohol	200	U
98-82-8	Isopropylbenzene	2.00	U
99-87-6	4-Isopropyltoluene	2.00	U
126-98-7	Methacrylonitrile	20.0	U
75-09-2	Methylene Chloride	2.00	U
78-93-3	Methyl-Ethyl Ketone	40.0	U
80-62-6	Methyl methacrylate	2.00	U
108-10-1	4-Methyl-2-Pentanone	10.0	U
1634-04-4	Methyl-tertbutyl-Ether	10.0	U
91-20-3	Naphthalene	2.00	U
76-01-7	Pentachloroethane	2.00	U
107-12-0	Propionitrile	20.0	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301111LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3011101

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302004

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/11/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
109-60-4	n-Propyl Acetate	2.00	U
103-65-1	n-Propylbenzene	2.00	U
100-42-5	Styrene	2.00	U
630-20-6	1,1,1,2-Tetrachloroethane	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane	2.00	U
127-18-4	Tetrachloroethene	2.00	U
109-99-9	Tetrahydrofuran	2.00	U
87-61-6	1,2,3-Trichlorobenzene	2.00	U
108-88-3	Toluene	2.00	U
71-55-6	1,1,1-Trichloroethane	2.00	U
79-00-5	1,1,2-Trichloroethane	2.00	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	2.00	U
79-01-6	Trichloroethene	2.00	U
75-69-4	Trichlorofluoromethane	2.00	U
96-18-4	1,2,3-Trichloropropane	2.00	U
95-63-6	1,2,4-Trimethylbenzene	2.00	U
120-82-1	1,2,4-Trichlorobenzene	2.00	U
108-67-8	1,3,5-Trimethylbenzene	2.00	U
108-05-4	Vinyl Acetate	40.0	U
75-01-4	Vinyl Chloride	2.00	U
1330-20-7	Xylene-mp	2.00	U
95-47-6	Xylene-o	2.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	2.00	U

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V3011101

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301111LCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Acetone	200		255	128	59-151
Acetonitrile	2000		2340	117	57-143
Acrolein	200		173	86	59-134
Acrylonitrile	200		223	112	60-146
Allyl chloride	200		235	118	74-120
Benzene	200		187	94	72-124
Bromobenzene	200		172	86	77-120
Bromochloromethane	200		196	98	74-120
Bromodichloromethane	200		195	98	68-119
Bromoform	200		205	102	66-136
Bromomethane	200		214	107	40-134
n-Butylbenzene	200		201	100	69-129
sec-Butylbenzene	200		199	100	72-127
tert-Butylbenzene	200		188	94	73-126
Carbon Disulfide	200		228	114	60-133
Carbon Tetrachloride	200		226	113	64-123
Chlorobenzene	200		174	87	77-112
Chlorodibromomethane	200		212	106	72-118
Chloroethane	200		199	100	64-142
2-Chloroethyl vinyl eth	200		106	53	22-165
Chloroform	200		190	95	70-115
Chloromethane	200		183	92	58-139
Chloroprene	200		212	106	73-118
2-Chlorotoluene	200		187	94	65-132
4-Chlorotoluene	200		184	92	67-127
1,2-Dibromo-3-chloropro	200		197	98	56-134
1,2-Dibromoethane	200		184	92	74-118
Dibromomethane	200		188	94	75-114

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V3011101

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301111LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
1,2-Dichlorobenzene	200		172	86	80-113
1.3-Dichlorobenzene	200		174	87	77-119
1,4-Dichlorobenzene	200		172	86	78-116
trans-1,4-Dichloro-2-bu	200		173	86	62-138
Dichlorodifluoromethane	200		227	114	48-145
1,1-Dichloroethane	200		191	96	76-118
1,2-Dichloroethane	200		192	96	62-124
1,1-Dichloroethene	200		223	112	69-121
cis-1,2-Dichloroethene	200		187	94	76-114
trans-1,2-Dichloroethen	200		205	102	72-121
1,2-Dichloropropane	200		181	90	64-133
1,3-Dichloropropane	200		188	94	68-128
2,2-Dichloropropane	200		236	118	67-132
1,1-Dichloropropene	200		210	105	76-117
cis-1,3-Dichloropropene	200		200	100	77-120
trans-1,3-Dichloroprope	200		190	95	73-124
Di isopropyl ether	200		199	100	62-160
1,4-Dioxane	4000		3880	97	56-131
Ethyl Acetate	200		202	101	52-151
Ethylbenzene	200		189	94	77-111
Ethyl methacrylate	400		380	95	57-140
Furan	200		339	170*	52-124
Hexachlorobutadiene	200		214	107	69-137
Hexane	200		218	109	70-130
2-Hexanone	200		232	116	53-144
Iodomethane	200		281	140	51-153
Isobutyl Alcohol	4000		4160	104	60-134
Isopropylbenzene	200		195	98	74-125

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V3011101

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301111LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
4-Isopropyltoluene	200		191	96	72-127
Methacrylonitrile	2000		1960	98	70-125
Methylene Chloride	200		172	86	76-115
Methyl-Ethyl Ketone	200		210	105	55-151
Methyl methacrylate	400		366	92	57-147
4-Methyl-2-Pentanone	200		222	111	42-144
Methyl-tertbutyl-Ether	200		184	92	62-122
Naphthalene	200		172	86	53-124
Pentachloroethane	200		218	109	78-126
Propionitrile	2000		2020	101	58-139
n-Propyl Acetate	200		292	146	88-170
n-Propylbenzene	200		206	103	75-125
Styrene	200		184	92	77-117
1,1,1,2-Tetrachloroetha	200		191	96	79-113
1,1,2,2-Tetrachloroetha	200		170	85	67-126
Tetrachloroethene	200		205	102	77-115
Tetrahydrofuran	200		191	96	76-181
1,2,3-Trichlorobenzene	200		188	94	62-132
Toluene	200		210	105	77-115
1,1,1-Trichloroethane	200		215	108	63-122
1,1,2-Trichloroethane	200		189	94	69-117
1,1,2-trichloro-1,2,2-t	200		245	122	70-130
Trichloroethene	200		193	96	75-113
Trichlorofluoromethane	200		224	112	55-130
1,2,3-Trichloropropane	200		181	90	62-130
1,2,4-Trimethylbenzene	200		183	92	69-126
1,2,4-Trichlorobenzene	200		182	91	68-132
1,3,5-Trimethylbenzene	200		187	94	69-128

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V3011101

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301111LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	200		200	100	28-146
Vinyl Chloride	200		191	96	65-134
Xylene-mp	400		375	94	77-115
Xylene-o	200		184	92	77-115

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

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 1 out of 88 outside limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC,INC. Lab Prep Batch: V3011101

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: 9901-096-1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Benzene	200	0.000	212	106	72-124
Chlorobenzene	200	0.000	187	94	77-112
1,1-Dichloroethene	200	0.000	302	151*	69-121
Toluene	200	0.000	236	118*	77-115
Trichloroethene	200	0.000	206	103	75-113

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	200	194	97	9	20	72-124
Chlorobenzene	200	166	83	12	20	77-112
1,1-Dichloroethene	200	271	136*	10	20	69-121
Toluene	200	212	106	11	20	77-115
Trichloroethene	200	186	93	10	20	75-113

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 3 out of 10 outside limits

COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301131LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3011301

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/13/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
67-64-1	Acetone	40.0	U
75-05-8	Acetonitrile	40.0	U
107-02-8	Acrolein	40.0	U
107-13-1	Acrylonitrile	40.0	U
107-05-1	Allyl chloride	2.00	U
71-43-2	Benzene	2.00	U
108-86-1	Bromobenzene	2.00	U
74-97-5	Bromochloromethane	2.00	U
75-27-4	Bromodichloromethane	2.00	U
75-25-2	Bromoform	2.00	U
74-83-9	Bromomethane	2.00	U
104-51-8	n-Butylbenzene	2.00	U
135-98-8	sec-Butylbenzene	2.00	U
98-06-6	tert-Butylbenzene	2.00	U
75-15-0	Carbon Disulfide	2.00	U
56-23-5	Carbon Tetrachloride	2.00	U
108-90-7	Chlorobenzene	2.00	U
124-48-1	Chlorodibromomethane	2.00	U
75-00-3	Chloroethane	2.00	U
110-75-0	2-Chloroethyl vinyl ether	40.0	U
67-66-3	Chloroform	2.00	U
74-87-3	Chloromethane	2.00	U
126-99-8	Chloroprene	2.00	U
95-49-8	2-Chlorotoluene	2.00	U
106-43-4	4-Chlorotoluene	2.00	U
96-12-8	1,2-Dibromo-3-chloropropane	2.00	U
106-93-4	1,2-Dibromoethane	2.00	U
74-95-3	Dibromomethane	2.00	U
95-50-1	1,2-Dichlorobenzene	2.00	U
541-73-1	1,3-Dichlorobenzene	2.00	U
106-46-7	1,4-Dichlorobenzene	2.00	U
110-57-6	trans-1,4-Dichloro-2-butene	2.00	U
67-64-1	Dichlorodifluoromethane	2.00	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301131LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3011301

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/13/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
75-34-3	1,1-Dichloroethane	2.00	U
107-06-2	1,2-Dichloroethane	2.00	U
75-35-4	1,1-Dichloroethene	2.00	U
156-59-4	cis-1,2-Dichloroethene	2.00	U
156-60-5	trans-1,2-Dichloroethene	2.00	U
78-87-5	1,2-Dichloropropane	2.00	U
142-28-9	1,3-Dichloropropane	2.00	U
590-20-7	2,2-Dichloropropane	2.00	U
563-58-6	1,1-Dichloropropene	2.00	U
10061-01-5	cis-1,3-Dichloropropene	2.00	U
10061-02-6	trans-1,3-Dichloropropene	2.00	U
108-20-3	Di isopropyl ether	10.0	U
123-91-1	1,4-Dioxane	200	U
141-78-6	Ethyl Acetate	10.0	U
100-41-4	Ethylbenzene	2.00	U
97-63-2	Ethyl methacrylate	2.00	U
110-00-9	Furan	2.00	U
87-63-3	Hexachlorobutadiene	2.00	U
110-54-3	Hexane	2.00	U
591-78-6	2-Hexanone	10.0	U
74-88-4	Iodomethane	2.00	U
78-83-1	Isobutyl Alcohol	200	U
98-82-8	Isopropylbenzene	2.00	U
99-87-6	4-Isopropyltoluene	2.00	U
126-98-7	Methacrylonitrile	20.0	U
75-09-2	Methylene Chloride	2.00	U
78-93-3	Methyl-Ethyl Ketone	40.0	U
80-62-6	Methyl methacrylate	2.00	U
108-10-1	4-Methyl-2-Pentanone	10.0	U
1634-04-4	Methyl-tertbutyl-Ether	10.0	U
91-20-3	Naphthalene	2.00	U
76-01-7	Pentachloroethane	2.00	U
107-12-0	Propionitrile	20.0	U

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

V301131LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: V3011301

Sample wt/vol: 5.0 (g/mL) G Lab File ID: 0302003

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. _____ Date Analyzed: 01/13/99

GC Column: ID: 2.00 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
109-60-4	n-Propyl Acetate	2.00	U
103-65-1	n-Propylbenzene	2.00	U
100-42-5	Styrene	2.00	U
630-20-6	1,1,1,2-Tetrachloroethane	2.00	U
79-34-5	1,1,2,2-Tetrachloroethane	2.00	U
127-18-4	Tetrachloroethene	2.00	U
109-99-9	Tetrahydrofuran	2.00	U
87-61-6	1,2,3-Trichlorobenzene	2.00	U
108-88-3	Toluene	2.00	U
71-55-6	1,1,1-Trichloroethane	2.00	U
79-00-5	1,1,2-Trichloroethane	2.00	U
76-13-1	1,1,2-trichloro-1,2,2-triflu	2.00	U
79-01-6	Trichloroethene	2.00	U
75-69-4	Trichlorofluoromethane	2.00	U
96-18-4	1,2,3-Trichloropropane	2.00	U
95-63-6	1,2,4-Trimethylbenzene	2.00	U
120-82-1	1,2,4-Trichlorobenzene	2.00	U
108-67-8	1,3,5-Trimethylbenzene	2.00	U
108-05-4	Vinyl Acetate	40.0	U
75-01-4	Vinyl Chloride	2.00	U
1330-20-7	Xylene-mp	2.00	U
95-47-6	Xylene-o	2.00	U
1476-11-5	cis-1,4-Dichloro-2-butene	2.00	U

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V3011301

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301131LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Acetone	200		183	92	59-151
Acetonitrile	2000		1860	93	57-143
Acrolein	200		173	86	59-134
Acrylonitrile	200		150	75	60-146
Allyl chloride	200		185	92	74-120
Benzene	200		185	92	72-124
Bromobenzene	200		180	90	77-120
Bromochloromethane	200		191	96	74-120
Bromodichloromethane	200		195	98	68-119
Bromoform	200		195	98	66-136
Bromomethane	200		204	102	40-134
n-Butylbenzene	200		202	101	69-129
sec-Butylbenzene	200		220	110	72-127
tert-Butylbenzene	200		203	102	73-126
Carbon Disulfide	200		180	90	60-133
Carbon Tetrachloride	200		224	112	64-123
Chlorobenzene	200		179	90	77-112
Chlorodibromomethane	200		206	103	72-118
Chloroethane	200		190	95	64-142
2-Chloroethyl vinyl eth	200		139	70	22-165
Chloroform	200		188	94	70-115
Chloromethane	200		178	89	58-139
Chloroprene	200		202	101	73-118
2-Chlorotoluene	200		196	98	65-132
4-Chlorotoluene	200		193	96	67-127
1,2-Dibromo-3-chloropro	200		150	75	56-134
1,2-Dibromoethane	200		174	87	74-118
Dibromomethane	200		180	90	75-114

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V3011301

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301131LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
1,2-Dichlorobenzene	200		173	86	80-113
1,3-Dichlorobenzene	200		177	88	77-119
1,4-Dichlorobenzene	200		175	88	78-116
trans-1,4-Dichloro-2-bu	200		157	78	62-138
Dichlorodifluoromethane	200		221	110	48-145
1,1-Dichloroethane	200		185	92	76-118
1,2-Dichloroethane	200		178	89	62-124
1,1-Dichloroethene	200		200	100	69-121
cis-1,2-Dichloroethene	200		189	94	76-114
trans-1,2-Dichloroethen	200		203	102	72-121
1,2-Dichloropropane	200		177	88	64-133
1,3-Dichloropropane	200		178	89	68-128
2,2-Dichloropropane	200		234	117	67-132
1,1-Dichloropropene	200		204	102	76-117
cis-1,3-Dichloropropene	200		196	98	77-120
trans-1,3-Dichloroprope	200		188	94	73-124
Di isopropyl ether	200		188	94	62-160
1,4-Dioxane	4000		3580	90	56-131
Ethyl Acetate	200		158	79	52-151
Ethylbenzene	200		198	99	77-111
Ethyl methacrylate	400		322	80	57-140
Furan	200		315	158*	52-124
Hexachlorobutadiene	200		225	112	69-137
Hexane	200		208	104	70-130
2-Hexanone	200		180	90	53-144
Iodomethane	200		257	128	51-153
Isobutyl Alcohol	4000		3260	82	60-134
Isopropylbenzene	200		204	102	74-125

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC,INC. Lab Prep Batch: V3011301

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301131LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
4-Isopropyltoluene	200		206	103	72-127
Methacrylonitrile	2000		1520	76	70-125
Methylene Chloride	200		125	62*	76-115
Methyl-Ethyl Ketone	200		175	88	55-151
Methyl methacrylate	400		334	84	57-147
4-Methyl-2-Pentanone	200		171	86	42-144
Methyl-tertbutyl-Ether	200		167	84	62-122
Naphthalene	200		154	77	53-124
Pentachloroethane	200		226	113	78-126
Propionitrile	2000		1510	76	58-139
n-Propyl Acetate	200		229	114	88-170
n-Propylbenzene	200		213	106	75-125
Styrene	200		190	95	77-117
1,1,1,2-Tetrachloroetha	200		196	98	79-113
1,1,2,2-Tetrachloroetha	200		145	72	67-126
Tetrachloroethene	200		222	111	77-115
Tetrahydrofuran	200		141	70*	76-181
1,2,3-Trichlorobenzene	200		191	96	62-132
Toluene	200		217	108	77-115
1,1,1-Trichloroethane	200		212	106	63-122
1,1,2-Trichloroethane	200		177	88	69-117
1,1,2-trichloro-1,2,2-t	200		206	103	70-130
Trichloroethene	200		192	96	75-113
Trichlorofluoromethane	200		198	99	55-130
1,2,3-Trichloropropane	200		157	78	62-130
1,2,4-Trimethylbenzene	200		193	96	69-126
1,2,4-Trichlorobenzene	200		189	94	68-132
1,3,5-Trimethylbenzene	200		202	101	69-128

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

* Values outside of QC limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: V3011301

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: V301131LCS Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	200		179	90	28-146
Vinyl Chloride	200		186	93	65-134
Xylene-mp	400		395	99	77-115
Xylene-o	200		192	96	77-115

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

* Values outside of QC limits

RPD: 0 out of 0 outside limits
Spike Recovery: 3 out of 88 outside limits

COMMENTS: _____

FORM 3
SOIL VOA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC,INC. Lab Prep Batch: V3011301

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: 9901-264-1 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Benzene	200	0.000	173	86	72-124
Chlorobenzene	200	0.000	179	90	77-112
1,1-Dichloroethene	200	0.000	190	95	69-121
Toluene	200	0.000	201	100	77-115
Trichloroethene	200	0.000	192	96	75-113

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Benzene	200	176	88	2	20	72-124
Chlorobenzene	200	170	85	6	20	77-112
1,1-Dichloroethene	200	179	90	5	20	69-121
Toluene	200	198	99	1	20	77-115
Trichloroethene	200	182	91	5	20	75-113

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

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

Environmental Testing & Consulting, Inc.

Quality Control Reports

GC/MS Semi-Volatiles

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC/MS SEMI-VOLATILE COMPOUNDS - LIQUID

Client Name : Tetra Tech EM, Inc.
Project Name : Stallings Salvage

ETC Order # : 9812-A10
Method (SW-846) : 8270C/3580B

HOLDING TIMES

Sample Extraction : All soil samples extracted within 14 days.
Sample Analysis : All samples analyzed within 40 days of extraction

QUALITY CONTROL

QC Batch	Form 4 Summary
P04098	P04098LB
P04099	P04099LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.*
*
Surrogate recoveries for multiple analytes were flagged as outside QC Limits in several samples associated with this project. Review of the raw data showed matrix interference from Non-Target Analytes.

Laboratory Control Sample FORM 3
P04098LCS
P04099LCS

All criteria met.*
*
Benzoic Acid, 4-Bromophenyl-phenyl ether, 3-Nitroaniline, N-Nitrosodinpropylamine were flagged for high recovery in P04098LCS. High recovery indicates the detection limits were not affected. These analytes were not identified in samples associated with this project. The data was not affected.

Bis(2-Chloroisopropyl)ether, Dibenzofuran, 4,6-Dinitro-2-methylphenol were flagged for low recovery in P04098LCS. Low recoveries indicates results may be biased low.

Benzoic Acid, 4-Bromophenyl-phenyl ether, 3-Nitroaniline, N-Nitrosodinpropylamine were flagged for high recovery in P04099LCS. High recovery indicates the detection limits were not affected. These analytes were not identified in samples associated with this project. The data was not affected.

Bis(2-Chloroisopropyl)ether and 4,6-Dinitro-2-methylphenol were flagged for low recovery in P04099LCS. Low recoveries indicates results may be biased low.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC/MS SEMI-VOLATILE COMPOUNDS - LIQUID

Client Name : Tetra Tech EM, Inc.
Project Name : Stallings Salvage

ETC Order # : 9812-A10
Method (SW-846) : 8270C/3580B

QUALITY CONTROL

Matrix Spike / Matrix Spike Dup FORM 3
9812-A10-03 RPD : All analytes within QC limits.*
SSS-D3 Spike Recovery : All analytes within QC limits.*
*
Recoveries and RPD for 4-Nitrophenol were flagged outside QC Limits in the Matrix Spike and Matrix Spike Duplicate.

RPD for Pentachlorophenol was flagged outside QC Limits. MS/MSD recoveries were within QC Limits.

Recoveries for 2-Chlorophenol, 1,4-Dichlorobenzene, 1,2,4-Trichlorobenzene, N-Nitrosodinpropylamine, and Phenol were flagged outside QC Limits in the Matrix Spike and Matrix Spike Duplicate.

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

Matrix Spike / Matrix Spike Dup FORM 3
9812-A10-04 RPD : All analytes within QC limits.
SSS-D4 Spike Recovery : All analytes within QC limits.*
*
Recoveries for several analytes were flagged outside QC Limits in the Matrix Spike and Matrix Spike Duplicate. The outliers were attributed to required dilutions applied to the sample.

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

Method Blank FORM 4
P04098LB
P04099LB

No Target Analytes detected above Practical Quantitation Limit. Benzoic Acid identified in P04098LB at 579000J ug/Kg.

CALIBRATION

DFTPP Daily 12 Hour Tune : All criteria met. FORM 5
Initial Calibration : All criteria met. FORM 6
Calibration Verification : All criteria met. FORM 7

Semi-Volatile Internal Standard Area and RT FORM 8
Daily Check Standard(s) Internal Standard Areas and Retention Times within QC limits.

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC/MS SEMI-VOLATILE COMPOUNDS - LIQUID

Client Name : _Tetra Tech EM, Inc.
Project Name : _Stallings Salvage

ETC Order # : _9812-A10
Method (SW-846) : _8270C/3580B

SAMPLE ANALYSIS

Instrumentation : HP 5890 Series II GC, 5971MSD
Dilutions Required : No dilutions required.*
*
Dilutions were performed on samples associated with this project to bring the Target Analyte(s) within calibration range.

Sample ID	Dilutions Performed
9812-A10-01	1:6000
9812-A10-02	1:6000
9812-A10-03	1:6000
9812-A10-04	1:6000

Laboratory Manager

FORM 2
SOIL BNA-GCMS SURROGATE RECOVERY

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Level: (low/med) LOW

	CLIENT SAMPLE NO.	S1 (TBP) #	S2 (NBZ) #	S3 (FBP) #	S4 (TPH) #	S5 (D6P) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	P04099LB	33	79	85	85	36	34			0
02	9812-A10-4	27	69	76	77	35	30			0
03	9812-A10-4MS	45	103	100	104	42	36			0
04	9812-A10-4MS	37	0D	0D	0D	38	33			3
05	P04099LCS	41	94	94	105	42	39			0
06	~~P4098LB~~ P04098LB	88	94	97	99	102	99			0
07	~~P4098LCS~~ P04098LCS	96	92	86	96	94	93			0
08	9812-A10-1	92	91	113	110	100	113			0
09	9812-A10-2	73	126Q	95	87	84	Q			2
10	9812-A10-3	69	Q	93	92	Q	Q			3
11	9812-A10-3MS	75	Q	92	91	Q	Q			3
12	9812-A10-3MS	73	Q	103	101	Q	Q			3
13										
14										
15										
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			QC LIMITS
S1	(TBP)	= 2,4,6-Tribromophenol	(9-134)
S2	(NBZ)	= Nitrobenzene-d5	(25-110)
S3	(FBP)	= 2-Fluorobiphenyl	(33-114)
S4	(TPH)	= Terphenyl-d14	(37-115)
S5	(D6P)	= Phenol-d6	(11-125)
S6	(2FP)	= 2-Fluorophenol	(10-119)

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

FORM 4
BNA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

P4098LB

Lab Name: Contract:

Lab Code: Case No.: Lab Prep Batch: P04098 SDG No.: 9812-A10

Lab File ID: 1301004 Lab Sample ID:

Instrument ID: BNA1 Date Extracted:

Matrix: (soil/water) SOIL Date Analyzed: 01/08/99

Level: (low/med) LOW Time Analyzed: 1656

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P4098LCS		1401005	01/08/99
02	9812-A10-1		0301001	01/11/99
03	9812-A10-2		0401002	01/11/99
04	9812-A10-3		0501003	01/11/99
05	9812-A10-3MS		0601004	01/11/99
06	9812-A10-3MS		0701005	01/11/99
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COMMENTS:

FORM IV BNA-GCMS

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P4098LB

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: B1010801

Matrix: (soil/water) SOIL Lab Prep Batch: P04098

Sample wt/vol: 0.5 (g/mL) G Lab File ID: 1301004

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 01/08/99

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	40000	U
208-96-8	Acenaphthylene	40000	U
98-86-2	Acetophenone	100000	U
62-53-3	Aniline	100000	U
120-12-7	Anthracene	40000	U
92-87-5	Benzidine	400000	U
56-55-3	Benzo(a)Anthracene	40000	U
205-99-2	Benzo(b)fluoranthene	40000	U
207-08-9	Benzo(k)fluoranthene	40000	U
191-24-2	Benzo(g,h,i)perylene	40000	U
50-32-8	Benzo(a)pyrene	40000	U
65-85-0	Benzoic Acid	579000	J
100-51-6	Benzyl Alcohol	100000	U
111-91-1	Bis(2-chloroethoxy)methane	100000	U
111-44-4	bis(2-Chloroethyl)ether	100000	U
39638-32-9	bis(2-Chloroisopropyl)ether	100000	U
117-81-7	bis(2-ethylhexyl)Phthalate	100000	U
101-55-3	4-Bromophenyl-phenylether	100000	U
85-68-7	Butylbenzylphthalate	100000	U
86-74-8	Carbazole	200000	U
106-47-8	4-Chloroaniline	100000	U
59-50-7	4-Chloro-3-Methylphenol	100000	U
91-58-7	2-Chloronaphthalene	100000	U
95-57-8	2-Chlorophenol	100000	U
7005-72-3	4-Chlorophenyl-phenylether	100000	U
218-01-9	Chrysene	40000	U
53-70-3	Dibenzo(a,h)anthracene	40000	U
132-64-9	Dibenzofuran	100000	U
84-74-2	Di-n-Butylphthalate	100000	U
95-50-1	1,2-Dichlorobenzene	100000	U
541-73-1	1,3-Dichlorobenzene	100000	U
106-46-7	1,4-Dichlorobenzene	100000	U
91-94-1	3,3'-Dichlorobenzidine	200000	U

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P4098LB

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: B1010801

Matrix: (soil/water) SOIL Lab Prep Batch: P04098

Sample wt/vol: 0.5 (g/mL) G Lab File ID: 1301004

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:

Concentrated Extract Volume: 1 (mL) Date Analyzed: 01/08/99

Injection Volume: 1.0 (uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-83-2	2,4-Dichlorophenol	100000	U
105-67-9	2,4-Dimethyphenol	100000	U
131-11-3	Dimethylphthalate	100000	U
534-52-1	4,6-Dinitro-2-methylphenol	200000	U
51-28-5	2,4-Dinitrophenol	400000	U
121-14-2	2,4-Dinitrotoluene	100000	U
606-20-2	2,6-Dinitrotoluene	100000	U
86-30-6	Diphenylamine/n-NDPA	100000	U
122-66-7	1,2-Diphenylhydrazine/Azoben	100000	U
117-84-0	Di-n-octylphthalate	100000	U
84-66-2	Diethylphthalate	100000	U
206-44-0	Fluoranthene	40000	U
86-73-7	Fluorene	40000	U
118-74-1	Hexachlorobenzene	100000	U
87-68-3	Hexachlorobutadiene	100000	U
67-72-1	Hexachloroethane	100000	U
77-47-4	Hexachlorocyclopentadiene	100000	U
193-39-5	Indeno(1,2,3-cd)pyrene	40000	U
78-59-1	Isophorone	100000	U
91-57-6	2-Methylnaphthalene	100000	U
95-48-7	2-Methylphenol	100000	U
106-44-5	3&4-Methylphenol	100000	U
91-20-3	Naphthalene	100000	U
88-74-4	2-Nitroaniline	200000	U
99-09-2	3-Nitroaniline	200000	U
98-95-3	Nitrobenzene	100000	U
100-01-6	4-Nitroaniline	200000	U
88-75-5	2-Nitrophenol	200000	U
100-02-7	4-Nitrophenol	100000	U
621-64-7	N-Nitrosodinpropylamine	100000	U
62-75-9	N-Nitrosodimethylamine	100000	U
87-86-5	Pentachlorophenol	100000	U
85-01-8	Phenanthrene	40000	U

FORM 3
SOIL BNA-GCMS LAB CONTROL SAMPLE

Lab Name: Lab Prep Batch: P04098

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: P4098LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
3,3'-Dichlorobenzidine	3330		3100	93	18-191
2.4-Dichlorophenol	3330		3370	101	68-123
2,4-Dimethyphenol	3330		3520	106	53-121
Dimethylphthalate	1670		1350	81	64-132
4,6-Dinitro-2-methylphe	3330		1000	30*	70-158
2,4-Dinitrophenol	3330		2220	67	31-186
2,4-Dinitrotoluene	1670		1430	86	22-139
2,6-Dinitrotoluene	1670		1370	82	64-142
Diphenylamine/n-NDPA	1670		1520	91	72-118
Di-n-octylphthalate	1670		1140	68	42-172
Diethylphthalate	1670		1430	86	72-133
Fluoranthene	1670		1510	90	71-132
Fluorene	1670		1490	89	65-126
Hexachlorobenzene	1670		1430	86	64-130
Hexachlorobutadiene	1670		1520	91	62-116
Hexachloroethane	1670		1430	86	58-110
Hexachlorocyclopentadie	1670		2020	121	16-160
Indeno(1,2,3-cd)pyrene	1670		1580	95	34-170
Isophorone	1670		1570	94	35-135
2-Methylnaphthalene	1670		1060	63	57-123
2-Methylphenol	3330		3240	97	56-132
3&4-Methylphenol	3330		3210	96	68-111
Naphthalene	1670		1590	95	62-113
2-Nitroaniline	1670		1350	81	63-138
3-Nitroaniline	1670		2460	147*	53-128
Nitrobenzene	1670		1580	95	59-123
4-Nitroaniline	1670		1220	73	60-140
2-Nitrophenol	3330		3320	100	52-145

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

COMMENTS: _____

FORM 3
SOIL BNA-GCMS LAB CONTROL SAMPLE

Lab Name: Lab Prep Batch: P04098

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: P4098LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
4-Nitrophenol	3330		1580	47	12-105
N-Nitrosodinpropylamine	1670		13500	808*	24-141
Pentachlorophenol	3330		3600	108	6-164
Phenanthrene	1670		1520	91	66-128
Phenol	3330		3100	93	22-127
Pyrene	1670		1670	100	33-155
1,2,4-Trichlorobenzene	1670		1590	95	30-127
2,4,5-Trichlorphenol	3330		3180	95	50-173
2,4,6-Trichlorophenol	3330		3110	93	46-161

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

RPD: 0 out of 0 outside limits
Spike Recovery: 7 out of 65 outside limits

COMMENTS: _____

FORM 3
SOIL BNA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Lab Prep Batch: P04098

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: 9812-A10-3 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Acenaphthene	187000	0.00	173000	92	45- 99
4-Chloro-3-Methylphenol	747000	0.00	621000	83	35-113
2-Chlorophenol	747000	0.00	7600000	1017*	38-100
1,4-Dichlorobenzene	187000	0.00	0.00	0*	40- 90
2,4-Dinitrotoluene	187000	0.00	90900	49	34-110
4-Nitrophenol	747000	0.00	52300	7*	9- 92
N-Nitrosodinpropylamine	187000	0.00	1180000	631*	47-110
Pentachlorophenol	747000	0.00	216000	29	28-124
Phenol	747000	0.00	6480000	867*	37-103
Pyrene	187000	0.00	189000	101	60-127
1,2,4-Trichlorobenzene	187000	0.00	1600000	856*	45- 94

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	196000	191000	97	5	20	45- 99
4-Chloro-3-Methylphenol	783000	675000	86	4	20	35-113
2-Chlorophenol	783000	7890000	1008*	1	20	38-100
1,4-Dichlorobenzene	196000	0.00	0*		20	40- 90
2,4-Dinitrotoluene	196000	95300	49	0	20	34-110
4-Nitrophenol	783000	42800	5*	33*	20	9- 92
N-Nitrosodinpropylamine	196000	1490000	760*	18	20	47-110
Pentachlorophenol	783000	302000	38	27*	20	28-124
Phenol	783000	7000000	894*	3	20	37-103
Pyrene	196000	222000	113	11	20	60-127
1,2,4-Trichlorobenzene	196000	1620000	826*	4	20	45- 94

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

RPD: 2 out of 11 outside limits
Spike Recovery: 12 out of 22 outside limits

COMMENTS: _____

FORM 4
BNA-GCMS METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

P04099LB

Lab Name: Contract:

Lab Code: Case No.: Lab Prep Batch: P04099 SDG No.: 9812-A10

Lab File ID: 2401003 Lab Sample ID:

Instrument ID: BNA1 Date Extracted:

Matrix: (soil/water) SOIL Date Analyzed: 01/08/99

Level:(low/med) LOW Time Analyzed: 1115

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

	SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	9812-A10-4MS		0701005	01/08/99
02	9812-A10-4MS		0901007	01/08/99
03	P04099LCS		1101002	01/08/99
04	9812-A10-4		0801006	01/08/99
05				
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COMMENTS:

FORM IV BNA-GCMS

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P04099LB

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: P04099

Sample wt/vol: 0.5 (g/mL) G Lab File ID: 2401003

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 01/08/99

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
83-32-9	Acenaphthene	40000	U
208-96-8	Acenaphthylene	40000	U
98-86-2	Acetophenone	100000	U
62-53-3	Aniline	100000	U
120-12-7	Anthracene	40000	U
92-87-5	Benzidine	400000	U
56-55-3	Benzo(a)Anthracene	40000	U
205-99-2	Benzo(b)fluoranthene	40000	U
207-08-9	Benzo(k)fluoranthene	40000	U
191-24-2	Benzo(g,h,i)perylene	40000	U
50-32-8	Benzo(a)pyrene	40000	U
65-85-0	Benzoic Acid	1000000	U
100-51-6	Benzyl Alcohol	100000	U
111-91-1	Bis(2-chloroethoxy)methane	100000	U
111-44-4	bis(2-Chloroethyl)ether	100000	U
39638-32-9	bis(2-Chloroisopropyl)ether	100000	U
117-81-7	bis(2-ethylhexyl)Phthalate	100000	U
101-55-3	4-Bromophenyl-phenylether	100000	U
85-68-7	Butylbenzylphthalate	100000	U
86-74-8	Carbazole	200000	U
106-47-8	4-Chloroaniline	100000	U
59-50-7	4-Chloro-3-Methylphenol	100000	U
91-58-7	2-Chloronaphthalene	100000	U
95-57-8	2-Chlorophenol	100000	U
7005-72-3	4-Chlorophenyl-phenylether	100000	U
218-01-9	Chrysene	40000	U
53-70-3	Dibenzo(a,h)anthracene	40000	U
132-64-9	Dibenzofuran	100000	U
84-74-2	Di-n-Butylphthalate	100000	U
95-50-1	1,2-Dichlorobenzene	100000	U
541-73-1	1,3-Dichlorobenzene	100000	U
106-46-7	1,4-Dichlorobenzene	100000	U
91-94-1	3,3'-Dichlorobenzidine	200000	U

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P04099LB

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: P04099

Sample wt/vol: 0.5 (g/mL) G Lab File ID: 2401003

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 01/08/99

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
120-83-2	2,4-Dichlorophenol	100000	U
105-67-9	2,4-Dimethyphenol	100000	U
131-11-3	Dimethylphthalate	100000	U
534-52-1	4,6-Dinitro-2-methylphenol	200000	U
51-28-5	2,4-Dinitrophenol	400000	U
121-14-2	2,4-Dinitrotoluene	100000	U
606-20-2	2,6-Dinitrotoluene	100000	U
86-30-6	Diphenylamine/n-NDPA	100000	U
122-66-7	1,2-Diphenylhydrazine/Azoben	100000	U
117-84-0	Di-n-octylphthalate	100000	U
84-66-2	Diethylphthalate	100000	U
206-44-0	Fluoranthene	40000	U
86-73-7	Fluorene	40000	U
118-74-1	Hexachlorobenzene	100000	U
87-68-3	Hexachlorobutadiene	100000	U
67-72-1	Hexachloroethane	100000	U
77-47-4	Hexachlorocyclopentadiene	100000	U
193-39-5	Indeno(1,2,3-cd)pyrene	40000	U
78-59-1	Isophorone	100000	U
91-57-6	2-Methylnaphthalene	100000	U
95-48-7	2-Methylphenol	100000	U
106-44-5	3&4-Methylphenol	100000	U
91-20-3	Naphthalene	100000	U
88-74-4	2-Nitroaniline	200000	U
99-09-2	3-Nitroaniline	200000	U
98-95-3	Nitrobenzene	100000	U
100-01-6	4-Nitroaniline	200000	U
88-75-5	2-Nitrophenol	200000	U
100-02-7	4-Nitrophenol	100000	U
621-64-7	N-Nitrosodinpropylamine	100000	U
62-75-9	N-Nitrosodimethylamine	100000	U
87-86-5	Pentachlorophenol	100000	U
85-01-8	Phenanthrene	40000	U

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

P04099LB

Lab Name: Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: P04099

Sample wt/vol: 0.5 (g/mL) G Lab File ID: 2401003

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:

Concentrated Extract Volume: 1(mL) Date Analyzed: 01/08/99

Injection Volume: 1.0(uL) Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: 7.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
108-95-2	Phenol	100000	U
129-00-0	Pyrene	40000	U
87-65-0	2,6-Dichlorophenol	100000	U
110-86-1	Pyridine	100000	U
126-73-8	Tributylphosphate	100000	U
120-82-1	1,2,4-Trichlorobenzene	100000	U
95-95-4	2,4,5-Trichlorphenol	100000	U
88-06-2	2,4,6-Trichlorophenol	100000	U

FORM 3
SOIL BNA-GCMS LAB CONTROL SAMPLE

Lab Name: Lab Prep Batch: P04099

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: P04099LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Acenaphthene	1670		1640	98	37-123
Acenaphthylene	1670		1610	96	62-123
Anthracene	1670		1640	98	68-124
Benzo(a)Anthracene	1670		1610	96	60-133
Benzo(b)fluoranthene	1670		1440	86	67-126
Benzo(k)fluoranthene	1670		1410	84	75-131
Benzo(g,h,i)perylene	1670		1610	96	53-137
Benzo(a)pyrene	1670		1400	84	68-129
Benzoic Acid	3330		9700	291*	37-251
Benzyl Alcohol	1670		1660	99	20-159
Bis(2-chloroethoxy)meth	1670		1510	90	37-153
bis(2-Chloroethyl)ether	1670		1420	85	25-147
bis(2-Chloroisopropyl)e	1670		558	33*	35-138
bis(2-ethylhexyl)Phthal	1670		1680	100	60-150
4-Bromophenyl-phenyleth	1670		2560	153*	59-130
Butylbenzylphthalate	1670		1590	95	71-137
4-Chloroaniline	1670		1260	75	27-106
4-Chloro-3-Methylphenol	3330		3590	108	33-147
2-Chloronaphthalene	1670		1560	93	62-126
2-Chlorophenol	3330		3220	97	35-138
4-Chlorophenyl-phenylet	1670		1540	92	60-128
Chrysene	1670		1530	92	67-131
Dibenzo(a,h)anthracene	1670		1700	102	51-138
Dibenzofuran	1670		1140	68	57-131
Di-n-Butylphthalate	1670		1670	100	39-179
1,2-Dichlorobenzene	1670		1540	92	58-110
1,3-Dichlorobenzene	1670		1530	92	55-109
1,4-Dichlorobenzene	1670		1520	91	26-121

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

COMMENTS: _____

FORM 3
SOIL BNA-GCMS LAB CONTROL SAMPLE

Lab Name: Lab Prep Batch: P04099

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: P04099LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
3,3'-Dichlorobenzidine	3330		4080	122	18-191
2,4-Dichlorophenol	3330		3450	104	68-123
2,4-Dimethyphenol	3330		3360	101	53-121
Dimethylphthalate	1670		1480	89	64-132
4,6-Dinitro-2-methylphe	3330		1030	31*	70-158
2,4-Dinitrophenol	3330		3420	103	31-186
2,4-Dinitrotoluene	1670		1600	96	22-139
2,6-Dinitrotoluene	1670		1430	86	64-142
Diphenylamine/n-NDPA	1670		1690	101	72-118
Di-n-octylphthalate	1670		1370	82	42-172
Diethylphthalate	1670		1550	93	72-133
Fluoranthene	1670		1640	98	71-132
Fluorene	1670		1650	99	65-126
Hexachlorobenzene	1670		1600	96	64-130
Hexachlorobutadiene	1670		1500	90	62-116
Hexachloroethane	1670		1440	86	58-110
Hexachlorocyclopentadie	1670		1860	111	16-160
Indeno(1,2,3-cd)pyrene	1670		1740	104	34-170
Isophorone	1670		1560	93	35-135
2-Methylnaphthalene	1670		1110	66	57-123
2-Methylphenol	3330		3270	98	56-132
3&4-Methylphenol	3330		3260	98	68-111
Naphthalene	1670		1610	96	62-113
2-Nitroaniline	1670		1410	84	63-138
3-Nitroaniline	1670		8520	510*	53-128
Nitrobenzene	1670		1460	87	59-123
4-Nitroaniline	1670		1570	94	60-140
2-Nitrophenol	3330		3300	99	52-145

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

COMMENTS: _____

FORM 3
SOIL BNA-GCMS LAB CONTROL SAMPLE

Lab Name: Lab Prep Batch: P04099

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: P04099LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
4-Nitrophenol	3330		1760	53	12-105
N-Nitrosodinpropylamine	1670		4970	298*	24-141
Pentachlorophenol	3330		3760	113	6-164
Phenanthrene	1670		1650	99	66-128
Phenol	3330		3200	96	22-127
Pyrene	1670		1830	110	33-155
1,2,4-Trichlorobenzene	1670		1620	97	30-127
2,4,5-Trichlorphenol	3330		3480	104	50-173
2,4,6-Trichlorophenol	3330		3300	99	46-161

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

RPD: 0 out of 0 outside limits
Spike Recovery: 6 out of 65 outside limits

COMMENTS: _____

FORM 3
SOIL BNA-GCMS MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Lab Prep Batch: P04099

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - Sample No.: 9812-A10-4 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Acenaphthene	212000	0.00	0.00	0*	45- 99
4-Chloro-3-Methylphenol	383000	0.00	0.00	0*	35-113
2-Chlorophenol	276000	0.00	0.00	0*	38-100
1,4-Dichlorobenzene	166000	0.00	0.00	0*	40- 90
2,4-Dinitrotoluene	172000	0.00	0.00	0*	34-110
4-Nitrophenol	83100	0.00	0.00	0*	9- 92
N-Nitrosodinpropylamine	210000	0.00	316000	150*	47-110
Pentachlorophenol	303000	0.00	0.00	0*	28-124
Phenol	276000	0.00	0.00	0*	37-103
Pyrene	212000	0.00	0.00	0*	60-127
1,2,4-Trichlorobenzene	214000	0.00	0.00	0*	45- 94

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Acenaphthene	228000	0.00	0*		20	45- 99
4-Chloro-3-Methylphenol	417000	239000	57		20	35-113
2-Chlorophenol	296000	277000	94		20	38-100
1,4-Dichlorobenzene	178000	0.00	0*		20	40- 90
2,4-Dinitrotoluene	185000	0.00	0*		20	34-110
4-Nitrophenol	89200	0.00	0*		20	9- 92
N-Nitrosodinpropylamine	226000	254000	112*	29*	20	47-110
Pentachlorophenol	326000	803000	246*		20	28-124
Phenol	296000	260000	88		20	37-103
Pyrene	228000	0.00	0*		20	60-127
1,2,4-Trichlorobenzene	230000	0.00	0*		20	45- 94

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

RPD: 1 out of 11 outside limits
Spike Recovery: 19 out of 22 outside limits

COMMENTS: _____

FORM 4
PCB METHOD BLANK SUMMARY

EPA GC SAMPLE NO.

P08033LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: Lab Prep Batch: P08033 SDG No.: 9812-A10

Lab File ID: C201081B-03R Lab Sample ID:

Instrument ID: PEST2B Date Extracted:

Matrix: (soil/water) SOIL Date Analyzed: 01/08/99

Level:(low/med) LOW Time Analyzed: 1535

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

	EPA GC SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	9812-A10-3		C201081B-05R	01/08/99
02	9812-A10-3MS		C201081B-06R	01/08/99
03	9812-A10-3MS		C201081B-07R	01/08/99
04	P08033LCS		C201111B-03R	01/11/99
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COMMENTS:

FORM IV PCB

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

EPA GC SAMPLE NO.

P08033LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: P08033

Sample wt/vol: 0.5 (g/mL) G Lab File ID: C201081B-03R

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:

Concentrated Extract Volume: 10(mL) Date Analyzed: 01/08/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
12674-11-2------	Aroclor 1016	1000	U
11104-28-2------	Aroclor 1221	1000	U
11141-16-5------	Aroclor 1232	1000	U
53469-21-9------	Aroclor 1242	1000	U
11097-69-1------	Aroclor 1254	1000	U
11096-82-5------	Aroclor 1260	1000	U
12672-29-6------	Aroclor 1248	1000	U

FORM 3
SOIL PCB LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: P08033

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - EPA GC Sample No.: P08033LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Aroclor 1242	20000		24290	121	25-125
Aroclor 1260	20000		21600	108	25-125

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

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

COMMENTS: _____

FORM III PCB

FORM 3
SOIL PCB MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: P08033

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - EPA GC Sample No.: 9812-A10- Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Aroclor 1242	17710	0.000	23060	130*	25-125
Aroclor 1260	17710	0.000	20020	113	25-125

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aroclor 1242	19580	25300	129*	1	20	25-125
Aroclor 1260	19580	21800	111	2	20	25-125

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: 2 out of 4 outside limits

COMMENTS: _____

Environmental Testing & Consulting, Inc.

Quality Control Reports

GC Pesticides

ENVIRONMENTAL TESTING AND CONSULTING, INC.
MEMPHIS, TN
CASE NARRATIVE
GC PESTICIDES - LIQUID

Client Name : Tetra Tech EM, Inc.
Project Name : Stallings Salvage

ETC Order # : 9812-A10
Method (SW-846) : 8081A/3550B

HOLDING TIMES

Sample Extraction : All soil samples extracted within 14 days.
Sample Analysis : All samples analyzed within 40 days of extraction.

QUALITY CONTROL

QC Batch	Form 4 Summary
P06042	P06042LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits.

Laboratory Control Sample FORM 3
P06042LCS

All criteria met.

Matrix Spike / Matrix Spike Dup FORM 3
9812-A10-03 RPD : All analytes within QC limits.
SSS-D3 Spike Recovery : All analytes within QC limits.

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

Method Blank FORM 4
P06042LB

No Target Analytes detected above Practical Quantitation Limit.

CALIBRATION

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

SAMPLE ANALYSIS

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

Laboratory Manager

FORM 2
SOIL PESTICIDE SURROGATE RECOVERY

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Level: (low/med) LOW

	EPA GC SAMPLE NO.	S1 (TCX) #	S2 (DCB) #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	P06042LB	56	70							0
02	P06042LCS	94	102							0
03	9812-A10-3	51	65							0
04	9812-A10-3MS	87	98							0
05	9812-A10-3MS	72	98							0
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		QC LIMITS	
S1 (TCX)	= Tetrachloro-m-xylene	(39-130)	
S2 (DCB)	= Decachlorobiphenyl	(64-154)	(advisory)

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

FORM 4
PESTICIDE METHOD BLANK SUMMARY

EPA GC SAMPLE NO.

P06042LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: Lab Prep Batch: P06042 SDG No.: 9812-A10

Lab File ID: P101051A-10R Lab Sample ID:

Instrument ID: PEST1A Date Extracted:

Matrix: (soil/water) SOIL Date Analyzed: 01/05/99

Level:(low/med) LOW Time Analyzed: 2211

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

	EPA GC SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P06042LCS		P101051A-11R	01/05/99
02	9812-A10-3		P101051A-12R	01/05/99
03	9812-A10-3MS		P101051A-13R	01/05/99
04	9812-A10-3MS		P101051A-14R	01/06/99
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COMMENTS:

FORM IV PESTICIDE

FORM 1
PESTICIDE ORGANICS ANALYSIS DATA SHEET

EPA GC SAMPLE NO.

P06042LB

Lab Name: ETC, INC. Contract:

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix: (soil/water) SOIL Lab Prep Batch: P06042

Sample wt/vol: 0.5 (g/mL) G Lab File ID: P101051A-10R

Level: (low/med) LOW Date Received: _____

% Moisture: 0 decanted: (Y/N) N Date Extracted:

Concentrated Extract Volume: 10(mL) Date Analyzed: 01/05/99

Injection Volume: 1.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ___

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
309-00-2	Aldrin	80.00000	U
319-84-6	alpha-BHC	80.00000	U
319-85-7	beta-BHC	80.00000	U
319-86-8	delta-BHC	80.00000	U
58-89-9	gamma-BHC (Lindane)	80.00000	U
5103-71-9	alpha-chlordane	80.00000	U
5103-74-2	gamma-chlordane	80.00000	U
72-54-8	4,4'-DDD	80.00000	U
72-55-9	4,4'-DDE	80.00000	U
50-29-3	4,4'-DDT	80.00000	U
60-57-1	Dieldrin	80.00000	U
959-98-8	Endosulfan I	80.00000	U
33213-65-9	Endosulfan II	80.00000	U
1031-07-8	Endosulfan sulfate	80.00000	U
72-20-8	Endrin	80.00000	U
7421-93-4	Endrin aldehyde	80.00000	U
53494-70-5	Endrin Ketone	80.00000	U
76-44-8	Heptachlor	80.00000	U
1024-57-3	Heptachlor epoxide	80.00000	U
72-43-5	Methoxychlor	80.00000	U

FORM 3
SOIL PESTICIDE LAB CONTROL SAMPLE

Lab Name: ETC, INC. Lab Prep Batch: P06042

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - EPA GC Sample No.: P06042LCS Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Aldrin	2000.000		1447.59223	72	31-111
alpha-BHC	2000.000		1446.52424	72	22-112
beta-BHC	2000.000		1367.53899	68	54-120
delta-BHC	2000.000		1404.00905	70	10- 96
gamma-BHC (Lindane)	2000.000		1458.34062	73	26-113
alpha-chlordane	2000.000		1424.57924	71	49-103
gamma-chlordane	2000.000		1470.27487	74	50-106
4,4'-DDD	2000.000		1570.74444	78	47-112
4,4'-DDE	2000.000		1533.69787	77	36-117
4,4'-DDT	2000.000		1790.21839	90	49-124
Dieldrin	2000.000		1524.44224	76	44-108
Endosulfan I	2000.000		1501.19076	75	49-103
Endosulfan II	2000.000		1610.84024	80	53-115
Endosulfan sulfate	2000.000		1283.82415	64	51-110
Endrin	2000.000		1517.24889	76	44-118
Endrin aldehyde	2000.000		1280.97401	64	48-128
Endrin Ketone	2000.000		1404.77079	70	38-130
Heptachlor	2000.000		1575.42094	79	47-113
Heptachlor epoxide	2000.000		1476.44603	74	47-112
Methoxychlor	2000.000		1557.69409	78	39-147

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

RPD: 0 out of 0 outside limits
Spike Recovery: 0 out of 20 outside limits

COMMENTS: _____

FORM 3
SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: P06042

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - EPA GC Sample No.: 9812-A10-3 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Aldrin	1884.659	0.00000	1143.02145	61	31-111
alpha-BHC	1884.659	0.00000	1323.83605	70	22-112
beta-BHC	1884.659	0.00000	1294.50335	69	54-120
delta-BHC	1884.659	0.00000	1462.93029	78	10- 96
gamma-BHC (Lindane)	1884.659	0.00000	1380.17781	73	26-113
alpha-chlordane	1884.659	0.00000	1316.28729	70	49-103
gamma-chlordane	1884.659	0.00000	1383.07376	73	50-106
4,4'-DDD	1884.659	0.00000	1345.59885	71	47-112
4,4'-DDE	1884.659	0.00000	1276.38798	68	36-117
4,4'-DDT	1884.659	49.53263	1756.54149	90	49-124
Dieldrin	1884.659	0.00000	1322.31531	70	44-108
Endosulfan I	1884.659	0.00000	1532.24298	81	49-103
Endosulfan II	1884.659	0.00000	1628.92380	86	53-115
Endosulfan sulfate	1884.659	0.00000	1335.26834	71	51-110
Endrin	1884.659	0.00000	1454.39913	77	44-118
Endrin aldehyde	1884.659	0.00000	1430.09783	76	48-128
Endrin Ketone	1884.659	0.00000	1649.89986	88	38-130
Heptachlor	1884.659	0.00000	1403.30973	74	47-113
Heptachlor epoxide	1884.659	0.00000	1353.08842	72	47-112
Methoxychlor	1884.659	0.00000	1519.66006	81	39-147

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

COMMENTS:

FORM 3
SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ETC, INC. Lab Prep Batch: P06042

Lab Code: Case No.: SAS No.: SDG No.: 9812-A10

Matrix Spike - EPA GC Sample No.: 9812-A10-3 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
Aldrin	1962.709	999.25568	51	18	20	31-111
alpha-BHC	1962.709	1329.97877	68	3	20	22-112
beta-BHC	1962.709	1181.11685	60	14	20	54-120
delta-BHC	1962.709	1454.37640	74	5	20	10- 96
gamma-BHC (Lindane)	1962.709	1309.48053	67	8	20	26-113
alpha-chlordane	1962.709	1247.08058	64	9	20	49-103
gamma-chlordane	1962.709	1224.54945	62	16	20	50-106
4,4'-DDD	1962.709	1459.42802	74	4	20	47-112
4,4'-DDE	1962.709	1243.90645	63	8	20	36-117
4,4'-DDT	1962.709	1774.95019	88	2	20	49-124
Dieldrin	1962.709	1284.56661	65	7	20	44-108
Endosulfan I	1962.709	1463.52907	74	9	20	49-103
Endosulfan II	1962.709	1491.32542	76	12	20	53-115
Endosulfan sulfate	1962.709	1363.75992	69	3	20	51-110
Endrin	1962.709	1431.19735	73	5	20	44-118
Endrin aldehyde	1962.709	1494.37124	76	0	20	48-128
Endrin Ketone	1962.709	1498.45414	76	15	20	38-130
Heptachlor	1962.709	1344.78563	68	8	20	47-113
Heptachlor epoxide	1962.709	1263.99834	64	12	20	47-112
Methoxychlor	1962.709	1481.44855	75	8	20	39-147

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

RPD: 0 out of 20 outside limits
Spike Recovery: 0 out of 40 outside limits

COMMENTS: _____

Environmental Testing & Consulting, Inc.

Calibration Reports

Metals (ICP/GFAA/CV)

Environmental Testing & Consulting, Inc.
ICP
Sequence Check-List

Date[1] 1-13-99 Time[1] 1026 Analyst TMD

1. Instrument Profile Intensity (Manganese) 590 1996.45
2. Initial Calibration (# of Standards) 5
3. Initial Calibration Readback (+/- 5%)
   - All Criteria Met ✓
   - Elements Outside Criteria
4. Initial Calibration Blank
   - All elements below detection limit ✓
   - Elements above detection limit
5. Initial Calibration Verification (+/- 5%) ✓
6. Low Level Check Standard ✓
7. High Level Check Standard —
8. Interelement Correction Standard (Initial ICSAB) ✓
9. Interelement Correction Standard (Final ICSAB) ✓

Comments

1 System Date/Time will appear incorrect and/or inconsistent on the instrument Analysis Report. This is a documented software bug with the TJA operating program.

Figure 8A
Environmental Testing and Consulting, Inc.
ICAP

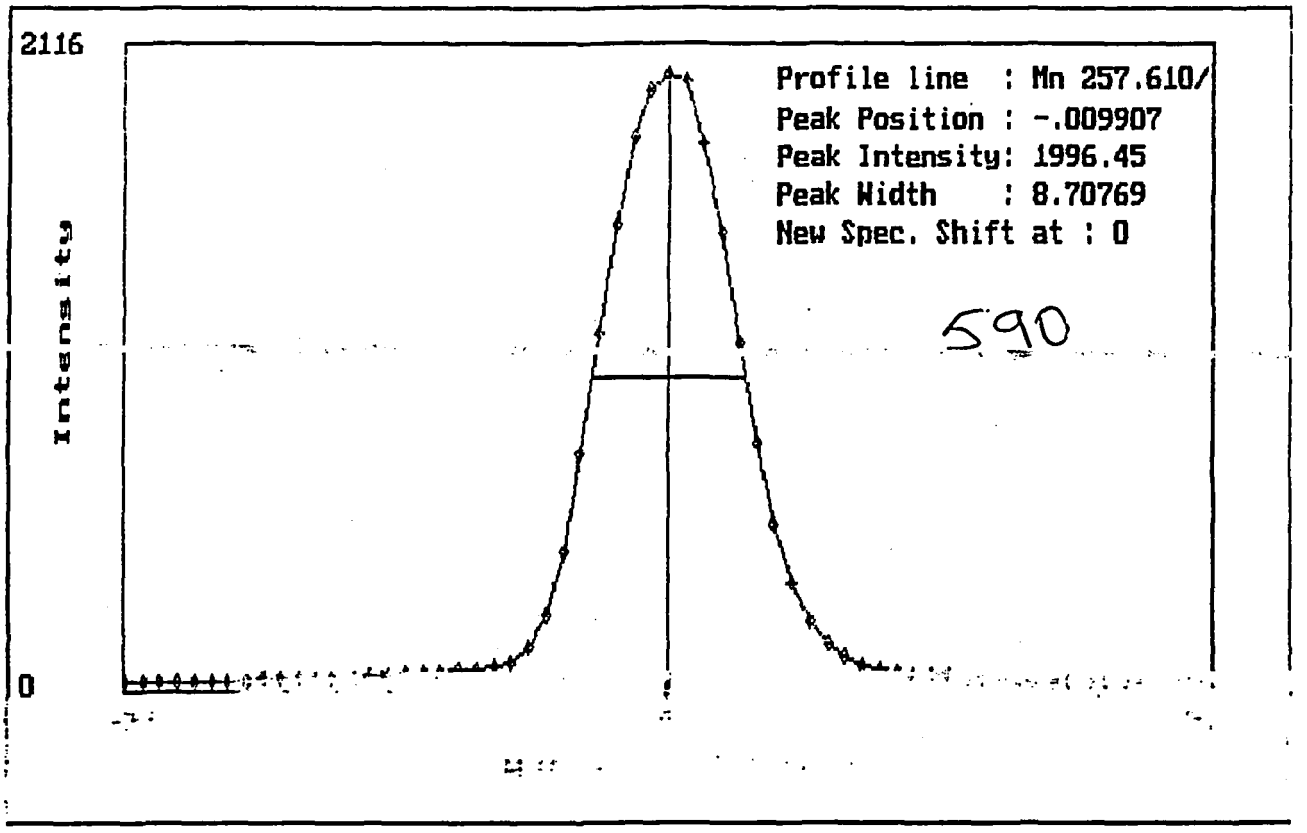
Continuing Calibration Blanks

#1	#6 Fe+, Na-, Sn+, B+	#11
#2	#7	#12
#3	#8	#13
#4 B+	#9	#14
#5 Cr+, Mg+, Na-	#10	#15

Continuing Calibration Verification

Method 200.7 (5%)	SW 846 (10%)
#1	-
#2 Tl	-
#3 K, Na	-
#4 K	-
#5 K	-
#6 Be, Se, Mo	-
#7	-
#8	-
#9	-
#10	-
#11	-
#12	-
#13	-
#14	-
#15	-

COMMENTS :


2116
Intensity
0
Profile line : Mn 257.610/
Peak Position : -.009907
Peak Intensity: 1996.45
Peak Width : 8.70769
New Spec. Shift at : 0
590

Standardization Rpt. Wed 01-13-99 10:26:14 AM page 1

Method: PLASMA_S Standard: STD1-Blank

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Avge	.0281	.0263	.0010	.0005	.0021	.0011	.0003
SDev	.0006	.0043	.0053	.0015	.0001	.0009	.0027
%RSD	2.291	16.27	525.7	324.5	5.587	79.57	998.7

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Avge	-.0002	.0054	.0050	.0016	.0297	.0031	.0033
SDev	.0011	.0054	.0003	.0020	.0080	.0021	.0001
%RSD	529.2	100.2	6.928	123.1	26.63	67.66	3.333

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Avge	.1747	.0029	.0303	.0057	-.0043	-.0125	.0010
SDev	.0011	.0031	.0080	.0055	.0014	.0095	.0026
%RSD	.6304	106.8	26.42	97.19	31.91	75.97	255.3

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Avge	.0108	-.0023	.0047	.0033	-.0069	.0071
SDev	.0007	.0023	.0007	.0006	.0027	.0015
%RSD	6.677	98.60	14.84	19.68	39.65	20.86

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Method: PLASMA_S Standard: C1

Elem	Ag3280	Al3082	Ba4934	Be3130	Ca3179	Co2286	Cr2677
Avge	1.177	38.76	35.91	4.761	28.54	4.248	6.292
SDev	.002	.10	.13	.010	.09	.006	.013
%RSD	.1529	.2520	.3564	.2093	.3097	.1439	.2036

Elem	Cu3247	Fe2599	K_7664	Mg2790	Mn2576	Na5889	Ni2316
Avge	1.914	79.60	9.397	8.145	4.898	9.432	2.739
SDev	.006	.10	.143	.003	.008	.028	.006
%RSD	.2951	.1284	1.521	[illegible]	.1675	.3011	[illegible]

Elem	V_2924	Zn2138
Avge	11.00	10.42
SDev	.00	.01
%RSD	.0399	.1074

Standardization Rpt. Wed 01-13-99 10:35:25 AM page 1

Method: PLASMA_S Standard: C2

Elem	As1936	Cd2265	Pb2203	Se1960	Tl1908
Avge	6.736	7.328	4.555	1.248	8.454
SDev	.010	.020	.014	.004	.035
%RSD	.1539	.2771	.3140	.2805	.4094

Method: PLASMA_S Standard: C3

Elem	Sb2068
Avge	3.231
SDev	.022
%RSD	.6872

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Method: PLASMA_S Standard: C4

Elem	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Avge	93.98	4.884	2.173	.3931	13.71
SDev	1.83	.059	.011	.0016	.11
%RSD	1.947	1.211	.5169	.4080	.7873

Standardization Report Wed 01-13-99 10:42:50 AM page 1

Method: PLASMA_S Slope = Conc(SIR)/IR

Element	Wavelen	High std	Low std	Slope	Y-intercept	Date Standardized
Ag3280	328.068	C1	STD1-Blank	1.74044	-.048848	01/13/99 10:39:20
Al3082	308.215	C1	STD1-Blank	2.58184	-.067816	01/13/99 10:39:20
As1936	193.696	C2	STD1-Blank	2.96977	-.002970	01/13/99 10:39:20
Ba4934	493.409	C1	STD1-Blank	1.11394	-.000520	01/13/99 10:39:20
Be3130	313.042	C1	STD1-Blank	.630376	-.001303	01/13/99 10:39:20
Ca3179	317.933	C1	STD1-Blank	3.50362	-.003971	01/13/99 10:39:20
Cd2265	226.502	C2	STD1-Blank	1.36474	-.000364	01/13/99 10:39:20
Co2286	228.616	C1	STD1-Blank	2.55420	.000471	01/13/99 10:39:20
Cr2677	267.716	C1	STD1-Blank	1.90868	-.010307	01/13/99 10:39:20
Cu3247	324.754	C1	STD1-Blank	2.61890	-.013094	01/13/99 10:39:20
Fe2599	259.940	C1	STD1-Blank	1.50760	-.002412	01/13/99 10:39:20
K_7664	766.491	C1	STD1-Blank	10.6752	-.316697	01/13/99 10:39:20
Mg2790	279.079	C1	STD1-Blank	12.2822	-.037665	01/13/99 10:39:20
Mn2576	257.610	C1	STD1-Blank	2.65610	-.008677	01/13/99 10:39:20
Na5889	588.995	C1	STD1-Blank	10.8027	-1.88759	01/13/99 10:39:20
Ni2316	231.604	C1	STD1-Blank	2.92341	-.008380	01/13/99 10:39:20
Pb2203	220.353	C2	STD1-Blank	2.21034	-.067047	01/13/99 10:39:20
Sb2068	206.838	C3	STD1-Blank	3.72078	-.021084	01/13/99 10:39:20
Se1960	196.026	C2	STD1-Blank	7.98637	.034075	01/13/99 10:39:20
Tl1908	190.864	C2	STD1-Blank	2.36222	.029449	01/13/99 10:39:20
V_2924	292.402	C1	STD1-Blank	.909300	-.000909	01/13/99 10:39:20
Zn2138	213.856	C1	STD1-Blank	1.34474	-.014523	01/13/99 10:39:20
Sr4215	421.552	C4	STD1-Blank	.106406	.000248	01/13/99 10:39:20
Ti3349	334.941	C4	STD1-Blank	2.04976	-.009702	01/13/99 10:39:20
Mo2020	202.030	C4	STD1-Blank	4.60971	-.015058	01/13/99 10:39:20
Sn2839	283.999	C4	STD1-Blank	25.5579	.175498	01/13/99 10:39:20
B_2496	249.678	C4	STD1-Blank	.729072	-.005152	01/13/99 10:39:20

Analysis Report Wed 01-13-99 10:51:14 AM page 1

Method: PLASMA_S Sample Name: C1 M4-1-31-18 Operator: TD
Run Time: 01/13/99 10:45:06
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.035	100.0	.0295	39.52	3.006	100.0	-.0015
SDev	.021	1.5	.0420	.76	.017	.8	.0032
%RSD	1.012	1.489	142.4	1.916	.5501	.7984	210.5
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass	NOCHECK
High	2.100	105.0		42.00	3.150	105.0	
Low	1.900	95.00		38.00	2.850	95.00	

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	9.960	11.97	4.947	119.7	97.43	100.0	12.98
SDev	.074	.10	.081	1.2	3.55	.8	.13
%RSD	.7459	.8702	1.631	.9658	3.643	.8077	1.017
					=wakeup K		
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	10.50	12.60	5.250	126.0	105.0	105.0	13.65
Low	9.500	11.40	4.750	114.0	95.00	95.00	12.35

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	99.90	8.007	-.0350	-.0462	-.0511	.0036	10.04
SDev	.59	.079	.0157	.0411	.0351	.0378	.12
%RSD	.5909	.9855	44.85	88.78	68.71	1037.	1.151
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	105.0	8.400					10.50
Low	95.00	7.600					9.500

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	14.01	.0033	.0003	.0003	-.2563	.0127
SDev	.09	.0000	.0005	.0021	.0703	.0015
%RSD	.6674	.3727	156.3	605.6	27.42	11.69
Errors	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High	14.70					
Low	13.30					

Analysis Report Wed 01-13-99 10:57:26 AM page 1

Method: PLASMA_S Sample Name: C2 M4-1-34-03 Operator: TD
Run Time: 01/13/99 10:51:18
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0019	.0322	19.93	.0022	.0002	.0243	9.962
SDev	.0014	.0117	.10	.0005	.0001	.0039	.024
%RSD	75.12	36.34	.5246	23.10	42.89	15.89	.2397
Errors	NOCHECK	NOCHECK	LC Pass	NOCHECK	NOCHECK	NOCHECK	LC Pass
High			21.00				10.50
Low			19.00				9.500

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0015	.0005	.0005	.0058	-.0114	.0060	.0004
SDev	.0012	.0019	.0019	.0011	.0310	.0074	.0000
%RSD	78.91	353.7	359.2	18.34	272.4	122.7	.3217
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0223	.0034	9.978	-.0160	9.937	20.05	-.0002
SDev	.0013	.0024	.039	.0123	.103	.06	.0013
%RSD	5.726	68.72	.3933	76.77	1.038	.3111	653.0
Errors	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	LC Pass	NOCHECK
High			10.50		10.50	21.00	
Low			9.500		9.500	19.00	

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0003	-.0001	.0003	-.0040	.0151	.0055
SDev	.0006	.0001	.0005	.0018	.0404	.0021
%RSD	222.2	129.7	169.8	46.15	267.9	38.58
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						

Method: PLASMA_S Sample Name: C3 M4-1-29-15 Operator: TD
Run Time: 01/13/99 10:57:30
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	-.0070	-.0036	-.0005	-.0000	.0220	-.0005
SDev	.0040	.0025	.0112	.0000	.0000	.0028	.0024
%RSD	685.0	35.57	309.7	.0013	1.801	12.77	523.7
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0014	.0004	.0017	.0051	-.0242	-.0059	-.0002
SDev	.0008	.0040	.0034	.0016	.0186	.0050	.0000
%RSD	57.53	1104.	192.7	30.57	76.93	84.85	.7575
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0209	.0055	-.0152	12.18	-.0069	.0121	-.0009
SDev	.0033	.0048	.0216	.06	.0268	.0164	.0008
%RSD	15.81	86.71	142.1	.4995	386.3	135.3	96.62
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	NOCHECK	NOCHECK	NOCHECK
High				12.60			
Low				11.40			

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0000	-.0001	-.0002	-.0049	-.0360	-.0000
SDev	.0009	.0001	.0013	.0032	.0831	.0017
%RSD	2589.	60.90	518.8	64.97	231.1	166400.
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						

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Method: PLASMA_S Sample Name: C4 M4-1-33-13 Operator: TD
Run Time: 01/13/99 11:03:42
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0045	.0557	-.0041	.0007	.0001	.0089	-.0009
SDev	.0022	.0056	.0087	.0012	.0001	.0034	.0008
%RSD	50.18	10.09	213.9	163.1	68.71	38.68	88.43
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0027	.0037	-.0009	.0074	-.0014	.0003	.0001
SDev	.0004	.0048	.0028	.0009	.0291	.0036	.0006
%RSD	16.04	130.0	325.1	12.85	2053.	1380.	449.1
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0228	.0029	-.0109	.0337	-.0118	-.3926	-.0072
SDev	.0190	.0014	.0054	.0444	.0127	.0720	.0018
%RSD	83.07	47.41	49.40	131.7	107.8	18.35	24.54
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0018	10.01	10.06	10.25	10.15	10.13
SDev	.0007	.08	.06	.12	.07	.10
%RSD	40.45	.8085	.5923	1.148	.7152	1.002
Errors	NOCHECK	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High		10.54	10.54	10.54	10.54	10.54
Low		9.450	9.450	9.450	9.450	9.450

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Method: PLASMA_S Sample Name: TCB M4-1-18-19 Operator: TD
Run Time: 01/13/99 11:15:54
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0034	-.0026	-.0071	-.0005	.0000	.0007	-.0006
SDev	.0014	.0032	.0092	.0000	.0001	.0018	.0017
%RSD	41.81	122.8	128.8	.0095	177.0	251.2	260.7
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0090	.0600	.0750	.0030	.0020	.0150	.0050
Low	-.0090	-.0600	-.0750	-.0030	-.0020	-.0150	-.0050

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0022	-.0032	-.0035	.0009	-.0327	-.0115	-.0002
SDev	.0012	.0011	.0013	.0026	.0231	.0100	.0000
%RSD	53.99	34.61	37.79	284.8	70.55	86.57	.5009
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0090	.0090	.0080	.0090	.2500	.0400	.0030
Low	-.0090	-.0090	-.0080	-.0090	-.2500	-.0400	-.0030

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0295	-.0018	-.0282	.0137	.0000	.0089	.0000
SDev	.0099	.0082	.0293	.0201	.0190	.0177	.0022
%RSD	33.61	465.1	104.2	147.1	153500.	199.6	5328.
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0400	.0200	.0600	.0400	.1000	.0650	.0100
Low	-.0400	-.0200	-.0600	-.0400	-.1000	-.0650	-.0100

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0007	-.0000	-.0004	-.0009	.0234	.0058
SDev	.0006	.0002	.0005	.0011	.0600	.0041
%RSD	89.02	424.6	116.0	115.5	256.6	70.64
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0020	.0030	.0100	.1500	.0080
Low	-.0100	-.0020	-.0030	-.0100	-.1500	-.0080

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Method: PLASMA_S Sample Name: ICV1 M4-1-34-15 Operator: TD
Run Time: 01/13/99 11:22:05
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.011	10.08	.0028	9.800	.9958	20.74	.0007
SDev	.006	.06	.0186	.070	.0012	.08	.0018
%RSD	.6219	.6414	673.1	.7157	.1187	.3925	255.0
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass	NOCHECK
High	1.054	10.54		10.54	1.054	21.08	
Low	.9450	9.450		9.450	.9450	18.90	

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.093	2.019	2.000	9.949	19.80	20.37	1.006
SDev	.028	.010	.005	.039	.12	.07	.004
%RSD	.5464	.4976	.2718	.3905	.5919	.3433	.4433
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	5.274	2.108	2.108	10.54	21.08	21.08	1.054
Low	4.725	1.890	1.890	9.450	18.90	18.90	.9450

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.77	5.114	-.0035	-.0213	-.0194	.0273	5.075
SDev	.68	.009	.0204	.0321	.0297	.0249	.024
%RSD	3.265	.1801	576.9	150.6	152.7	91.19	.4655
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	21.08	5.274					5.274
Low	18.90	4.725					4.725

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.008	.0003	.0000	-.0035	-.0461	.0045
SDev	.006	.0001	.0004	.0023	.0448	.0011
%RSD	.6089	47.66	994.3	65.48	97.11	23.59
Errors	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High	1.054					
Low	.9450					

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Method: PLASMA_S Sample Name: ICV2 M4-1-31-13 Operator: TD
Run Time: 01/13/99 11:28:17
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0038	.0123	4.931	-.0005	.0002	.0082	.9943
SDev	.0019	.0076	.011	.0000	.0001	.0033	.0041
%RSD	50.11	61.91	.2276	.0089	42.64	40.47	.4099
Errors	NOCHECK	NOCHECK	LC Pass	NOCHECK	NOCHECK	NOCHECK	LC Pass
High			5.274				1.054
Low			4.725				.9450

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0022	-.0022	.0014	.0015	-.0263	-.0093	-.0000
SDev	.0024	.0066	.0030	.0022	.0260	.0161	.0003
%RSD	110.9	300.8	212.2	145.6	98.65	172.8	15470.
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0018	-.0000	4.932	-.0033	4.984	5.170	-.0003
SDev	.0050	.0052	.019	.0080	.051	.045	.0031
%RSD	272.2	42720.	.3931	242.5	1.018	.8687	1122.
Errors	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	LC Pass	NOCHECK
High			5.274		5.274	5.274	
Low			4.725		4.725	4.725	

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0005	-.0001	-.0004	-.0055	.0089	.0051
SDev	.0012	.0002	.0015	.0030	.0786	.0013
%RSD	219.7	187.8	380.8	55.58	885.1	24.69
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						

Analysis Report Wed 01-13-99 11:40:36 AM. page 1

Method: PLASMA_S Sample Name: ICV3 M4-1-31-15 Operator: TD
Run Time: 01/13/99 11:34:28
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0053	-.0029	-.0117	-.0005	.0002	.0068	-.0029
SDev	.0015	.0072	.0218	.0000	.0001	.0039	.0018
%RSD	28.45	245.4	186.0	.0059	43.67	56.94	61.01
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0011	.0033	.0005	-.0000	-.0448	-.0107	-.0005
SDev	.0017	.0046	.0040	.0016	.0710	.0136	.0003
%RSD	151.0	137.8	749.7	38550.	158.3	127.3	57.72
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0103	.0032	.0023	10.25	-.0069	-.0129	-.0004
SDev	.0098	.0063	.0053	.15	.0051	.0214	.0017
%RSD	94.98	194.7	233.8	1.455	73.87	166.8	405.8
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	NOCHECK	NOCHECK	NOCHECK
High				10.54			
Low				9.450			

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0006	-.0001	-.0015	-.0022	-.0337	.0013
SDev	.0008	.0002	.0009	.0009	.0350	.0032
%RSD	145.9	226.8	58.48	42.88	103.8	255.1
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						

Analysis Report Wed 01-13-99 11:46:47 AM page 1

Method: PLASMA_S Sample Name: LLC M4-1-24-23 Operator: TD
Run Time: 01/13/99 11:40:39
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0089	.5336	.5173	.0201	.0021	H.1282	.0483
SDev	.0044	.0060	.0184	.0013	.0002	.0054	.0009
%RSD	49.93	1.124	3.554	6.392	9.090	4.247	1.818
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High *	LC Pass
High	.0115	.5770	.5770	.0231	.0023	.1154	.0577
Low	.0084	.4225	.4225	.0169	.0017	.0845	.0422

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0106	H.0118	.0523	.1134	.5502	.2182	.0202
SDev	.0028	.0046	.0014	.0022	.0130	.0148	.0003
%RSD	26.74	38.95	2.651	1.961	2.361	6.789	1.517
Errors	LC Pass	LC High *	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0115	.0115	.0577	.1154	.5770	.2308	.0231
Low	.0084	.0084	.0422	.0845	.4225	.1690	.0169

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.2289	.0452	.5292	.0571	1.042	.5254	.0398
SDev	.0078	.0082	.0202	.0382	.029	.0123	.0025
%RSD	3.398	18.12	3.807	66.85	2.787	2.347	6.239
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.2308	.0462	.5770	.0577	1.154	.5770	.0462
Low	.1690	.0338	.4225	.0422	.8450	.4225	.0338

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0538	.0095	.0195	.1033	.9790	H.0583
SDev	.0016	.0002	.0005	.0005	.0514	.0029
%RSD	2.997	1.869	2.410	.5154	5.254	4.949
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC High *
High	.0577	.0115	.0231	.1554	1.154	.0577
Low	.0422	.0084	.0169	.0845	.8450	.0422

* Rerun @ 1202 for

Ca = .1136 = PASS
Cr = .0106 = PASS
B = .0563 = PASS

** Ag, Co, K, Mg, Na, Sb all failed on Retry, but were ok originally + thus OK.

000129

Analysis Report Wed 01-13-99 11:52:58 AM page 1

Method: PLASMA_S Sample Name: LLC M4-1-24-23 1:2 Operator: TD
Run Time: 01/13/99 11:46:51
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0011	.2503	.2455	.0088	.0010	.0677	.0240
SDev	.0040	.0113	.0091	.0012	.0001	.0025	.0009
%RSD	374.1	4.510	3.707	13.10	6.844	3.630	3.658
Errors	NOCHECK	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High		.2885					.0289
Low		.2113					.0211

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0047	.0074	.0251	.0661	.2199	.0902	.0091
SDev	.0041	.0086	.0074	.0013	.0591	.0340	.0003
%RSD	87.18	116.3	29.58	1.983	26.87	37.67	3.398
Errors	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass
High			.0289		.2885	.1154	.0115
Low			.0211		.2113	.0845	.0084

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.1509	.0212	.2428	.0599	.4577	.2558	.0178
SDev	.0033	.0065	.0214	.0413	.0196	.0088	.0027
%RSD	2.185	30.53	8.797	69.00	4.282	3.455	15.27
Errors	NOCHECK	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	NOCHECK
High		.0231	.2885		.5770	.2885	
Low		.0169	.2113		.4225	.2113	

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0267	.0044	.0092	.0486	.3724	.0254
SDev	.0007	.0003	.0015	.0024	.0612	.0018
%RSD	2.686	6.376	16.11	5.025	16.43	7.061
Errors	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High	.0289					
Low	.0211					

Analysis Report Wed 01-13-99 11:59:10 AM page 1

Method: PLASMA_S Sample Name: ICSAB M4-1-33-05 Operator: TD
Run Time: 01/13/99 11:53:02
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	3.029	498.8	9.577	2.728	.9307	476.6	2.625
SDev	.017	2.9	.010	.019	.0035	1.6	.013
%RSD	.5619	.5905	.1008	.6958	.3748	.3380	.4785
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	3.600	600.0	12.00	3.600	1.200	600.0	3.600
Low	2.400	400.0	8.000	2.400	.8000	400.0	2.400

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.740	2.728	2.959	188.1	192.6	512.8	1.855
SDev	.012	.016	.023	.8	5.8	2.3	.009
%RSD	.4286	.6022	.7658	.4128	3.034	.4512	.4912
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	3.600	3.600	3.600	240.0	240.0	600.0	2.400
Low	2.400	2.400	2.400	160.0	160.0	400.0	1.600

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0466	2.724	8.759	-.0268	4.867	8.672	2.814
SDev	.0139	.015	.024	.0468	.050	.083	.014
%RSD	29.91	.5600	.2785	174.6	1.029	.9574	.4951
Errors	NOCHECK	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass
High		3.600	12.00		6.000	12.00	3.600
Low		2.400	8.000		4.000	8.000	2.400

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	2.936	-.0057	.0007	-.0056	.3521	.0063
SDev	.013	.0002	.0001	.0027	.0782	.0040
%RSD	.4438	3.033	16.97	47.63	22.21	63.29
Errors	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High	3.600					
Low	2.400					

Analysis Report (1) Wed 01-13-99 01:44:05 PM page 1

Method: PLASMA_S Sample Name: BLANK Operator: TD
Run Time: 01/13/99 13:39:28
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0055	-.0075	.0202	.0004	.0000	.0040	-.0008
#1	.0076	-.0121	.0286	.0002	.0001	.0035	-.0016
#2	[illegible]	[illegible]	[illegible]	[illegible]	-.0001	.0063	-.0011
#3	.0032	-.0006	.0202	.0004	.0001	.0021	.0003
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0090	.0600	.0750	.0030	.0020	.0150	.0050
Low	-.0090	-.0600	-.0750	-.0030	-.0020	-.0150	-.0050

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0009	.0007	-.0014	.0014	-.0025	-.0111	-.0000
#1	.0009	-.0021	-.0032	.0004	.0011	-.0062	-.0005
#2	-.0005	.0048	-.0011	.0020	.0203	-.0012	.0005
#3	.0024	-.0006	-.0000	.0017	-.0288	-.0260	-.0000
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0090	.0090	.0080	.0090	.2500	.0400	.0030
Low	-.0090	-.0090	-.0080	-.0090	-.2500	-.0400	-.0030

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0123	.0012	-.0201	-.0066	-.0021	-.0232	.0003
#1	.0087	.0065	.0069	-.0084	-.0223	-.0394	-.0015
#2	.0086	.0000	.0157	.0091	.0144	-.0196	.0030
#3	.0195	-.0029	L-.0828	-.0205	.0016	-.0107	-.0007
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0400	.0200	.0600	.0400	.1000	.0650	.0100
Low	-.0400	-.0200	-.0600	-.0400	-.1000	-.0650	-.0100

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	-.0000	.0005	-.0026	.0139	-.0034
#1	-.0007	-.0001	-.0010	-.0005	-.1028	-.0034
#2	.0004	.0001	.0002	-.0005	.0854	-.0031
#3	-.0009	-.0001	.0023	-.0069	.0592	-.0037
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	.0100	.0020	.0030	.0100	.1500	.0080
Low	-.0100	-.0020	-.0030	-.0100	-.1500	-.0080

Analysis Report Wed 01-13-99 01:50:35 PM page 1

Method: PLASMA_S Sample Name: CCV1 Operator: TD
Run Time: 01/13/99 13:45:57
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.9975	10.08	.0156	9.877	.9993	20.71	.0018
#1	.9995	9.955	.0218	9.718	.9932	20.51	-.0008
#2	.9995	10.12	.0162	9.929	1.002	20.81	.0041
#3	1.002	10.16	.0089	9.983	1.003	20.82	.0019
Errors	LC Pass	LC Pass	NOCHECK	LC Pass	LC Pass	LC Pass	NOCHECK
High	1.054	10.54		10.54	1.054	21.08	
Low	.9450	9.450		9.450	.9450	18.90	

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	5.099	2.016	2.010	9.980	20.69	20.40	1.010
#1	5.036	1.988	1.988	9.863	20.62	20.22	.9989
#2	5.128	2.028	2.021	10.04	20.59	20.48	1.015
#3	5.134	2.032	2.023	10.04	20.87	20.51	1.015
Errors	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass	LC Pass
High	5.274	2.108	2.108	10.54	21.08	21.08	1.054
Low	4.725	1.890	1.890	9.450	18.90	18.90	.9450

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	20.89	5.109	-.0110	.0048	-.0039	.0063	5.065
#1	20.02	5.066	.0211	-.0136	-.0066	-.0189	5.005
#2	20.67	5.130	-.0156	.0115	.0205	.0326	5.094
#3	H21.99	5.130	-.0386	.0167	-.0257	.0052	5.097
Errors	LC Pass	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	LC Pass
High	21.08	5.274					5.274
Low	18.90	4.725					4.725

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	1.011	.0000	-.0003	-.0043	-.0543	-.0026
#1	1.006	.0000	.0001	-.0059	.0593	-.0006
#2	1.012	-.0000	-.0003	-.0058	-.0612	-.0034
#3	1.014	.0000	-.0007	-.0012	-.1611	-.0040
Errors	LC Pass	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High	1.054					
Low	.9450					

Analysis Report Wed 01-13-99 01:55:34 PM page 1

Method: PLASMA_S Sample Name: CCV2 Operator: TD
Run Time: 01/13/99 13:50:57
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0011	-.0028	4.775	.0004	-.0000	.0100	.9563
#1	-.0019	-.0058	4.784	.0004	-.0001	.0070	.9573
#2	-.0005	-.0264	4.791	.0004	.0001	.0070	.9516
#3	.0056	.0239	4.750	.0004	-.0001	.0161	.9601
Errors	NOCHECK	NOCHECK	LC Pass	NOCHECK	NOCHECK	NOCHECK	LC Pass
High			5.274				1.054
Low			4.725				.9450

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0013	-.0008	-.0012	.0025	-.0096	-.0038	-.0011
#1	.0024	-.0039	.0032	.0016	-.0373	-.0161	-.0021
#2	.0010	-.0008	-.0100	.0022	.0586	.0012	-.0011
#3	.0005	.0022	.0032	.0038	-.0501	.0036	.0000
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0782	.0026	4.730	.0260	4.826	4.976	.0005
#1	-.1012	.0079	4.759	.0122	4.849	4.988	.0006
#2	-.0645	-.0009	L4.720	.0122	4.812	4.973	.0008
#3	-.0688	.0009	L4.712	.0537	4.817	4.966	.0001
Errors	NOCHECK	NOCHECK	LC Pass	NOCHECK	LC Pass	LC Pass	NOCHECK
High			5.274		5.274	5.274	
Low			4.725		4.725	4.725	

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0004	.0001	-.0001	.0002	-.0033	-.0031
#1	-.0002	.0001	-.0014	-.0023	.0522	-.0015
#2	-.0006	.0000	.0002	.0014	-.0526	-.0013
#3	-.0004	.0001	.0010	.0014	-.0095	-.0066
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						

Analysis Report Wed 01-13-99 02:00:37 PM page 1

Method: PLASMA_S Sample Name: CCV3 Operator: TD
Run Time: 01/13/99 13:55:59
Comment:
Mode: CONC Corr. Factor: 1

Elem	Ag3280	Al3082	As1936	Ba4934	Be3130	Ca3179	Cd2265
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0033	-.0000	.0067	-.0002	.0000	.0091	-.0007
#1	.0012	-.0130	.0240	.0004	-.0001	.0112	.0000
#2	.0042	.0143	-.0242	.0004	.0002	.0105	-.0008
#3	.0046	-.0013	.0203	-.0016	-.0001	.0056	-.0014
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Co2286	Cr2677	Cu3247	Fe2599	K_7664	Mg2790	Mn2576
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0013	.0016	-.0021	.0020	.0060	-.0014	-.0007
#1	-.0047	.0032	.0042	.0017	-.0160	.0035	-.0005
#2	.0019	.0040	-.0042	.0029	.0650	.0061	-.0005
#3	-.0009	-.0025	-.0063	.0014	-.0309	-.0137	-.0011
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High							
Low							

Elem	Na5889	Ni2316	Pb2203	Sb2068	Se1960	Tl1908	V_2924
Units	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Avge	-.0665	.0042	.0007	10.04	.0042	.0077	.0006
#1	-.0743	.0060	.0100	9.945	.0190	-.0179	.0003
#2	-.0636	.0007	.0132	9.944	-.0175	.0343	.0023
#3	-.0615	.0059	-.0211	10.24	.0112	.0065	-.0008
Errors	NOCHECK	NOCHECK	NOCHECK	LC Pass	NOCHECK	NOCHECK	NOCHECK
High				10.54			
Low				9.450			

Elem	Zn2138	Sr4215	Ti3349	Mo2020	Sn2839	B_2496
Units	ppm	ppm	ppm	ppm	ppm	ppm
Avge	.0000	.0000	-.0008	-.0045	-.0004	-.0048
#1	-.0007	-.0001	-.0015	-.0060	-.0869	-.0028
#2	.0012	.0003	.0005	-.0023	.0401	-.0031
#3	-.0004	-.0002	-.0015	-.0051	.0456	-.0086
Errors	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK	NOCHECK
High						
Low						