



THE MEMPHIS DEPOT TENNESSEE

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 729

REMEDIATION REPORT

**REMOVAL ACTION AT FORMER PISTOL RANGE, SITE 60
DUNN FIELD, MEMPHIS DEFENSE DEPOT, TENNESSEE**

PREPARED FOR



**MOBILE DISTRICT
U.S. ARMY CORPS OF ENGINEERS
CONTRACT NO. DACA01-99-D-0040**

BY

JACOBS FEDERAL PROGRAMS

OAK RIDGE, TENNESSEE

April, 2003

JACOBS ENGINEERING PROJECT NUMBER C5X51112

TABLE OF CONTENTS

1.0 INTRODUCTION.....	1-1
1.1 Remedial Action Objectives	1-1
1.2 Project Scope of Work.....	1-1
1.3 Site Description and Background.....	1-2
2.0 CHRONOLOGY OF EVENTS	2-1
3.0 REMEDIAL ACTIONS	3-1
3.1 Pre-Excavation Waste Disposal and Background Characterization	3-1
3.2 Demolition	3-1
3.3 Clearing and Grubbing	3-1
3.4 Soil Excavation and Confirmation Sampling.....	3-1
3.5 Dust and Air Pollution Control	3-2
3.6 Site Restoration	3-2
4.0 SITE SPECIFIC HEALTH AND SAFETY SUMMARY	4-1
4.1 Training	4-1
4.2 Safety Documentation.....	4-1
4.3 Air Monitoring	4-1
4.4 Site Control.....	4-1
5.0 TRANSPORTATION AND DISPOSAL OF GENERATED MATERIAL	5-1

LIST OF APPENDICES

APPENDIX A – FIGURES
APPENDIX B – TABLES
APPENDIX C – PHOTOGRAPHS
APPENDIX D – ANALYTICAL REPORTS
APPENDIX E – WASTE DISPOSAL RECORDS
APPENDIX F – SURVEY DATA

1.0 INTRODUCTION

Jacobs Engineering was contracted by the Mobile District Corps of Engineers to perform remedial services at the former pistol range (Site 60) on Dunn Field at the Defense Depot – Memphis, Tennessee (DDMT). This report documents remedial activities, which occurred at Site 60 from 27 January to March 10, 2003.

1.1 Remedial Action Objectives

Remedial action objectives consisted of.

- 1) Demolition and removal of the former pistol stand and associated building
- 2) Clearing and grubbing of trees and underbrush that had overgrown the area. The trees were chipped and disposed of at the Tunica, Mississippi landfill.
- 3) Excavation and disposal of shallow soils within the perimeter of Site 60, which contained elevated lead concentrations in the soil above the site action levels. This activity included pre-excavation waste profile sampling/analysis, excavation, and confirmation sampling/analysis.
- 4) Removal of soils above the residential exposure-based action level for lead (400 ppm)
- 5) Restoration of site including regrading and reseeding.
- 6) Transportation and disposal of lead impacted soil and associated debris generated during the excavation activity.

1.2 Project Scope of Work

The following task list details the field activities associated with Site 60:

- Utility clearance was obtained as necessary prior to any intrusive excavation work.
- Temporary sediment barriers were installed as necessary to prevent potentially contaminated material from being eroded or transported into an uncontaminated area
- All the trees and vegetation were cleared and grubbed in the footprint of the range
- All vegetation, trees and root balls were chipped with a tub grinder and disposed of at a Subtitle D landfill.
- The Pistol Range Building and associated structures including the pistol stand and the building concrete floor were demolished and disposed of as demolition debris
- The concrete target rack wall was demolished and disposed of as demolition debris
- Twelve (12) inches of soil for all areas (except Area C in Figure A-1) of contaminated surface soil within the perimeter of Site 60 were removed where pre-

mobilization sampling indicated the presence of surface soil contamination in excess of residential screening criteria, and the presence of spent bullet and casings have been found.

- Twenty four (24) inches of surface soil from Area C within the perimeter of Site 60 (as shown in Figure A-1) were removed as this area served as the bullet stop while the site was used as a pistol range.
- Following initial excavation, confirmation sampling indicated that additional excavation was necessary at the locations shown in Figure A-2. The additional excavation was performed and subsequent confirmation sampling showed that the remediation goals had been met
- The area of excavation was regraded with adjacent soils in order to provide effective drainage on the restored site.
- The entire disturbed area was re-seeded.

1.3 Site Description and Background

The Memphis Depot covers 642 acres of land in Shelby County, Memphis, Tennessee, in the southwestern portion of the state. The Memphis Depot began operations in the early 1940's with the mission to inventory and supply materials for the U S Army. The Depot has been used for a wide range of storage, distribution, and maintenance practices over the years. The specific area for this Task Order includes Site 60 at Dunn Field, and was used as a pistol range for the Depot personnel.

2.0 CHRONOLOGY OF EVENTS

The chronology of events associated with the remedial activities at Building 949 is summarized below

Date	Activity Description
10-Dec-02	Pre-excavation sampling to collect shallow soil samples for waste characterization analysis.
27-Jan-03	Mobilization to site for remedial actions. Demolition of building and pistol stands. Demolition of concrete sidewalks. Demolition of concrete target stand. Removal of demolition debris to Subtitle D landfill.
29-Jan-03	Clearing and grubbing excavation area. Chipping of trees including root balls. Removal of vegetation debris to a Subtitle D landfill.
06-Feb-03	Completed initial excavation. Removed excavated soil to Subtitle D landfill
10-Feb-03	Collected confirmation samples. Results indicated excavation was clear except for one sample in Area B and one sample in Area C (see Figure A-2 and Table B-3). Samples at the lower backstop area were not collected because a visual examination of that part of the excavation indicated that bullets and bullet fragments were still present.
11-Feb-03	Surveyed sample locations and excavation boundary.
18-Feb-03	Performed over-excavation in areas B and C as shown on Figure A-2. Collected verification samples in over-excavated areas. Disposed of excavated soil.
10-Mar-03	Finished regrading and reseeding area.

3.0 REMEDIAL ACTIONS

Remedial activities are summarized below. Selected photographs depicting representative remedial activities are found in Appendix C.

3.1 Pre-Excavation Waste Disposal and Background Characterization

A pre-excavation sampling event was conducted prior to mobilization for the excavation task. This event allowed for immediate transport off-site of the contaminated soil as the excavation progressed. The waste characterization analysis indicated that the soil was non-hazardous. Table B-1 presents results of the waste characterization soil sampling. The laboratory report of analysis is located in Appendix D.

The work plan specified that on-site soils were to be used in the final site grading and restoration. A composite background soil sample was collected and analyzed for VOCs, SVOCs, metals, pesticides and PCBs. The results (shown in Table B-2) indicated that on-site soils were suitable for this purpose.

All excavated material, demolition debris, and chipped vegetation was disposed of in Waste Management's Tunica, Mississippi landfill as special waste.

Utility locations were checked prior to intrusive work. No utilities are located in the Pistol Range area. A temporary sediment barrier was placed at the drainage outlet for the excavation area.

3.2 Demolition

Upon mobilization to the site, the pistol stand and associated storage building were demolished and removed from the site as construction debris. Concrete walkways, the building foundation slab, and the concrete target rack base were also demolished and removed from the site.

3.3 Clearing and Grubbing

Trees and brush had overgrown the pistol range area. It was necessary to clear and grub the site prior to excavation. A bulldozer and a trackhoe were used to knock down the larger trees and to remove the brushy undergrowth. A tub grinder was used to chip the wood, which was then removed from the site as special waste.

3.4 Soil Excavation and Confirmation Sampling

The site was excavated to the horizontal and vertical limits of excavation shown in Figure A-1. The limits of this initial excavation were defined in the "Memphis Depot, Dunn Field, Engineering Evaluation/Cost Analysis, Former Pistol Range, Site 60", prepared by CH2M-Hill and dated June 2002. The initial excavation was to a depth of one foot, with

the exception of the backstop area (Area C in Figure A-1), which was to a depth of two feet.

Initial confirmation samples were collected at the locations shown on Figure A-1. Confirmation samples were collected from the excavation boundaries and bottom and analyzed for total lead. A total of 47 samples plus 5 duplicates were collected from the excavation after the initial excavation. Three locations (C2, C3, C15) were not sampled because bullets were observed around the sampling points, indicating that additional excavation was necessary. Analytical results of confirmation sampling are shown in Table B-3. Analytical laboratory data sheets are contained in Appendix D.

The initial confirmation samples indicated that 2 locations exceeded the target concentration of 400 ppm. Additional excavation was required in these two areas (area around sample point B-5 and around sample point C-16). The over-excavation areas are indicated on Figure A-2.

The additional excavation was performed on February 18th. Confirmation sampling and visual inspection of the samples and sample areas indicated that remediation goals had been met.

Following the additional excavation, confirmation sampling verified that the target concentration for lead had been achieved.

Laboratory analytical reports for all confirmation samples are contained in Appendix D. A summary of the confirmation sample analysis is presented in Table B-2.

Following sample collection, sample locations and the project activity boundary were surveyed by licensed land surveyors Allen & Hoshall. This data was used to show sample locations and the project activity boundary in Figures A-1 and A-2. The survey data is included as Appendix F.

3.5 Dust and Air Pollution Control

The generation of fugitive dust emissions was closely monitored during the entire project using Mini-Ram dust monitors. The dust monitors were set with one monitor upwind and two downwind of the excavation site. Monitoring results are discussed in Section 4.0. Based on field monitoring, there was no detectable dust generation.

3.6 Site Restoration

Following completion of excavation, the area was re-graded to allow proper drainage. A mixture of rye and fescue was spread across the disturbed area, and a straw blower was used to spread a covering of straw across the seeded areas. The steeper slopes on the west side of the excavation area were also protected from erosion by use of biodegradable erosion mats.

4.0 SITE SPECIFIC HEALTH AND SAFETY SUMMARY

4.1 Training

The Jacobs/Sverdrup Site Safety and Health Officer (SSHO) verified all personnel had received the appropriate Hazardous Waste Operations training (OSHA 40CFR1910.120) before allowing entry to the site. Additionally, documentation that site workers were participating in a medical monitoring program were also verified before beginning site work. A file containing copies of the site workers training documents was maintained at the job site.

4.2 Safety Documentation

The SSHO completed a Safe Plan of Action (SPA) form that outlined the hazard assessment for each task that was to be performed that day. The SPA is an analysis of the health and safety risks associated with a specific task and outlines possible mitigation procedures. All employees attended a safety tailgate meeting before beginning work each day to receive a briefing concerning the hazards and associated SPA.

Daily job site safety inspections were also conducted by the SSHO to document the work activities as they were in progress. Safety violations, if observed during the inspection, were immediately brought to the attention of the individual and supervisor to correct the infraction. There were no safety incidents or violations during the field work task of this project.

4.3 Air Monitoring

Air monitoring for particulates (dust) was implemented during the soil excavation/loading portions of the site work. This was accomplished by situating one air monitor upwind and two air monitors downwind of the work area. These instruments (MIE personal DataRAM) were calibrated before use each day. The data stored in these instruments were downloaded on a personal computer before demobilizing from the site. All data obtained from these monitors indicated that no fugitive dust emissions occurred. This data is shall be maintained in the project files.

4.4 Site Control

The Pistol Range is located on Dunn Field, which is secured by a chain-link fence and gate. The area was secured every night by locking the Dunn Field main gate.

5.0 TRANSPORTATION AND DISPOSAL OF GENERATED MATERIALS

A pre-excavation sampling of soil from the excavation area was used to test for disposal parameters. Results of this characterization sampling are presented in Table B-1. Sampling indicated that the soil was classified as non-hazardous.

Excavated soil, demolition debris, and chipped vegetation waste were disposed of as special waste and were taken to Waste Management, Inc.'s Tunica, Mississippi landfill. A total of 69 loads of material were removed from the site. The breakdown of loads is as follows

Construction Debris – 6 Loads (approximately 108 cubic yards)
Vegetation Waste – 11 Loads (approximately 198 cubic yards)
Lead-Impacted Soil - 52 Loads (approximately 936 cubic yards)

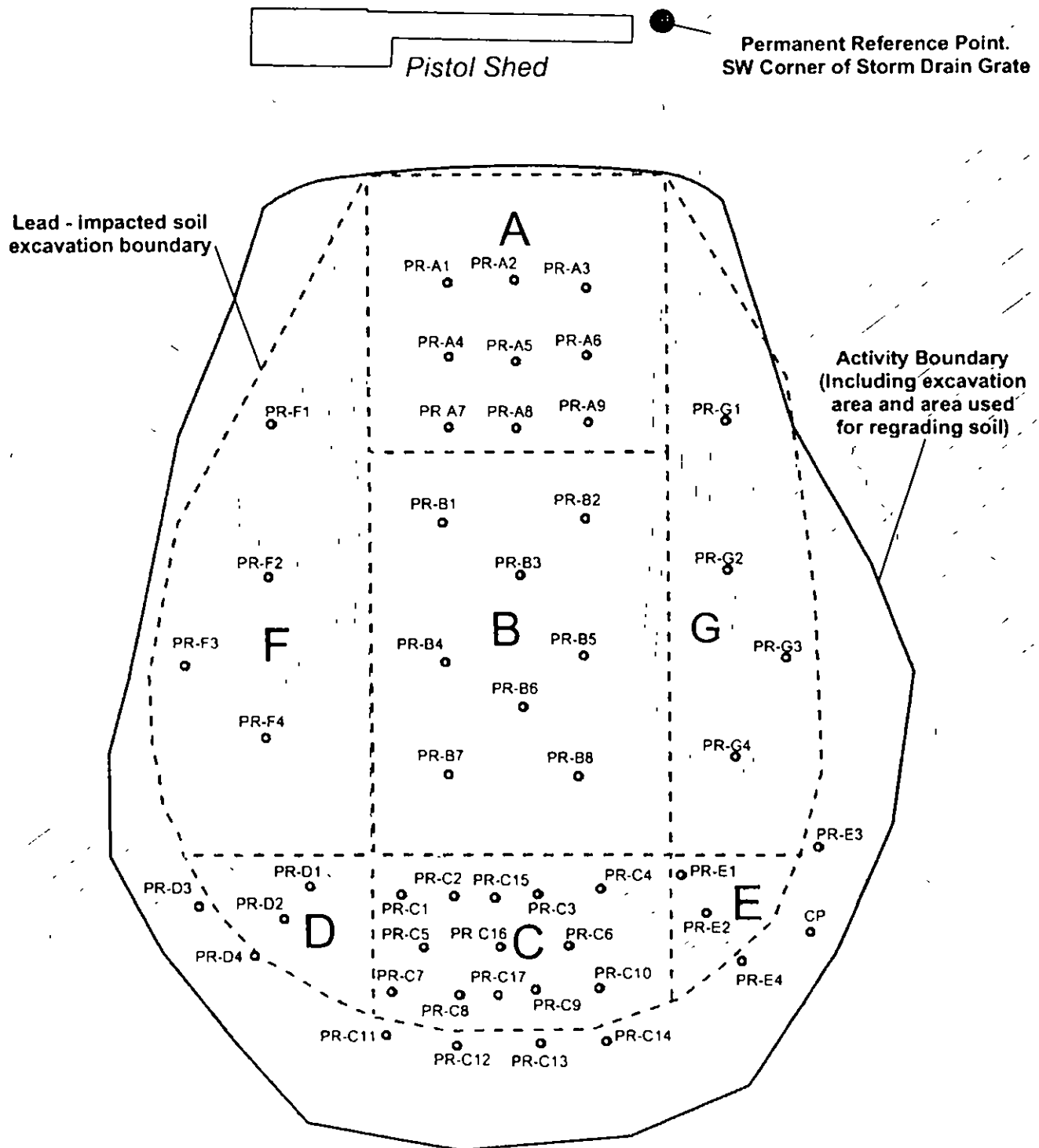
Copies of the disposal manifests and waste disposal certificates are contained in Appendix E.

APPENDIX A

FIGURES

Figure A-1 Excavation Area and Sampling Locations

Figure A-2 Over-Excavation Areas



Legend

- Confirmation sampling point
(Analyzed for total lead)

N

0 15 30 Feet

Scale 1:360

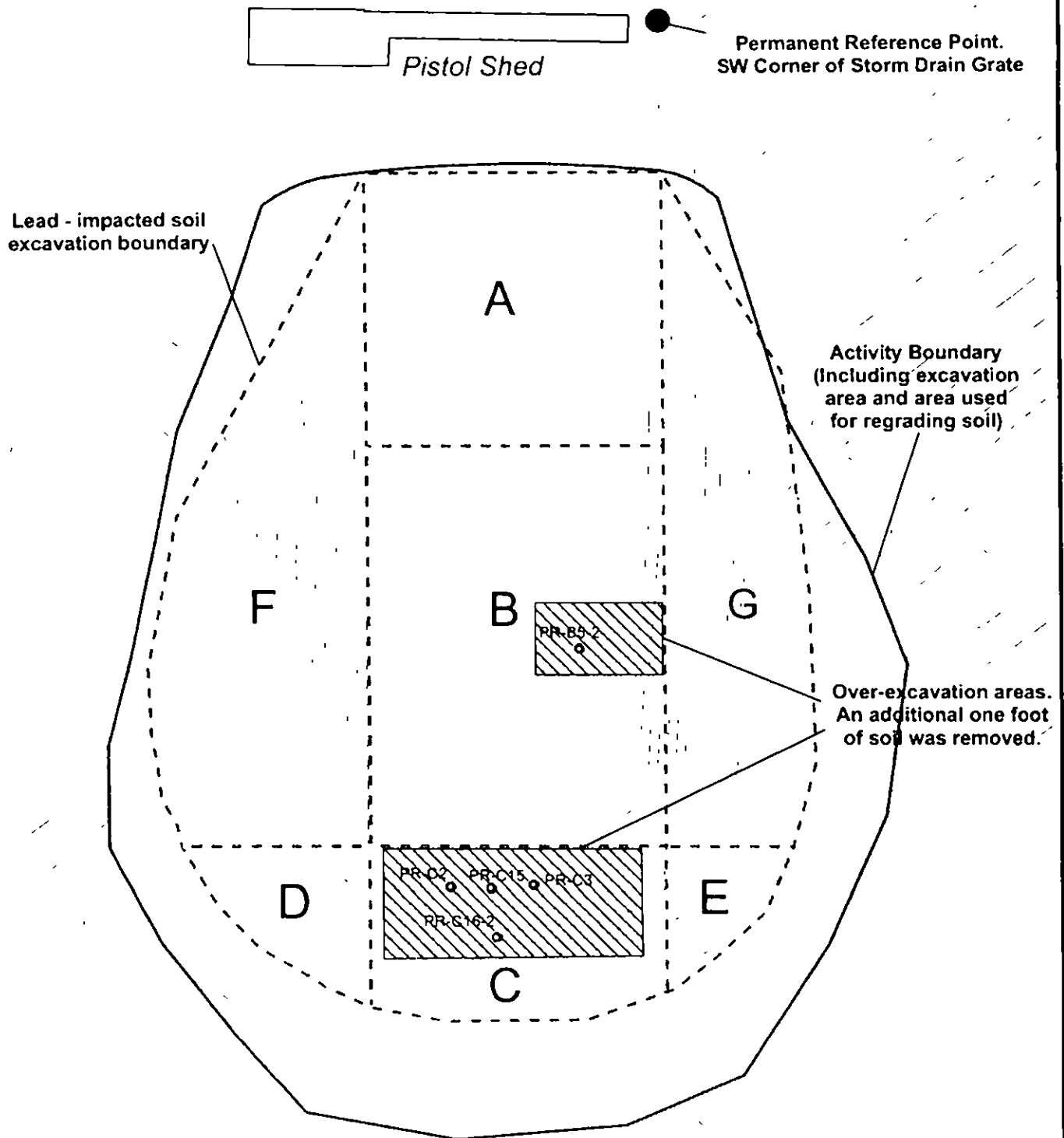
JE JACOBS

Excavation Area and
Sampling Locations

Memphis DDMT
Memphis Tennessee

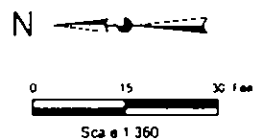
03/31/01 N2 K/S project Memphis
Project P Range Survey 3 03/31/01 A 1.mxd

Figure A-1



Legend

- Confirmation sampling point
(Analyzed for total lead)



JE JACOBS

Over-excavation Areas

Memphis DDMT
Memphis Tennessee

03/31/03 1:2 JG/Sprojects/Memph W
Project: P Range Survey 1 03/31/03 AA 2.mxd

Figure A-2

APPENDIX B**TABLES**

Table B-1 Waste Characterization Sampling Results

Table B-2 Background Sampling Results

Table B-3 Confirmation Sampling Results

Table B-1

Waste Characterization Sampling Results

Sample Number	PR-A	PR-B	PR-C1	PR-C2	PR-DE	PR-FG
Date	12/3/02	12/3/02	12/3/02	12/3/02	12/3/02	12/3/02
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
TCLP Metals						
Silver	ND	ND	ND	ND	ND	ND
Arsenic	ND	ND	ND	ND	ND	ND
Barium	0.546	0.500	0.619	0.531	0.501	0.490
Cadmium	ND	ND	ND	ND	ND	ND
Chromium	ND	ND	ND	ND	ND	ND
Mercury	ND	ND	ND	ND	ND	ND
Lead	ND	ND	ND	ND	ND	ND
Selenium	ND	ND	ND	ND	ND	ND
TCLP VOCs	ND	ND	ND	ND	ND	ND
TCLP SVOCs	ND	ND	ND	ND	ND	ND

Table B-2

Background Sampling Results

Sample Number Date	BG-1 12/10/02	Units
Metals		
Aluminum	12400	mg/Kg
Arsenic	9 090	mg/Kg
Barium	106	mg/Kg
Beryllium	0 505	mg/Kg
Calcium	1790	mg/Kg
Cadmium	ND	mg/Kg
Cobalt	7 64	mg/Kg
Chromium	20.1	mg/Kg
Copper	16 7	mg/Kg
Iron	19000	mg/Kg
Mercury	0 046	mg/Kg
Potassium	1140	mg/Kg
Magnesium	2140	mg/Kg
Manganese	541	mg/Kg
Nickel	16	mg/Kg
Lead	54	mg/Kg
Vanadium	25.9	mg/Kg
Zinc	63 8	mg/Kg
Volatiles		
Methylene Chloride	19.6B	ug/Kg
Semi-volatiles		
Anthracene	10.4 J	ug/Kg
Benzo(a)anthracene	67 0 J	ug/Kg
Benzo(b)fluoranthene	66 0 J	ug/Kg
Benzo(k)fluoranthene	98 6	ug/Kg
Benzo(g,h,i)perylene	48 8 J	ug/Kg
Benzo(a)pyrene	95 1	ug/Kg
Chrysene	88 3	ug/Kg
Dibenzo(a,h)anthracene	48.5 J	ug/Kg
Fluoranthene	145	ug/Kg
Indeno(1,2,3-cd)pyrene	55.9 J	ug/Kg
Phenanthrene	68 3 J	ug/Kg
Pyrene	118	ug/Kg
Pesticides		
4,4'-DDD	2 56	ug/Kg
4,4'-DDE	32 6	ug/Kg
4,4'-DDT	18 7	ug/Kg
Dieldrin	237	ug/Kg
PCBs	ND	ug/Kg

(Constituents which were non-detect (ND) are not shown)

TABLE B-3
CONFIRMATION SAMPLING RESULTS

Sample Number	Date	Total Lead Concentration	Units	Comments
Primary Excavation Confirmation Sampling				
PR-A1	2/10/03	28.4	mg/Kg	
PR-A2	2/10/03	9.8	mg/Kg	
PR-A3	2/10/03	27.3	mg/Kg	
PR-A4	2/10/03	18.5	mg/Kg	
PR-A5	2/10/03	26.1	mg/Kg	
PR-A6	2/10/03	12.7	mg/Kg	
PR-A7	2/10/03	26	mg/Kg	
PR-A8	2/10/03	26	mg/Kg	
PR-A9	2/10/03	12.6	mg/Kg	
PR-B1	2/10/03	17.4	mg/Kg	
PR-B1D	2/10/03	13.8	mg/Kg	
PR-B2	2/10/03	16.5	mg/Kg	
PR-B3	2/10/03	14.4	mg/Kg	
PR-B4	2/10/03	26.6	mg/Kg	
PR-B5	2/10/03	2110	mg/Kg	Exceeded target concentration of 400 mg/Kg
PR-B6	2/10/03	66.2	mg/Kg	
PR-B7	2/10/03	37.8	mg/Kg	
PR-B8	2/10/03	208	mg/Kg	
PR-C1	2/10/03	11.1	mg/Kg	
PR-C2	2/10/03	Not Collected		Bullet fragments visible. Required additional excavation
PR-C3	2/10/03	Not Collected		Bullet fragments visible. Required additional excavation
PR-C4	2/10/03	53.5	mg/Kg	
PR-C5	2/10/03	42.1	mg/Kg	
PR-C6	2/10/03	30.7	mg/Kg	
PR-C7	2/10/03	23.2	mg/Kg	
PR-C8	2/10/03	32	mg/Kg	
PR-C9	2/10/03	29.5	mg/Kg	
PR-C10	2/10/03	15.2	mg/Kg	
PR-C11	2/10/03	46	mg/Kg	

TABLE B-3
CONFIRMATION SAMPLING RESULTS

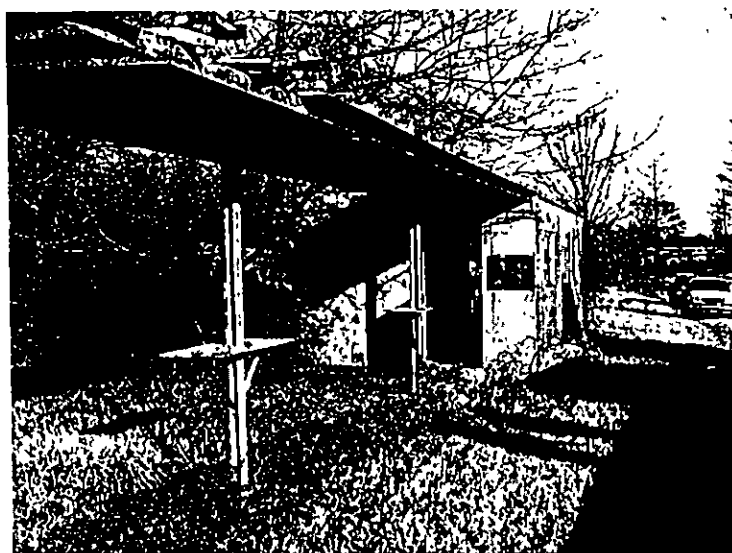
Sample Number	Date	Total Lead Concentration	Units	Comments
PR-C12	2/10/03	35.2	mg/Kg	
PR-C13	2/10/03	9.91	mg/Kg	
PR-C13D	2/10/03	8.87	mg/Kg	
PR-C14	2/10/03	18	mg/Kg	
PR-C15	2/10/03	Not Collected		Bullet fragments visible Required additional excavation
PR-C16	2/10/03	893	mg/Kg	Exceeded target concentration of 400 mg/Kg
PR-C16D	2/10/03	53.9	mg/Kg	
PR-C17	2/10/03	14.5	mg/Kg	
PR-D1	2/10/03	24.9	mg/Kg	
PR-D2	2/10/03	43	mg/Kg	
PR-D3	2/10/03	33	mg/Kg	
PR-D4	2/10/03	63.2	mg/Kg	
PR-E1	2/10/03	72.6	mg/Kg	
PR-E2	2/10/03	105	mg/Kg	
PR-E3	2/10/03	58.9	mg/Kg	
PR-E4	2/10/03	44.6	mg/Kg	
PR-F1	2/10/03	10.1	mg/Kg	
PR-F1D	2/10/03	11.6	mg/Kg	
PR-F2	2/10/03	13.1	mg/Kg	
PR-F3	2/10/03	129	mg/Kg	
PR-F4	2/10/03	227	mg/Kg	
PR-G1	2/10/03	26.1	mg/Kg	
PR-G2	2/10/03	43	mg/Kg	
PR-G3	2/10/03	49.5	mg/Kg	
PR-G4	2/10/03	16.8	mg/Kg	
PR-G4D	2/10/03	12	mg/Kg	

TABLE B-3
CONFIRMATION SAMPLING RESULTS

Sample Number	Date	Total Lead Concentration	Units	Comments
Over-Excavation Confirmation Sampling				
PR-A2 (PR-C2)*	2/18/03	10.5	mg/Kg	Was mislabeled in the field. Refers to location C2 on Figure A-1
PR-A3 (PR-C3)*	2/18/03	17.4	mg/Kg	Was mislabeled in the field. Refers to location C3 on Figure A-1
PR-A15 (PR-C15)*	2/18/03	8.56	mg/Kg	Was mislabeled in the field. Refers to location C15 on Figure A-1
PR-A16-2 (PR-C16-2)*	2/18/03	13	mg/Kg	Was mislabeled in the field. Refers to location C16 on Figure A-1
PR-B5-2				Resample of location PR-C16
	2/18/03	7.83	mg/Kg	Resample of location PR-B5

*These samples were mislabeled in the field, but refer to the backstop area C on Figure A-1

APPENDIX C
PHOTOGRAPHS



1/27/03
Pistol Range Storage Shed



1/27/03
Pistol Range Pre-Remediation



1/27/03

Demolition of Storage Shed

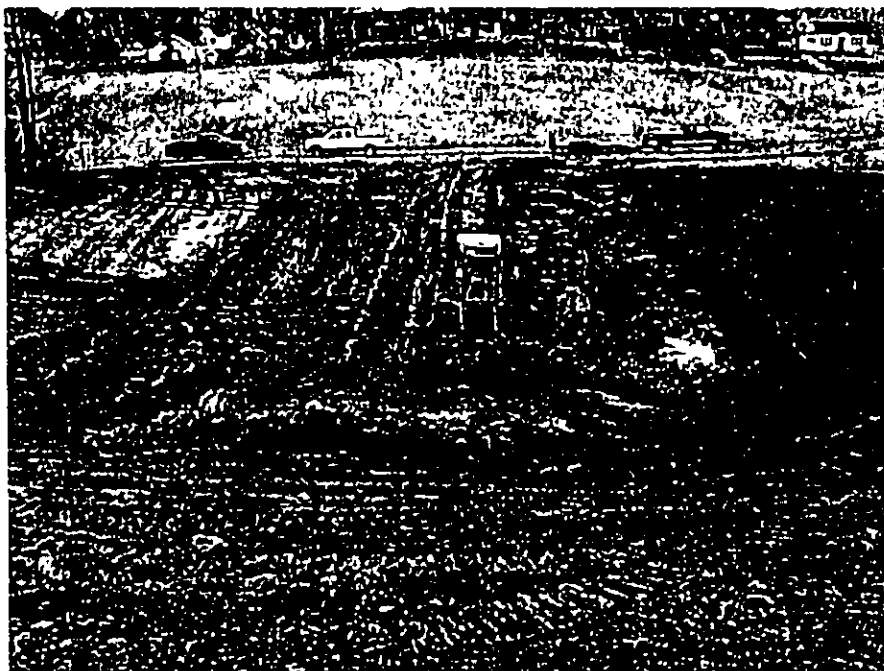


1/27/03

Clearing and Grubbing Vegetation



2/28/03
Post-Excavation



2/28/03
Regrading Site



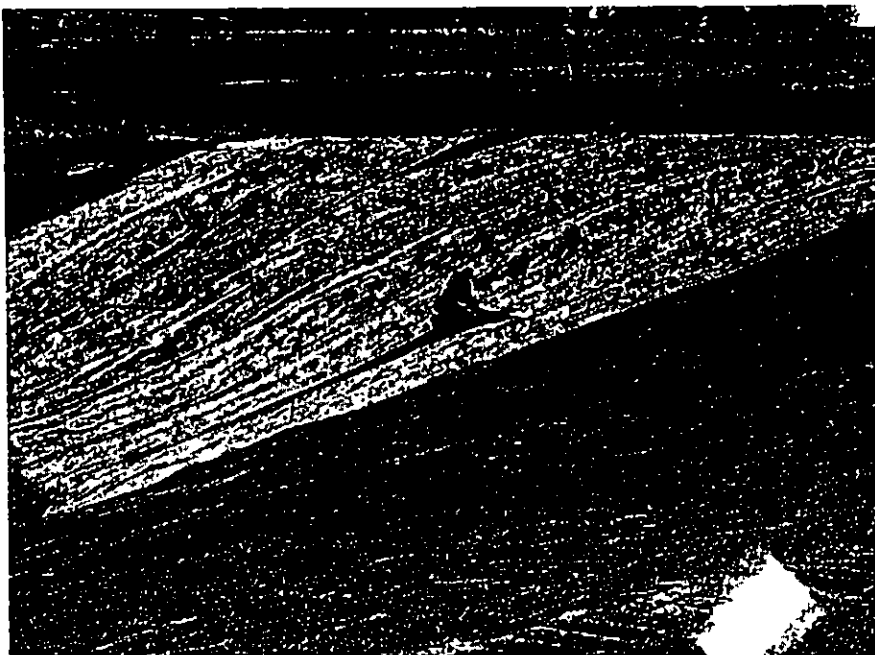
2/28/03

Re-grading Following Site Remediation



2/29/03

Spreading Seed



2/29/03

Laying Down Erosion Mat

APPENDIX D**ANALYTICAL REPORTS**

WASTE CHARACTERIZATION REPORT



ENVIRONMENTAL TESTING & CONSULTING, INC.

2921 Walnut Grove Road • Memphis, TN 38111 • (901) 527-2750 • FAX (901) 527-6331

Founded 1972

December 12, 2002

Mr. Kraig Smith
 Jacobs
 600 William Northern Blvd.
 Tullahoma, TN 37388

Ref: Analytical Testing
 ETC Order # 0212055
 Project Description Memphis Defense Depot
 Memphis Depot Pistol Range
 Project Number C5X51112

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

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

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

JACOBS_DDMT2

Certifications

Tennessee	#02027	Mississippi	USDA #S-46279
Arkansas		Oklahoma	EPA #TN00012
Kentucky	#90047	Virginia	NELAP
Alabama	#40750	Louisiana DEQ	#04015
Illinois	#000537	USACE_HTRW	

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

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

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

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

723 29

Client Name Jacobs
Site ID Memphis Defense Depot
Memphis Depot Pistol Range

C5X51112

ETC Sample ID	Field ID	Sample Date	Matrix	Method	Method Description
021205501	PR-A	12/03/02	SOIL	1311	TCLP Extraction
021205501	PR-A	12/03/02	SOIL	6010B	Silver - TCLP
021205501	PR-A	12/03/02	SOIL	6010B	Arsenic - TCLP
021205501	PR-A	12/03/02	SOIL	6010B	Barium - TCLP
021205501	PR-A	12/03/02	SOIL	6010B	Cadmium - TCLP
021205501	PR-A	12/03/02	SOIL	6010B	Chromium - TCLP
021205501	PR-A	12/03/02	SOIL	7470A	Mercury - TCLP
021205501	PR-A	12/03/02	SOIL	6010B	Lead - TCLP
021205501	PR-A	12/03/02	SOIL	6010B	Selenium - TCLP
021205501	PR-A	12/03/02	SOIL	8270C	TCLP Semivolatiles
021205501	PR-A	12/03/02	SOIL	1311	TCLP Extraction Organics
021205501	PR-A	12/03/02	SOIL	1311	TCLP Extraction ZHE
021205501	PR-A	12/03/02	SOIL	8260B	TCLP Volatile Organics
021205502	PR-B	12/03/02	SOIL	1311	TCLP Extraction
021205502	PR-B	12/03/02	SOIL	6010B	Silver - TCLP
021205502	PR-B	12/03/02	SOIL	6010B	Arsenic - TCLP
021205502	PR-B	12/03/02	SOIL	6010B	Barium - TCLP
021205502	PR-B	12/03/02	SOIL	6010B	Cadmium - TCLP
021205502	PR-B	12/03/02	SOIL	6010B	Chromium - TCLP
021205502	PR-B	12/03/02	SOIL	7470A	Mercury - TCLP
021205502	PR-B	12/03/02	SOIL	6010B	Lead - TCLP
021205502	PR-B	12/03/02	SOIL	6010B	Selenium - TCLP
021205502	PR-B	12/03/02	SOIL	8270C	TCLP Semivolatiles
021205502	PR-B	12/03/02	SOIL	1311	TCLP Extraction Organics
021205502	PR-B	12/03/02	SOIL	1311	TCLP Extraction ZHE
021205502	PR-B	12/03/02	SOIL	8260B	TCLP Volatile Organics
021205503	PR-C1	12/03/02	SOIL	1311	TCLP Extraction
021205503	PR-C1	12/03/02	SOIL	6010B	Silver - TCLP
021205503	PR-C1	12/03/02	SOIL	6010B	Arsenic - TCLP
021205503	PR-C1	12/03/02	SOIL	6010B	Barium - TCLP
021205503	PR-C1	12/03/02	SOIL	6010B	Cadmium - TCLP
021205503	PR-C1	12/03/02	SOIL	6010B	Chromium - TCLP
021205503	PR-C1	12/03/02	SOIL	7470A	Mercury - TCLP
021205503	PR-C1	12/03/02	SOIL	6010B	Lead - TCLP
021205503	PR-C1	12/03/02	SOIL	6010B	Selenium - TCLP
021205503	PR-C1	12/03/02	SOIL	8270C	TCLP Semivolatiles
021205503	PR-C1	12/03/02	SOIL	1311	TCLP Extraction Organics
021205503	PR-C1	12/03/02	SOIL	1311	TCLP Extraction ZHE
021205503	PR-C1	12/03/02	SOIL	8260B	TCLP Volatile Organics
021205504	PR-C2	12/03/02	SOIL	1311	TCLP Extraction
021205504	PR-C2	12/03/02	SOIL	6010B	Silver - TCLP
021205504	PR-C2	12/03/02	SOIL	6010B	Arsenic - TCLP
021205504	PR-C2	12/03/02	SOIL	6010B	Barium - TCLP
021205504	PR-C2	12/03/02	SOIL	6010B	Cadmium - TCLP
021205504	PR-C2	12/03/02	SOIL	6010B	Chromium - TCLP
021205504	PR-C2	12/03/02	SOIL	7470A	Mercury - TCLP
021205504	PR-C2	12/03/02	SOIL	6010B	Lead - TCLP
021205504	PR-C2	12/03/02	SOIL	6010B	Selenium - TCLP
021205504	PR-C2	12/03/02	SOIL	8270C	TCLP Semivolatiles
021205504	PR-C2	12/03/02	SOIL	1311	TCLP Extraction Organics
021205504	PR-C2	12/03/02	SOIL	1311	TCLP Extraction ZHE
021205504	PR-C2	12/03/02	SOIL	8260B	TCLP Volatile Organics
021205505	PR-DE	12/03/02	SOIL	1311	TCLP Extraction

000002

ENVIRONMENTAL TESTING & CONSULTING, INC.

720 30

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name Jacobs
Site ID Memphis Defense Depot
Memphis Depot Pistol Range

C5X51112

ETC Sample ID	Field ID	Sample Date	Matrix	Method	Method Description
021205505	PR-DE	12/03/02	SOIL	6010B	Silver - TCLP
021205505	PR-DE	12/03/02	SOIL	6010B	Arsenic - TCLP
021205505	PR-DE	12/03/02	SOIL	6010B	Barium - TCLP
021205505	PR-DE	12/03/02	SOIL	6010B	Cadmium - TCLP
021205505	PR-DE	12/03/02	SOIL	6010B	Chromium - TCLP
021205505	PR-DE	12/03/02	SOIL	7470A	Mercury - TCLP
021205505	PR-DE	12/03/02	SOIL	6010B	Lead - TCLP
021205505	PR-DE	12/03/02	SOIL	6010B	Selenium - TCLP
021205505	PR-DE	12/03/02	SOIL	8270C	TCLP Semivolatiles
021205505	PR-DE	12/03/02	SOIL	1311	TCLP Extraction Organics
021205505	PR-DE	12/03/02	SOIL	1311	TCLP Extraction ZHE
021205505	PR-DE	12/03/02	SOIL	8260B	TCLP Volatile Organics
021205506	PR-FG	12/03/02	SOIL	1311	TCLP Extraction
021205506	PR-FG	12/03/02	SOIL	6010B	Silver - TCLP
021205506	PR-FG	12/03/02	SOIL	6010B	Arsenic - TCLP
021205506	PR-FG	12/03/02	SOIL	6010B	Barium - TCLP
021205506	PR-FG	12/03/02	SOIL	6010B	Cadmium - TCLP
021205506	PR-FG	12/03/02	SOIL	6010B	Chromium - TCLP
021205506	PR-FG	12/03/02	SOIL	7470A	Mercury TCLP
021205506	PR-FG	12/03/02	SOIL	6010B	Lead - TCLP
021205506	PR-FG	12/03/02	SOIL	6010B	Selenium - TCLP
021205506	PR-FG	12/03/02	SOIL	8270C	TCLP Semivolatiles
021205506	PR-FG	12/03/02	SOIL	1311	TCLP Extraction Organics
021205506	PR-FG	12/03/02	SOIL	1311	TCLP Extraction ZHE
021205506	PR-FG	12/03/02	SOIL	8260B	TCLP Volatile Organics

000003

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**

000004



ETC Work Order : 02/2025

Company Name		Phone #	Fax #	Fax Results	Analysis Requested									
Project/Site		FID #	PO #	RUSH	(Note special detection limits or methods)									
Project #		Matrix	Sample Date	Sample Time	Matrix	Type								
Project Manager/Contact		1 Wastewater	2 Aqueous	3 Soil/Sediment	4 Sludge	5 Oil/Solvent	6 Other							
# of cont	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type								
1	PR-A		12/31/02	1000	SOIL	COMP								
1	PR-B			1015										
1	PR-C1			1045										
1	PR-C2			1115										
1	PR-DE			1145										
1	PR-F6			1230										
Sampled By		Method of Shipment	Blank/Cooler Temp	Remarks										
K. Smith		Hand Delivery	44°C	7 DAY TAT										
RELINQUISHED BY (sign)		DATE	RECEIVED BY (sign)	TIME	DATE	TIME	Sample Delivery Group ID							
K. Smith		12/31/02		1340										
RELINQUISHED BY (sign)		DATE	RECEIVED BY (sign)	TIME	DATE	TIME								
K. Smith														
RELINQUISHED BY (sign)		DATE	RECEIVED BY (sign)	TIME	DATE	TIME								
K. Smith														

F:\QAGC\5:OP\CC0906.XLS

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date/Time Received 12/3/02-13:40
 Date/Time Checked In 12/3/02-13:40
 Carrier/Bill# Client Hand-Delivered

LIMS# 0212-055
 Project Memphis Depot
Pistol Range
 By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) < 40C	OK
5. Ice & Packing- bagged ice, bubble wrap	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA vials bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH____; TRPH pH____; TOC pH____, TOX pH____; CN pH____; N/P pH____, Other pH____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

729 35

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

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Defense Depot**
Memphis Depot Pistol RangeDate Arrived **12/03/02**ETC Order Number **0212055**ETC Lab ID : **0212055-01**Field ID : **PR-A**Matrix : **SOIL**Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED BY	METHOD
TCLP Extraction	Leachate				12/04/02	DB 1311
Metals Digestion Batch	V34-AQ-11				12/05/02	SH 3005A
Mercury Digestion Batch	V10-AQ-32				12/06/02	JF 7470
Silver - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Arsenic - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Barium - TCLP	0.546	mg/L	0.025	12/05/02	12/05/02	SH 6010B
Cadmium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Chromium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Mercury - TCLP	ND	mg/L	0.001	12/06/02	12/06/02	JF 7470A
Lead - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Selenium - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B

000008

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 36

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Defense Depot**
Memphis Depot Pistol RangeDate Arrived **12/03/02**
ETC Order Number **0212055**ETC Lab ID **0212055-02**
Field ID : **PR-B**Matrix : **SOIL**
Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED BY	METHOD
TCLP Extraction	Leachate				12/04/02	DB 1311
Metals Digestion Batch	V34-AQ-11				12/05/02	SH 3005A
Mercury Digestion Batch	V10-AQ-32				12/06/02	JF 7470
Silver - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Arsenic - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Barium - TCLP	0.500	mg/L	0.025	12/05/02	12/05/02	SH 6010B
Cadmium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Chromium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Mercury - TCLP	ND	mg/L	0.001	12/06/02	12/06/02	JF 7470A
Lead - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Selenium - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B

000009


Data Validator

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

720 37

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Defense Depot**
Memphis Depot Pistol RangeDate Arrived **12/03/02**
ETC Order Number **0212055**ETC Lab ID **0212055-03**
Field ID : **PR-C1**Matrix : **SOIL**
Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED BY	METHOD
TCLP Extraction	Leachate				12/04/02	DB 1311
Metals Digestion Batch	V34-AQ-11				12/05/02	SH 3005A
Mercury Digestion Batch	V10-AQ-32				12/06/02	JF 7470
Silver - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Arsenic - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Barium - TCLP	0.619	mg/L	0.025	12/05/02	12/05/02	SH 6010B
Cadmium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Chromium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Mercury - TCLP	ND	mg/L	0.001	12/06/02	12/06/02	JF 7470A
Lead - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Selenium - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B

000010

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

720 38

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Defense Depot**
Memphis Depot Pistol RangeDate Arrived **12/03/02**ETC Order Number **0212055**ETC Lab ID : **0212055-04**Field ID : **PR-C2**Matrix **SOIL**Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED BY	METHOD
TCLP Extraction	Leachate				12/04/02	DB 1311
Metals Digestion Batch	V34-AQ-11				12/05/02	SH 3005A
Mercury Digestion Batch	V10-AQ-32				12/06/02	JF 7470
Silver - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Arsenic - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Barium - TCLP	0.531	mg/L	0.025	12/05/02	12/05/02	SH 6010B
Cadmium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Chromium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Mercury - TCLP	ND	mg/L	0.001	12/06/02	12/06/02	JF 7470A
Lead - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Selenium - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B

000011

ENVIRONMENTAL TESTING & CONSULTING, INC.

729 39

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-05**
Field ID : **PR-DE**

Matrix **SOIL**
Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED BY	METHOD
TCLP Extraction	Leachate				12/04/02	DB 1311
Metals Digestion Batch	V34-AQ-11				12/05/02	SH 3005A
Mercury Digestion Batch	V10-AQ-32				12/06/02	JF 7470
Silver - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Arsenic - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Barium - TCLP	0.501	mg/L	0.025	12/05/02	12/05/02	SH 6010B
Cadmium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Chromium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH 6010B
Mercury - TCLP	ND	mg/L	0.001	12/06/02	12/06/02	JF 7470A
Lead - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B
Selenium - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH 6010B

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

723 40

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Defense Depot**
Memphis Depot Pistol RangeDate Arrived **12/03/02**ETC Order Number **0212055**ETC Lab ID **0212055-06**Field ID **PR-FG**Matrix **SOIL**Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
TCLP Extraction	Leachate				12/04/02	DB	1311
Metals Digestion Batch	V34-AQ-11				12/05/02	SH	3005A
Mercury Digestion Batch	V10-AQ-32				12/06/02	JF	7470
Silver - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH	6010B
Arsenic - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH	6010B
Barium - TCLP	0.490	mg/L	0.025	12/05/02	12/05/02	SH	6010B
Cadmium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH	6010B
Chromium - TCLP	ND	mg/L	0.010	12/05/02	12/05/02	SH	6010B
Mercury - TCLP	ND	mg/L	0.001	12/06/02	12/06/02	JF	7470A
Lead - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH	6010B
Selenium - TCLP	ND	mg/L	0.100	12/05/02	12/05/02	SH	6010B

000013


Data Validator

ND - Not Detected

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 41

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
FID #

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-01**
Field ID **PR-A**

Matrix **SOIL**
Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				DB	1311
TCLP Volatile Organics				12/05/02	LS	8260B 5030B
QC Batch	V412051					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Carbon Tetrachloride	ND	mg/L	0.010			
Chlorobenzene	ND	mg/L	0.010			
Chloroform	ND	mg/L	0.010			
1,4-Dichlorobenzene	ND	mg/L	0.010			
1,2-Dichloroethane	ND	mg/L	0.010			
1,1-Dichloroethene	ND	mg/L	0.010			
2-Butanone (MEK)	ND	mg/L	1.00			
Tetrachloroethene	ND	mg/L	0.010			
Chloroethene	ND	mg/L	0.010			
Vinyl Chloride	ND	mg/L	0.010			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	95	84 115
S2 - Toluene-d8	90	69 133
S3 - 4-Bromofluorobenzene	106	80 120
S4 - 1,2-Dichloroethane-d4	86	58 131

000014

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 42

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID

Memphis Defense Depot
Memphis Depot Pistol Range

FID #

Date Arrived **12/03/02**ETC Order Number **0212055**ETC Lab ID **0212055-02**Field ID : **PR-B**Matrix : **SOIL**Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				DB	1311
TCLP Volatile Organics				12/05/02	LS	8260B 5030B
QC Batch	V412051					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Carbon Tetrachloride	ND	mg/L	0.010			
Chlorobenzene	ND	mg/L	0.010			
Chloroform	ND	mg/L	0.010			
1,4-Dichlorobenzene	ND	mg/L	0.010			
1,2-Dichloroethane	ND	mg/L	0.010			
1,1-Dichloroethene	ND	mg/L	0.010			
2-Butanone (MEK)	ND	mg/L	1.00			
Tetrachloroethene	ND	mg/L	0.010			
Chloroethene	ND	mg/L	0.010			
Vinyl Chloride	ND	mg/L	0.010			
Surrogate Standard	% Recovery		QC Limits			
S1 - Dibromofluoromethane	104		84	115		
S2 - Toluene-d8	91		69	133		
S3 - 4-Bromofluorobenzene	107		80	120		
S4 - 1,2-Dichloroethane-d4	101		58	131		

000015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 43

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
FID #

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-03**
Field ID **PR-C1**

Matrix : **SOIL**
Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				DB	1311
TCLP Volatile Organics				12/05/02	LS	8260B 5030B
QC Batch	V412051					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Carbon Tetrachloride	ND	mg/L	0.010			
Chlorobenzene	ND	mg/L	0.010			
Chloroform	ND	mg/L	0.010			
1,4-Dichlorobenzene	ND	mg/L	0.010			
1,2-Dichloroethane	ND	mg/L	0.010			
1,1-Dichloroethene	ND	mg/L	0.010			
2-Butanone (MEK)	ND	mg/L	1.00			
Tetrachloroethene	ND	mg/L	0.010			
Chloroethene	ND	mg/L	0.010			
Vinyl Chloride	ND	mg/L	0.010			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Dibromofluoromethane	98		84	115		
S2 - Toluene-d8	96		69	133		
S3 - 4-Bromofluorobenzene	107		80	120		
S4 - 1,2-Dichloroethane-d4	87		58	131		

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 44

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
FID #

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-04**
Field ID **PR-C2**

Matrix **SOIL**
Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				12/04/02	DB 1311
TCLP Volatile Organics				12/05/02	LS	8260B 5030B
QC Batch	V412051					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Carbon Tetrachloride	ND	mg/L	0.010			
Chlorobenzene	ND	mg/L	0.010			
Chloroform	ND	mg/L	0.010			
1,4-Dichlorobenzene	ND	mg/L	0.010			
1,2-Dichloroethane	ND	mg/L	0.010			
1,1-Dichloroethene	ND	mg/L	0.010			
2-Butanone (MEK)	ND	mg/L	1.00			
Tetrachloroethene	ND	mg/L	0.010			
Chloroethene	ND	mg/L	0.010			
Vinyl Chloride	ND	mg/L	0.010			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	106	84 115
S2 - Toluene-d8	92	69 133
S3 - 4-Bromofluorobenzene	105	80 120
S4 - 1,2-Dichloroethane-d4	107	58 131

000017

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 45

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
FID #

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-05**
Field ID : **PR-DE**

Matrix **SOIL**
Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				DB	1311
TCLP Volatile Organics				12/05/02	LS	8260B 5030B
QC Batch	V412051					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Carbon Tetrachloride	ND	mg/L	0.010			
Chlorobenzene	ND	mg/L	0.010			
Chloroform	ND	mg/L	0.010			
1,4-Dichlorobenzene	ND	mg/L	0.010			
1,2-Dichloroethane	ND	mg/L	0.010			
1,1-Dichloroethene	ND	mg/L	0.010			
2-Butanone (MEK)	ND	mg/L	1.00			
Tetrachloroethene	ND	mg/L	0.010			
Chloroethene	ND	mg/L	0.010			
Ethyl Chloride	ND	mg/L	0.010			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	99	84 115
S2 - Toluene-d8	93	69 133
S3 - 4-Bromofluorobenzene	105	80 120
S4 - 1,2-Dichloroethane-d4	90	58 131

000018

Data Validator

ND Not Detected

Q - Recovery Outside QC Limits

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 46

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
FID #

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-06**
Field ID : **PR-FG**

Matrix **SOIL**
Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction ZHE	Leachate				DB	1311
TCLP Volatile Organics				12/05/02	LS	8260B 5030B
QC Batch	V412051					
Dilution Factor	10					
Benzene	ND	mg/L	0.010			
Carbon Tetrachloride	ND	mg/L	0.010			
Chlorobenzene	ND	mg/L	0.010			
Chloroform	ND	mg/L	0.010			
1,4-Dichlorobenzene	ND	mg/L	0.010			
1,2-Dichloroethane	ND	mg/L	0.010			
1,1-Dichloroethene	ND	mg/L	0.010			
2-Butanone (MEK)	ND	mg/L	1.00			
Tetrachloroethene	ND	mg/L	0.010			
Chloroethene	ND	mg/L	0.010			
Vinyl Chloride	ND	mg/L	0.010			
Surrogate Standard	% Recovery		QC Limits			
S1 - Dibromofluoromethane	111		84	115		
S2 - Toluene-d8	91		69	133		
S3 - 4-Bromofluorobenzene	106		80	120		
S4 - 1,2-Dichloroethane-d4	110		58	131		

000019

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729

47

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID

Memphis Defense Depot
Memphis Depot Pistol Range

FID #

Date Arrived 12/03/02

ETC Order Number 0212055

ETC Lab ID 0212055-01

Field ID PR-A

Matrix SOIL

Sample Date : 12/03/02

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction Organics	Leachate				DB	1311
TCLP Semivolatiles				12/10/02	EM	8270C
QC Batch	P09028					3510C
Dilution Factor	1					
1,4-Dichlorobenzene	ND	mg/L	0.020			
2,4-Dinitrotoluene	ND	mg/L	0.020			
Hexachlorobenzene	ND	mg/L	0.020			
Hexachlorobutadiene	ND	mg/L	0.020			
Hexachloroethane	ND	mg/L	0.020			
2-Methylphenol	ND	mg/L	0.500			
3&4-Methylphenol	ND	mg/L	0.500			
Nitrobenzene	ND	mg/L	0.020			
Pentachlorophenol	ND	mg/L	0.040			
dine	ND	mg/L	0.020			
2,4,5-Trichlorophenol	ND	mg/L	0.020			
2,4,6-Trichlorophenol	ND	mg/L	0.020			

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	59	29 110
S2 - 2-Fluorobiphenyl	62	38 107
S3 - 4-Terphenyl-d14	67	33 122
S4 - Phenol-d6	24	7 58
S5 - 2,4,6-Tribromophenol	62	16 138
S6 - 2-Fluorophenol	36	8 88

000020

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729

48

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID

Memphis Defense Depot
Memphis Depot Pistol Range

FID #

Date Arrived **12/03/02**ETC Order Number **0212055**ETC Lab ID **0212055-02**Field ID **PR-B**Matrix **SOIL**Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction Organics	Leachate					
TCLP Semivolatiles				12/10/02	12/04/02	DB 1311
					12/06/02	EM 8270C
QC Batch	P09028					3510C
Dilution Factor	1					
1,4-Dichlorobenzene	ND	mg/L	0.020			
2,4-Dinitrotoluene	ND	mg/L	0.020			
Hexachlorobenzene	ND	mg/L	0.020			
Hexachlorobutadiene	ND	mg/L	0.020			
Hexachloroethane	ND	mg/L	0.020			
2-Methylphenol	ND	mg/L	0.500			
3&4-Methylphenol	ND	mg/L	0.500			
Nitrobenzene	ND	mg/L	0.020			
Pentachlorophenol	ND	mg/L	0.040			
dine	ND	mg/L	0.020			
2,5-Trichlorophenol	ND	mg/L	0.020			
2,4,6-Trichlorophenol	ND	mg/L	0.020			

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	76	29 110
S2 - 2-Fluorobiphenyl	78	38 107
S3 - 4-Terphenyl-d14	73	33 122
S4 - Phenol-d6	31	7 58
S5 - 2,4,6-Tribromophenol	73	16 138
S6 - 2-Fluorophenol	48	8 88

000621

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 49

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
FID #

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-03**
Field ID **PR-C1**

Matrix **SOIL**
Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction Organics	Leachate				12/04/02	DB 1311
TCLP Semivolatiles				12/10/02	EM 8270C	3510C
QC Batch	P09028				12/06/02	
Dilution Factor	1					
1,4-Dichlorobenzene	ND	mg/L	0.020			
2,4-Dinitrotoluene	ND	mg/L	0.020			
Hexachlorobenzene	ND	mg/L	0.020			
Hexachlorobutadiene	ND	mg/L	0.020			
Hexachloroethane	ND	mg/L	0.020			
2-Methylphenol	ND	mg/L	0.500			
3&4-Methylphenol	ND	mg/L	0.500			
Nitrobenzene	ND	mg/L	0.020			
Pentachlorophenol	ND	mg/L	0.040			
dine	ND	mg/L	0.020			
2,4,5-Trichlorophenol	ND	mg/L	0.020			
2,4,6-Trichlorophenol	ND	mg/L	0.020			

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	58	29 110
S2 - 2-Fluorobiphenyl	59	38 107
S3 - 4-Terphenyl-d14	69	33 122
S4 - Phenol-d6	23	7 58
S5 - 2,4,6-Tribromophenol	60	16 138
S6 - 2-Fluorophenol	35	8 88

000022

ENVIRONMENTAL TESTING & CONSULTING, INC. 729 50

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
 FID #

Date Arrived **12/03/02**
 ETC Order Number **0212055**

ETC Lab ID **0212055-04**
 Field ID : **PR-C2**

Matrix **SOIL**
 Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction Organics	Leachate				DB	1311
TCLP Semivolatiles				12/10/02	EM	8270C
						3510C
QC Batch	P09028					
Dilution Factor	1					
1,4-Dichlorobenzene	ND	mg/L	0.020			
2,4-Dinitrotoluene	ND	mg/L	0.020			
Hexachlorobenzene	ND	mg/L	0.020			
Hexachlorobutadiene	ND	mg/L	0.020			
Hexachloroethane	ND	mg/L	0.020			
2-Methylphenol	ND	mg/L	0.500			
3&4-Methylphenol	ND	mg/L	0.500			
Nitrobenzene	ND	mg/L	0.020			
Pentachlorophenol	ND	mg/L	0.040			
ndine	ND	mg/L	0.020			
2,4,5-Trichlorophenol	ND	mg/L	0.020			
2,4,6-Trichlorophenol	ND	mg/L	0.020			

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	59	29 110
S2 - 2-Fluorobiphenyl	63	38 107
S3 - 4-Terphenyl-d14	66	33 122
S4 - Phenol-d6	24	7 58
S5 - 2,4,6-Tribromophenol	61	16 138
S6 - 2-Fluorophenol	38	8 88

006523

ENVIRONMENTAL TESTING & CONSULTING, INC. 729 51

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

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
 FID #

Date Arrived **12/03/02**
 ETC Order Number **0212055**

ETC Lab ID **0212055-05**
 Field ID **PR-DE**

Matrix **SOIL**
 Sample Date : **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction Organics	Leachate				DB	1311
TCLP Semivolatiles				12/10/02	EM	8270C
QC Batch	P09028					3510C
Dilution Factor	1					
1,4-Dichlorobenzene	ND	mg/L	0.020			
2,4-Dinitrotoluene	ND	mg/L	0.020			
Hexachlorobenzene	ND	mg/L	0.020			
Hexachlorobutadiene	ND	mg/L	0.020			
Hexachloroethane	ND	mg/L	0.020			
2-Methylphenol	ND	mg/L	0.500			
3&4-Methylphenol	ND	mg/L	0.500			
Nitrobenzene	ND	mg/L	0.020			
Pentachlorophenol	ND	mg/L	0.040			
ndine	ND	mg/L	0.020			
2,4,5-Trichlorophenol	ND	mg/L	0.020			
2,4,6-Trichlorophenol	ND	mg/L	0.020			
Surrogate Standard	% Recovery		QC Limits			
S1 - Nitrobenzene-d5	68		29	110		
S2 - 2-Fluorobiphenyl	72		38	107		
S3 - 4-Terphenyl-d14	71		33	122		
S4 - Phenol-d6	26		7	58		
S5 - 2,4,6-Tribromophenol	67		16	138		
S6 - 2-Fluorophenol	41		8	88		

000024

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 52

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Defense Depot**
Memphis Depot Pistol Range
FID #

Date Arrived **12/03/02**
ETC Order Number **0212055**

ETC Lab ID **0212055-06**
Field ID : **PR-FG**

Matrix . **SOIL**
Sample Date **12/03/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
TCLP Extraction Organics	Leachate				12/04/02	DB 1311
TCLP Semivolatiles				12/10/02	EM	8270C
QC Batch	P09028				12/06/02	3510C
Dilution Factor	1					
1,4-Dichlorobenzene	ND	mg/L	0.020			
2,4-Dinitrotoluene	ND	mg/L	0.020			
Hexachlorobenzene	ND	mg/L	0.020			
Hexachlorobutadiene	ND	mg/L	0.020			
Hexachloroethane	ND	mg/L	0.020			
2-Methylphenol	ND	mg/L	0.500			
3&4-Methylphenol	ND	mg/L	0.500			
Nitrobenzene	ND	mg/L	0.020			
Pentachlorophenol	ND	mg/L	0.040			
dine	ND	mg/L	0.020			
2,4,5-Trichlorophenol	ND	mg/L	0.020			
2,4,6-Trichlorophenol	ND	mg/L	0.020			

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene d5	68	29 110
S2 - 2-Fluorobiphenyl	71	38 107
S3 - 4-Terphenyl-d14	72	33 122
S4 - Phenol-d6	26	7 58
S5 - 2,4,6-Tribromophenol	66	16 138
S6 - 2-Fluorophenol	41	8 88

000025

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
Metals (ICP/GFAA/CV)**

000026

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS - TCLP

729 54

Client Name Jacobs
Project Name Memphis Defense Depot
Pistol Range
ETC Order # 0212-055

HOLDING TIMES

QC Batch(s) for this order	ICP Metals V34-AQ-11 Mercury V10-AQ-32
TCLP Extraction	All soils extracted within 180 days (28 days for Mercury)
Sample Preparation	All TCLP leachates prepared and analyzed within 180 days (28 days for Mercury)

METHOD

Leachate	SW-846 1311
Preparation	SW-846 3015/7470A
Analysis	SW-846 6010B/7470A

CALIBRATION

Initial Calibration	All criteria met
Continuing Calibration	All criteria met

SAMPLE ANALYSIS

Instrumentation	Thermo Jarrell Ash Enviro-I ICP CETAC M-6000A Mercury Analyzer
Dilutions Required	No dilutions required

QUALITY CONTROL

Method Blank

V34-AQ-11BLK	ICP Metals
V10-AQ-32BLK	Mercury
No analytes detected in the method blank	

Laboratory Control Sample(s)

V34-AQ-11LCS	ICP Metals
V10-AQ-32LCS	Mercury
All criteria met	

Matrix Spike / Matrix Spike Dup - ICP Metals

0212-055-05	RPD	All analytes within QC limits
PR-DE	Spike Recovery	All analytes within QC limits
Refer to Laboratory Control Sample(s) for system verification		

Matrix Spike / Matrix Spike Dup - Hg

0212-055-05	RPD	All analytes within QC limits
PR-DL	Spike Recovery	All analytes within QC limits
Refer to Laboratory Control Sample(s) for system verification		



Project Manager

000027

FORM 3A
TCLP/SPLP METHOD BLANK
METALS

729 55

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals	<u>V34-AQ-11</u> BLK	QC Batch <u>V34-AQ-11</u>
Laboratory ID Mercury	<u>V10-AQ-32</u> BLK	<u>V10-AQ-32</u>
Date Sample Prepared	<u>12/5/02</u>	ICP/GFAA Metals
	<u>12/6/02</u>	Mercury

Metals	Concentration mg/L	Detection Limit mg/L	Date Analyzed	Method
Silver	ND	0.010	12/5/02	6010B
Arsenic	ND	0.100	12/5/02	6010B
Barium	ND	0.025	12/5/02	6010B
Cadmium	ND	0.010	12/5/02	6010B
Chromium	ND	0.010	12/5/02	6010B
Lead	ND	0.100	12/5/02	6010B
Selenium	ND	0.100	12/5/02	6010B
Mercury	ND	0.001	12/6/02	7470A

ND - Not Detected

Reviewed by 

000028

0212-055 mqc BLANK

FORM 7
TCLP/SPLP LABORATORY CONTROL SAMPLE
METALS

729 56

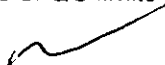
Lab Name Environmental Testing and Consulting, Inc

Laboratory Control ID	ICP/GFAA Metals	<u>V34-AQ-11</u>	LCS	QC Batch
	Mercury	<u>V10-AQ-32</u>	LCS	<u>V34-AQ-11</u>
				<u>V10-AQ-32</u>
 Date Prepared	 ICP/GFAA Metals	 <u>12/5/02</u>		
	Mercury	<u>12/6/02</u>		

Metals	Spike Added mg/L	Found mg/L	% R	QC Limits	
				#	
Silver	0.200	0.217	109	80	120
Arsenic	1.00	1.13	113	80	120
Barium	2.00	2.11	106	80	120
Cadmium	0.200	0.207	104	80	120
Chromium	0.400	0.440	110	80	120
Lead	1.00	1.08	108	80	120
Selenium	1.00	1.05	105	80	120
Mercury	0.0050	0.0053	106	85	115

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

000029

Reviewed by 

0212-055 mqc LCS

FORM 6
TCLP/SPLP MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

729 57

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals	0212-055-05	QC Batch V34-AQ-11
Laboratory ID MS Mercury	0212-055-05	V10-AQ-32
Date Sample Prepared	12/5/02	ICP/GFAA Metals
	12/6/02	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MS Conc mg/L	RPD <20% #	MS % Rec #	QC Limits	
Silver	0.200	ND	0.212	0	106	50	150
Arsenic	1.00	ND	1.17	3	117	50	150
Barium	2.00	0.501	2.36	1	93	50	150
Cadmium	0.200	ND	0.203	1	102	50	150
Chromium	0.400	ND	0.405	1	101	50	150
Lead	1.00	ND	1.13	2	113	50	150
Selenium	1.00	ND	1.14	4	114	50	150
Mercury	0.0050	ND	0.0055	0	110	50	150

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

000030

Reviewed by  -

0212-055 mqc MSMSD

FORM 6
TCLP/SPLP MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name: Environmental Testing and Consulting, Inc

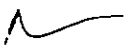
Laboratory ID MS ICP/GFAA Metals	<u>0212-055-05</u>	QC Batch V34-AQ-11
Laboratory ID MS Mercury	<u>0212-055-05</u>	V10-AQ-32
Date Sample Prepared	<u>12/5/02</u>	ICP/GFAA Metals
	<u>12/6/02</u>	Mercury

Metals	SPIKE Added mg/L	SAMPLE Conc mg/L	MSD Conc mg/L		MSD % Rec	#	QC Limits
Silver	0.250	ND	0.212		85		50 150
Arsenic	1.25	ND	1.14		91		50 150
Barium	2.50	0.501	2.39		76		50 150
Cadmium	0.250	ND	0.200		80		50 150
Chromium	0.500	ND	0.409		82		50 150
Lead	1.25	ND	1.11		89		50 150
Selenium	1.25	ND	1.10		88		50 150
Mercury	0.0050	ND	0.0055		110		50 150

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

000031

0212-055 mqc MSMSD

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
GC/MS Volatiles**

000032

CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS - TCLP

Client Name Jacobs
Project Name Memphis Defense Depot
Pistol Range

ETC Order # 0212-055

HOLDING TIMES

TCLP Extraction All samples extracted within 14 days
Sample Analysis All VOC extracts analyzed within 14 days

METHOD

Preparation SW-846 1311
Analysis SW-846 8260B

QUALITY CONTROL

QC Batch Form 4 Summary
V412051 V4120511LB

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits, except as listed below
Surrogate Dibromofluoromethane was flagged for low recovery in V4120512LCS

Method Blank FORM 4

V4120511LB
Target analytes were not detected in the method blank

Laboratory Control Sample FORM 3

V4120512LCS
All acceptance criteria met

Matrix Spike / Matrix Spike Dup FORM 3

Batch V412051
0212-055-06 RPD All analytes within QC limits *
PR-FG Spike Recovery All analytes within QC limits
*RPDs for 1,2-Dichloroethane and Tetrachloroethene were flagged as outside QC limits MS/MSD recoveries were within QC limits Refer to Laboratory Control Sample(s) for system verification

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 RI 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 A standard 1:10 dilution was performed on the leachates to minimize and matrix interference while maintaining detection limits below the regulatory level


Project Manager

000033

FORM 2
WATER VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

729 61

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
	=====	=====	=====	=====	=====	=====
01	V4120512LCS	80*	92	86	80	1
02	V4120511LB	92	89	101	92	0
03	021205501	95	90	106	86	0
04	021205502	104	91	107	101	0
05	021205503	98	96	107	87	0
06	021205504	106	92	105	107	0
07	021205505	99	93	105	90	0
08	021205506	111	91	106	110	0
09	021205506MS	97	106	98	90	0
10	021205506MSD	95	91	92	77	0
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (84-115)
 SMC2 (TOL) = Toluene-d8 (69-133)
 SMC3 (BFB) = Bromofluorobenzene (80-120)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (58-131)

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

723 62
CLIENT SAMPLE NO.

V4120511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID: 0303003

Lab Prep Batch: V412051

Date Analyzed: 12/05/02

Time Analyzed: 1629

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC4

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
	=====	=====	=====	=====
01	V4120512LCS	12LCS	0202004LCS	1427
02	021205501	021205501	0601006	1803
03	021205502	021205502	0701007	1834
04	021205503	021205503	0801008	1906
05	021205504	021205504	0901009	1937
06	021205505	021205505	1001010	2008
07	021205506	021205506	1101011	2039
08	021205506MS	MS	1901019	0049
09	021205506MSD	MSD	2001020	0120
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

720 63
CLIENT SAMPLE NO.

V4120511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix: (soil/water) WATER

Lab Prep Batch: V412051

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/05/02

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/L Q

71-43-2-----Benzene	1.00	U
78-93-3-----2-Butanone	20.00	U
56-23-5-----Carbon Tetrachloride	1.00	U
108-90-7-----Chlorobenzene	1.00	U
67-66-3-----Chloroform	1.00	U
106-46-7-----1,4-Dichlorobenzene	1.00	U
107-06-2-----1,2-Dichloroethane	1.00	U
75-35-4-----1,1-Dichloroethene	1.00	U
630-20-6-----1,1,1,2-Tetrachloroethane	1.00	U
127-18-4-----Tetrachloroethene	1.00	U
108-88-3-----Toluene	1.00	U
79-01-6-----Trichloroethene	1.00	U
75-01-4-----Vinyl Chloride	1.00	U

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

729 64
CLIENT SAMPLE NO.

V4120511LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix: (soil/water) WATER

Lab Sample ID: 11LB

Sample wt/vol: 10.00 (g/mL) ML

Lab File ID: 0303003

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/05/02

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 0

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

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. _____	_____	_____	_____	_____

Lab Name: ETC, INC.

Lab Prep Batch: V412051

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: V4120512LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
-----	-----	-----	-----	-----	-----
Benzene	100.0		83.65	84	72-124
2-Butanone	100.0		86.31	86	55-151
Carbon Tetrachloride	100.0		95.90	96	64-123
Chlorobenzene	100.0		96.29	96	77-112
Chloroform	100.0		84.28	84	70-115
1,4-Dichlorobenzene	100.0		94.52	94	78-116
1,2-Dichloroethane	100.0		92.24	92	62-124
1,1-Dichloroethene	100.0		102.5	102	69-121
Tetrachloroethene	100.0		103.8	104	77-115
Trichloroethene	100.0		93.03	93	75-113
Vinyl Chloride	100.0		94.08	94	65-134

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 11 outside limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V412051

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: 021205506

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Benzene	100.0	0.000	86.24	86	72-124
2-Butanone	100.0	0.000	83.83	84	55-151
Carbon Tetrachloride	100.0	0.000	98.31	98	64-123
Chlorobenzene	100.0	0.000	100.4	100	77-112
Chloroform	100.0	0.000	104.4	104	70-115
1,4-Dichlorobenzene	100.0	0.000	94.58	94	78-116
1,2-Dichloroethane	100.0	0.000	108.3	108	62-124
1,1-Dichloroethene	100.0	0.000	94.90	95	69-121
Tetrachloroethene	100.0	0.000	110.5	110	77-115
Trichloroethene	100.0	0.000	92.38	92	75-113
Vinyl Chloride	100.0	0.000	110.3	110	65-134

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Benzene	100.0	88.86	89	3	20	72-124
2-Butanone	100.0	80.10	80	5	20	55-151
Carbon Tetrachloride	100.0	90.78	91	7	20	64-123
Chlorobenzene	100.0	98.16	98	2	20	77-112
Chloroform	100.0	94.89	95	9	20	70-115
1,4-Dichlorobenzene	100.0	90.68	91	3	20	78-116
1,2-Dichloroethane	100.0	86.84	87	22*	20	62-124
1,1-Dichloroethene	100.0	100.5	100	5	20	69-121
Tetrachloroethene	100.0	86.29	86	24*	20	77-115
Trichloroethene	100.0	82.32	82	11	20	75-113
Vinyl Chloride	100.0	101.1	101	8	20	65-134

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: 0 out of 22 outside limits

COMMENTS:

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
GC/MS Semi-Volatiles**

000040

CASE NARRATIVE

GC/MS SEMI-VOLATILE COMPOUNDS - TCLP

Client Name Jacobs
Project Name Memphis Defense Depot
Pistol Range

ETC Order # 0212-055

HOLDING TIMES

TCLP Extraction All samples extracted within 14 days
Sample Extraction All TCLP leachate/filtrates extracted within 7 days
Sample Analysis All Non-VOC extracts analyzed within 40 days

METHOD

Preparation SW-846 1311/3510C
Analysis SW-846 8270C

QUALITY CONTROL

QC Batch Form 4 Summary
P09028 P09028LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits

Method Blank FORM 4
P09028LB
Target analytes were not detected in the method blank

Laboratory Control Sample FORM 3
P09028LCS
All target analyte acceptance criteria met

Matrix Spike / Matrix Spike Dup FORM 3

Batch P09028
0211-659-01 RPD All analytes within QC limits
Spike Recovery All analytes within QC limits

The MS/MSD was performed on a sample not directly associated with this project. Batch QC provided for information only.
Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

DETPP Daily 12-Hour Tune All criteria met FORM 5
Initial Calibration All criteria met FORM 6
Calibration Verification All criteria met FORM 7

Samples in this sequence are listed on Form 5 (Instrument Performance Check). The CV passed SPCC/CCC evaluation criteria. The CV is valid per SW-846 method 8000A/8270C.

Semi-Volatile Internal Standard Area and RI FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD/HP 6890 GC, 5973MSD
Dilutions Required No dilutions required


Project Manager

000041

FORM 2
WATER BNA-GCMS SURROGATE RECOVERY

729 69

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (TBP) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	P09028LB	62	66	68	25	59	39			0
02	P09028LCS	60	63	60	26	62	40			0
03	P09028LCSD	64	68	66	26	66	41			0
04	021205501	59	62	67	24	62	36			0
05	021205502	76	78	73	31	73	48			0
06	021205503	58	59	69	23	60	35			0
07	021205504	59	63	66	24	61	38			0
08	021205505	68	72	71	26	67	41			0
09	021205506	68	71	72	26	66	41			0
10										
11										
12										
13										
14										
15										
16										
17										
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27										
28										
29										
30										

QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (29-110)
 S2 (FBP) = 2-Fluorobiphenyl (38-107)
 S3 (TPH) = Terphenyl-d14 (33-122)
 S4 (PHL) = Phenol-d6 (7- 58)
 S5 (TBP) = 2,4,6-Tribromophenol (16-138)
 S6 (2FP) = 2-Fluorophenol (8- 88)

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.

P09028LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID: 0301004

Lab Prep Batch: P09028

Instrument ID: BNA1

Lab Sample ID: LB

Matrix: (soil/water) WATER

Date Analyzed: 12/10/02

Level: (low/med) LOW

Time Analyzed: 1216

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	=====	=====	=====	=====
01	P09028LCS	LCS	0401005	12/10/02
02	P09028LCSD	LCSD	0501006	12/10/02
03	021205501	021205501	0701008	12/10/02
04	021205502	021205502	0801009	12/10/02
05	021205503	021205503	0901010	12/10/02
06	021205504	021205504	1001011	12/10/02
07	021205505	021205505	1101012	12/10/02
08	021205506	021205506	1201013	12/10/02
09	021165901	021165901	1301001	12/10/02
10	021165901MS	MS	1401002	12/10/02
11	021165901MSD	MSD	1501003	12/10/02
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

723 71
CLIENT SAMPLE NO.

P09028LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix: (soil/water) WATER

Lab Prep Batch: P09026

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

Lab File ID: 0301004

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 12/10/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

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

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

106-46-7-----	1,4-Dichlorobenzene	5.00	U
121-14-2-----	2,4-Dinitrotoluene	5.00	U
118-74-1-----	Hexachlorobenzene	5.00	U
87-68-3-----	Hexachlorobutadiene	5.00	U
67-72-1-----	Hexachloroethane	5.00	U
95-48-7-----	2-Methylphenol	5.00	U
108-39-4-----	3&4-Methylphenol	5.00	U
98-95-3-----	Nitrobenzene	5.00	U
87-86-5-----	Pentachlorophenol	10.00	U
110-86-1-----	Pyridine	5.00	U
95-95-4-----	2,4,5-Trichlorophenol	5.00	U
88-06-2-----	2,4,6-Trichlorophenol	5.00	U

Lab Name: ETC, INC.

Lab Prep Batch: P09028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: P09028LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	50.00		30.32	61	38-117
Acenaphthylene	50.00		31.72	63	37-114
Acetophenone	50.00		28.39	57	32-108
Aniline	50.00		25.84	52	16-133
Anthracene	50.00		33.04	66	34-128
Benzidine	50.00		15.87	32	22-176
Benz(a)Anthracene	50.00		33.02	66	36-127
Benzo(b)fluoranthene	50.00		32.31	65	36-131
Benzo(k)fluoranthene	50.00		30.44	61	32-132
Benzo(ghi)perylene	50.00		33.79	68	26-123
Benzo(a)pyrene	50.00		33.64	67	34-131
Benzoic acid	50.00		14.93	30	11- 58
Benzyl alcohol	50.00		20.99	42	20-109
Bis(2-chloroethoxy)meth	50.00		31.41	63	20-126
Bis(2-chloroethyl)ether	50.00		33.16	66	16-122
Bis(2-chloroisopropyl)e	50.00		39.12	78	28-108
Bis(2-ethylhexyl)phthal	50.00		23.70	47	21-162
4-Bromophenyl phenyl et	50.00		29.60	59	31-124
Butyl benzyl phthalate	50.00		25.94	52	33-142
Carbazole	50.00		37.30	75	20-147
4-Chloroaniline	50.00		30.30	61	24-127
Chlorobenzilate	50.00		25.47	51	35-118
4-Chloro-3-methylphenol	50.00		27.31	55	35-117
2-Chloronaphthalene	50.00		30.89	62	29-137
2-Chlorophenol	50.00		28.11	56	27-102
4-Chlorophenyl phenyl e	50.00		30.75	62	39-110
Chrysene	50.00		32.76	66	30-124
Dibenz(a,h)anthracene	50.00		35.85	72	27-124

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

COMMENTS:

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

720 73

Lab Name: ETC, INC.

Lab Prep Batch: P09028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: P09028LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibenzofuran	50.00		29.49	59	40-108
Di-n-butyl phthalate	50.00		33.84	68	19-158
1,2-Dichlorobenzene	50.00		27.87	56	26-100
1,3-Dichlorobenzene	50.00		28.12	56	21-102
1,4-Dichlorobenzene	50.00		26.82	54	24- 99
3,3'-Dichlorobenzidine	50.00		33.43	67	6-192
2,4-Dichlorophenol	50.00		28.42	57	32-110
2,6-Dichlorophenol	50.00		27.35	55	31-112
Diethyl phthalate	50.00		31.81	64	36-130
3,3-Dimethylbenzidine	50.00		16.29	32	6-192
2,4-Dimethyphenol	50.00		26.07	52	34-105
Dimethyl phthalate	50.00		31.92	64	34-123
4,6-Dinitro-2-methylphe	50.00		37.65	75	27-128
2,4-Dinitrophenol	50.00		29.76	60	10-132
2,4-Dinitrotoluene	50.00		32.52	65	24-147
2,6-Dinitrotoluene	50.00		31.50	63	36-125
N-NitrsdiphyAm/Dipheny	100.0		30.91	31*	35-116
Di-n-octyl phthalate	50.00		19.67	39	29-136
Ethyl methanesulfonate	50.00		28.60	57	20-121
Fluoranthene	50.00		35.31	71	28-127
Fluorene	50.00		31.75	64	41-116
Hexachlorobenzene	50.00		29.79	60	18-136
Hexachlorobutadiene	50.00		26.56	53	22-109
Hexachlorocyclopentadie	50.00		28.84	58	10-102
Hexachloroethane	50.00		27.52	55	16-107
Indeno(1,2,3-cd)pyrene	50.00		35.40	71	22-126
Isophorone	50.00		31.81	64	31-116
Methyl methanesulfonate	50.00		22.99	46	15- 82

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

* Values outside of QC limits

COMMENTS: _____

Lab Name: ETC, INC.

Lab Prep Batch: P09028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: P09028LCS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC #	QC. LIMITS REC.
2-Methylnaphthalene	50.00		28.39	57	34-108
2-Methylphenol	50.00		24.38	49	22- 97
3&4-Methylphenol	50.00		23.98	48	21- 96
Naphthalene	50.00		29.69	59	33-108
2-Nitroaniline	50.00		32.04	64	32-127
3-Nitroaniline	50.00		34.70	69	28-142
4-Nitroaniline	50.00		41.04	82	23-139
Nitrobenzene	50.00		29.48	59	27-117
2-Nitrophenol	50.00		27.66	55	25-114
4-Nitrophenol	50.00		15.54	31	1- 76
N-Nitrosodibutylamine	50.00		29.69	59	31-126
N-Nitrosodiethylamine	50.00		29.20	58	28-107
N-Nitrosodimethylamine	50.00		16.78	34	14- 84
N-Nitrosodi-n-propylami	50.00		30.61	61	29-114
Pentachloronitrobenzene	50.00		29.13	58	34-135
Pentachlorophenol	50.00		32.54	65	17-142
Phenacetin	50.00		29.91	60	29-141
Phenanthrene	50.00		31.71	63	40-120
Phenol	50.00		12.15	24	11- 55
Pyrene	50.00		35.44	71	20-154
Pyridine	50.00		13.62	27	10- 71
1,2,4,5-Tetrachlorobenz	50.00		27.34	55	28-110
2,3,4,6-Tetrachlorophen	50.00		30.95	62	28-118
1,2,4-Trichlorobenzene	50.00		28.43	57	23-106
2,4,5-Trichlorophenol	50.00		29.87	60	26-118
2,4,6-Trichlorophenol	50.00		28.60	57	26-115
1,2-Dphnylhydrzine/Azob	50.00		30.72	61	45-135

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

* Values outside of QC limits

COMMENTS:

FORM 3
WATER BNA-GCMS LAB CONTROL SAMPLE

720 75

Lab Name: ETC, INC.

Lab Prep Batch: P09028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: P09028LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Acenaphthene	50.00	32.47	65	6	20	38-117
Acenaphthylene	50.00	33.22	66	5	20	37-114
Acetophenone	50.00	30.01	60	5	20	32-108
Aniline	50.00	23.69	47	10	20	16-133
Anthracene	50.00	35.28	70	6	20	34-128
Benzidine	50.00	1.05	2*	176*	20	22-176
Benz(a)Anthracene	50.00	34.50	69	4	20	36-127
Benzo(b)fluoranthene	50.00	33.34	67	3	20	36-131
Benzo(k)fluoranthene	50.00	32.81	66	8	20	32-132
Benzo(ghi)perylene	50.00	35.13	70	3	20	26-123
Benzo(a)pyrene	50.00	35.06	70	4	20	34-131
Benzoic acid	50.00	16.38	33	10	20	11- 58
Benzyl alcohol	50.00	20.67	41	2	20	20-109
Bis(2-chloroethoxy)meth	50.00	33.10	66	5	20	20-126
Bis(2-chloroethyl)ether	50.00	33.23	66	0	20	16-122
Bis(2-chloroisopropyl)e	50.00	39.29	78	0	20	28-108
Bis(2-ethylhexyl)phthal	50.00	25.24	50	6	20	21-162
4-Bromophenyl phenyl et	50.00	31.68	63	6	20	31-124
Butyl benzyl phthalate	50.00	27.64	55	6	20	33-142
Carbazole	50.00	38.85	78	4	20	20-147
4-Chloroaniline	50.00	31.50	63	3	20	24-127
Chlorobenzilate	50.00	26.45	53	4	20	35-118
4-Chloro-3-methylphenol	50.00	30.48	61	10	20	35-117
2-Chloronaphthalene	50.00	31.88	64	3	20	29-137
2-Chlorophenol	50.00	28.01	56	0	20	27-102
4-Chlorophenyl phenyl e	50.00	32.79	66	6	20	39-110
Chrysene	50.00	33.36	67	2	20	30-124
Dibenz(a,h)anthracene	50.00	37.35	75	4	20	27-124

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P09028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: P09028LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Dibenzofuran	50.00	31.41	63	6	20	40-108
Di-n-butyl phthalate	50.00	36.04	72	6	20	19-158
1,2-Dichlorobenzene	50.00	28.00	56	0	20	26-100
1,3-Dichlorobenzene	50.00	28.31	57	2	20	21-102
1,4-Dichlorobenzene	50.00	27.78	56	4	20	24- 99
3,3'-Dichlorobenzidine	50.00	32.86	66	2	20	6-192
2,4-Dichlorophenol	50.00	29.84	60	5	20	32-110
2,6-Dichlorophenol	50.00	29.45	59	7	20	31-112
Diethyl phthalate	50.00	33.87	68	6	20	36-130
3,3-Dimethylbenzidine	50.00	3.68	7	128*	20	6-192
2,4-Dimethyphenol	50.00	28.28	56	7	20	34-105
Dimethyl phthalate	50.00	33.80	68	6	20	34-123
4,6-Dinitro-2-methylphe	50.00	40.21	80	6	20	27-128
2,4-Dinitrophenol	50.00	30.69	61	2	20	10-132
2,4-Dinitrotoluene	50.00	34.59	69	6	20	24-147
2,6-Dinitrotoluene	50.00	33.86	68	8	20	36-125
N-NitrsdiphyAm/Dipheny	100.0	32.94	33*	6	20	35-116
Di-n-octyl phthalate	50.00	20.85	42	7	20	29-136
Ethyl methanesulfonate	50.00	29.34	59	3	20	20-121
Fluoranthene	50.00	37.17	74	4	20	28-127
Fluorene	50.00	33.70	67	4	20	41-116
Hexachlorobenzene	50.00	32.08	64	6	20	18-136
Hexachlorobutadiene	50.00	27.52	55	4	20	22-109
Hexachlorocyclopentadie	50.00	29.96	60	3	20	10-102
Hexachloroethane	50.00	28.22	56	2	20	16-107
Indeno(1,2,3-cd)pyrene	50.00	36.91	74	4	20	22-126
Isophorone	50.00	33.57	67	4	20	31-116
Methyl methanesulfonate	50.00	22.88	46	0	20	15- 82

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P09028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: P09028LCS

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
2-Methylnaphthalene	50.00	29.71	59	3	20	34-108
2-Methylphenol	50.00	24.77	50	2	20	22- 97
3&4-Methylphenol	50.00	23.81	48	0	20	21- 96
Naphthalene	50.00	31.15	62	5	20	33-108
2-Nitroaniline	50.00	34.20	68	6	20	32-127
3-Nitroaniline	50.00	37.01	74	7	20	28-142
4-Nitroaniline	50.00	43.62	87	6	20	23-139
Nitrobenzene	50.00	30.91	62	5	20	27-117
2-Nitrophenol	50.00	28.84	58	5	20	25-114
4-Nitrophenol	50.00	16.08	32	3	20	1- 76
N-Nitrosodibutylamine	50.00	32.10	64	8	20	31-126
N-Nitrosodiethylamine	50.00	29.49	59	2	20	28-107
N-Nitrosodimethylamine	50.00	17.51	35	3	20	14- 84
N-Nitrosodi-n-propylami	50.00	31.41	63	3	20	29-114
Pentachloronitrobenzene	50.00	29.88	60	3	20	34-135
Pentachlorophenol	50.00	35.46	71	9	20	17-142
Phenacetin	50.00	32.19	64	6	20	29-141
Phenanthrene	50.00	33.00	66	5	20	40-120
Phenol	50.00	12.46	25	4	20	11- 55
Pyrene	50.00	37.40	75	5	20	20-154
Pyridine	50.00	13.06	26	4	20	10- 71
1,2,4,5-Tetrachlorobenz	50.00	28.51	57	4	20	28-110
2,3,4,6-Tetrachlorophen	50.00	32.99	66	6	20	28-118
1,2,4-Trichlorobenzene	50.00	29.68	59	3	20	23-106
2,4,5-Trichlorophenol	50.00	30.10	60	0	20	26-118
2,4,6-Trichlorophenol	50.00	30.11	60	5	20	26-115
1,2-Dphnylhydrazine/Azob	50.00	32.98	66	8	20	45-135

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

RPD: 2 out of 83 outside limits

Spike Recovery: 3 out of 166 outside limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: P09028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Matrix Spike - Sample No.: 021165901

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,4-Dichlorobenzene	400.0	0.000	200.3	50	31- 97
2,4-Dinitrotoluene	400.0	0.000	351.6	88	34-130
Hexachlorobenzene	400.0	0.000	284.9	71	65-133
Hexachlorobutadiene	400.0	0.000	214.7	54	50-112
Hexachloroethane	400.0	0.000	209.4	52	37-100
2-Methylphenol	400.0	0.000	222.4	56	48-117
3&4-Methylphenol	800.0	0.000	418.0	52	46- 99
Nitrobenzene	400.0	0.000	245.0	61	57-120
Pentachlorophenol	400.0	0.000	302.9	76	22-171
Pyridine	400.0	0.000	150.6	38	10- 82
2,4,5-Trichlorophenol	400.0	0.000	259.8	65	31-147
2,4,6-Trichlorophenol	400.0	0.000	280.0	70	31-147

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD REC.
1,4-Dichlorobenzene	400.0	217.2	54	8	20 31- 97
2,4-Dinitrotoluene	400.0	393.9	98	11	20 34-130
Hexachlorobenzene	400.0	309.6	77	8	20 65-133
Hexachlorobutadiene	400.0	225.0	56	4	20 50-112
Hexachloroethane	400.0	215.6	54	4	20 37-100
2-Methylphenol	400.0	260.8	65	15	20 48-117
3&4-Methylphenol	800.0	484.4	60	14	20 46- 99
Nitrobenzene	400.0	280.0	70	14	20 57-120
Pentachlorophenol	400.0	327.0	82	8	20 22-171
Pyridine	400.0	147.7	37	3	20 10- 82
2,4,5-Trichlorophenol	400.0	286.0	72	10	20 31-147
2,4,6-Trichlorophenol	400.0	316.8	79	12	20 31-147

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

* Values outside of QC limits

RPD: 0 out of 12 outside limits

Spike Recovery: 0 out of 24 outside limits

COMMENTS:

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

000052

ENVIRONMENTAL TESTING & CONSULTING, INC

ICP Metals Sequence Check List

Sequence ID : 120502

System ID : ICP1
ICP2

Date: 12-5-02
Time: 1052

Analyst : SH
Supervisor: JF

1. Instrument Profile Intensity Check (Arsenic / Manganese)

5990

2. Initial Calibration

- a Initial Calibration Blank (STD1-Blank)
- b Initial Calibration Standard 1 (C1) 3 Exposures at less than 3% RSD
- c Initial Calibration Standard 2 (C2) 3 Exposures at less than 3% RSD
- d Initial Calibration Standard 3 (C3) 3 Exposures at less than 3% RSD
- e Initial Calibration Standard 4 (C4) 3 Exposures at less than 3% RSD
- f Standardization Report

3. Initial Calibration Readback (+/- 5% Difference Check Table)

Failures

- | | | | | |
|----|-------------------------------------|-------|---|-------|
| a. | Initial Calibration Standard 1 (C1) | _____ | ✓ | _____ |
| b. | Initial Calibration Standard 2 (C2) | _____ | ✓ | _____ |
| c. | Initial Calibration Standard 3 (C3) | _____ | ✓ | _____ |
| d. | Initial Calibration Standard 4 (C4) | _____ | ✓ | _____ |

4. Initial Calibration Verification

- | | | | |
|---|---|---|------------|
| e | Initial Calibration Blank (ICB) – All elements below 2 times MDL | ✓ | |
| f | Low Level Check (LLC1) – (20%) | ✓ | Mo, Na, Sb |
| g | Low Level Check (LLC2) – (20%) | ✓ | |
| h | Initial Calibration Verification (ICV1) – (10%) | ✓ | |
| i | Initial Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL | ✓ | B |
| j | Initial Interelement Correction Standard (ICSAB) – (20%) | ✓ | |
| k | Final Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL | ✓ | B, Cd |
| l | Final Interelement Correction Standard – (ICSAB) (20%) | ✓ | |

Comments

Applicable ETC Order Nos. for this sequence:

134ACCL6	211689			
07	691			
08	692			
09	693			
212147	212003			
211652	087			
055	211694			
003	212017			
008	134AQ11			
008	212055			

AutoSampler Report Table: AQ1

12/06/02 08:47:47 AM

Table Name: AQ1 Autosampler Type: TYPE TJA
 Sample Positions: 42/192 QC Positions: 19/19 # Sets: 1
 Rin Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	120502	AQ1	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor
No Samples Prepared.				

Rack #1

Pos	Row	Col	Sample Name	Set #	#Used	Type
(1...19 Not Used)						

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	CCB1	1	-NA-	Sample
2	1	2	CCV1	1	-NA-	Sample
3	1	3	V34AQ06 SB	1	-NA-	Sample
4	1	4	V34AQ07 SB	1	-NA-	Sample
5	1	5	V34AQ08 SB	1	-NA-	Sample
6	1	6	V34AQ09 SB	1	-NA-	Sample
7	1	7	V34AQ06 LC	1	-NA-	Sample
8	1	8	V34AQ07 LC	1	-NA-	Sample
9	1	9	V34AQ08 LC	1	-NA-	Sample
10	1	10	V34AQ09 LC	1	-NA-	Sample
11	1	11	21214702	1	-NA-	Sample
12	1	12	21214702 MS	1	-NA-	Sample
13	2	1	CCB2	1	-NA-	Sample
14	2	2	CCV2	1	-NA-	Sample
15	2	3	21214702 MSD	1	-NA-	Sample
16	2	4	21165201	1	-NA-	Sample
17	2	5	21165202	1	-NA-	Sample
18	2	6	21165203	1	-NA-	Sample
19	2	7	21165204	1	-NA-	Sample
20	2	8	21165501	1	-NA-	Sample
21	2	9	21166301	1	-NA-	Sample

000054

AutoSampler Report Table: AQ1

12/06/02 08:47:47 AM

Rack #2

Po	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	21166802	1	-NA-	Sample
23	2	11	21168801	1	-NA-	Sample
24	2	12	21168802	1	-NA-	Sample
25	3	1	CCB3	1	-NA-	Sample
26	3	2	CCV3	1	-NA-	Sample
27	3	3	21168802 MS	1	-NA-	Sample
28	3	4	21168802 MSD	1	-NA-	Sample
29	3	5	21166901	1	-NA-	Sample
30	3	6	21168901	1	-NA-	Sample
31	3	7	21168902	1	-NA-	Sample
32	3	8	21169102	1	-NA-	Sample
33	3	9	21169201	1	-NA-	Sample
34	3	10	21169301	1	-NA-	Sample
35	3	11	21169304	1	-NA-	Sample
36	3	12	21169307	1	-NA-	Sample
37	4	1	CCB4	1	-NA-	Sample
38	4	2	CCV4	1	-NA-	Sample
39	4	3	21200301	1	-NA-	Sample
40	4	4	21200701	1	-NA-	Sample
41	4	5	21200701 MS	1	-NA-	Sample
42	4	6	21200701 MSD	1	-NA-	Sample
43	4	7	21169402	1	-NA-	Sample
44	4	8	21169404	1	-NA-	Sample
45	4	9	21169406	1	-NA-	Sample
46	4	10	21169408	1	-NA-	Sample
47	4	11	21169410	1	-NA-	Sample
48	4	12	21169412	1	-NA-	Sample

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	CCB5	1	-NA-	Sample
2	1	2	CCV5	1	-NA-	Sample
3	1	3	21169414	1	-NA-	Sample
4	1	4	21169415	1	-NA-	Sample
5	1	5	21169417	1	-NA-	Sample
6	1	6	21169418	1	-NA-	Sample
7	1	7	21169418 MS	1	-NA-	Sample
8	1	8	21169418 MSD	1	-NA-	Sample
9	1	9	21201701	1	-NA-	Sample
10	1	10	21201702	1	-NA-	Sample
11	1	11	21201703	1	-NA-	Sample
12	1	12	21201704	1	-NA-	Sample
13	2	1	CCB6	1	-NA-	Sample
14	2	2	CCV6	1	-NA-	Sample
15	2	3	21201705	1	-NA-	Sample
16	2	4	21201706	1	-NA-	Sample
17	2	5	21201707	1	-NA-	Sample
18	2	6	21201708	1	-NA-	Sample
19	2	7	21201709	1	-NA-	Sample
20	2	8	21201710	1	-NA-	Sample
21	2	9	21201710 MS	1	-NA-	Sample

000055

AutoSampler Report Table: AQ1

12/06/02 08:47:47 AM

Rack #3

Po	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	21201710 MSD	1	-NA-	Sample
23	2	11	V34AQ11 SB	1	-NA-	Sample
24	2	12	V34AQ11 LC	1	-NA-	Sample
25	3	1	CCB7	1	-NA-	Sample
26	3	2	CCV7	1	-NA-	Sample
27	3	3	21205501	1	-NA-	Sample
28	3	4	21205502	1	-NA-	Sample
29	3	5	21205503	1	-NA-	Sample
30	3	6	21205504	1	-NA-	Sample
31	3	7	21205505	1	-NA-	Sample
32	3	8	21205505 MS	1	-NA-	Sample
33	3	9	21205505 MSD	1	-NA-	Sample
34	3	10	21205506	1	-NA-	Sample
35	3	11	12-4-02 BLANK F1	1	-NA-	Sample
36	3	12	CCB8	1	-NA-	Sample
37	4	1	CCV8	1	-NA-	Sample
38	4	2	ICSA	1	-NA-	Sample
39	4	3	ICSAB	1	-NA-	Sample
40	4	4	(empty)	1	-NA-	-NA-
41	4	5	(empty)	1	-NA-	-NA-
42	4	6	(empty)	1	-NA-	-NA-
43	4	7	(empty)	1	-NA-	-NA-
44	4	8	(empty)	1	-NA-	-NA-
4	4	9	(empty)	1	-NA-	-NA-
4	4	10	(empty)	1	-NA-	-NA-
47	4	11	(empty)	1	-NA-	-NA-
48	4	12	(empty)	1	-NA-	-NA-

Rack #4

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	(empty)	1	-NA-	-NA-
2	1	2	(empty)	1	-NA-	-NA-
3	1	3	(empty)	1	-NA-	-NA-
4	1	4	(empty)	1	-NA-	-NA-
5	1	5	(empty)	1	-NA-	-NA-
6	1	6	(empty)	1	-NA-	-NA-
7	1	7	(empty)	1	-NA-	-NA-
8	1	8	(empty)	1	-NA-	-NA-
9	1	9	(empty)	1	-NA-	-NA-
10	1	10	(empty)	1	-NA-	-NA-
11	1	11	(empty)	1	-NA-	-NA-
12	1	12	(empty)	1	-NA-	-NA-
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
18	2	6	(empty)	1	-NA-	-NA-
19	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

000056

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
ICP METALS

720 Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/05/02 1052 Instrument ICPT

Initial Calibration Source C1 M6-88-08 C2 M6-85-05 C3 M6-86-01 C4 M6-85-01

Continuing Calibration Source ICV/CCV M6-89-19

Analyte	Initial Calibration Verification			Continuing CCV6			Continuing CCV7			Continuing CCV8		
	True	Found	%Diff(1)	True	Found	%Diff(1)	True	Found	%Diff(1)	True	Found	%Diff(1)
Silver	100	100	0	100	101	1	100	103	3	100	103	3
Arsenic	500	532	6	500	528	6	529	526	5	500	526	5
Barium	1000	981	2	1000	980	2	968	998	0	1000	998	0
Cadmium	100	98.7	1	100	97.7	2	98.5	100	0	100	100	0
Chromium	200	203	2	200	202	1	203	209	5	200	209	5
Lead	500	506	1	500	507	1	509	522	4	500	522	4
Selenium	500	501	0	500	500	0	494	492	2	500	492	2

(1) Percent difference from true value. ICP Method 6010B - 10% ICP Method 2007 - 5%

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

729 Lab Name

Environmental Testing and Consulting, Inc

Date/Time of Sequence

12/05/02 1052

Instrument

ICPT

Analyte	Initial Calibration Blank ug/L	Continuing Calibration Blank ug/L						
		CCB6	CCB7	CCB8				
Silver	ND	ND	ND	ND				
Arsenic	ND	ND	ND	ND				
Barium	ND	ND	ND	ND				
Cadmium	ND	ND	ND	ND				
Chromium	ND	ND	ND	ND				
Lead	ND	ND	ND	ND				
Selenium	ND	ND	ND	ND				

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/05/02 1052 Instrument ICPT

Concentration Units: ug/L

Analyte	True	Initial Found		Final Found	
	Sol AB	Sol AB	%R	Sol AB	%R
Silver	200	204	102		0
Aluminum	100000	97700	98		0
Arsenic	200	200	100		0
Barium	200	207	104		0
Calcium	100000	98200	98		0
Cadmium	200	196	98		0
Chromium	200	202	101		0
Iron	100000	99700	100		0
Magnesium	100000	98900	99		0
Lead	200	200	100		0
Selenium	200	192	96		0

%R - Recovery should be within 20%.

Analyte	True	Initial Found		Final Found	
	Sol A	Sol A	%R	Sol A	%R
Silver	0	ND	0		0
Aluminum	100000	101000	100		0
Arsenic	0	ND	0		0
Barium	0	ND	0		0
Calcium	100000	99500	100		0
Cadmium	0	ND	0		0
Chromium	0	ND	0		0
Iron	100000	101000	101		0
Magnesium	100000	101000	101		0
Lead	0	ND	0		0
Selenium	0	ND	0		0

ENVIRONMENTAL TESTING & CONSULTING, INC

Mercury Sequence Check List

Sequence ID: 02120600,01.0B

Date/Time: 12/6/12 1340

Analyst: JF
Supervisor: M

Instrument ID: CETAC M-6000A

1	General Maintenance Check	Action Taken
a	Lamp Warm-up ☒	
b	Pump Winding ☒	
c	Check GLS ☒	
d	Nafion Dryer ☒	

2. Sequence Check List

Initial Calibration

a.	Initial Calibration Blank (STD1-Blank)	☒
b.	Initial Calibration Standard 1 0.20 ug/L	☒
c.	Initial Calibration Standard 2 1.0 ug/L	☒
d.	Initial Calibration Standard 3 2.0 ug/L	☒
e.	Initial Calibration Standard 4 5.0 ug/L	☒
f.	Initial Calibration Standard 5 10.0 ug/L	☒

3. Regression coefficient (minimum = 0.995) ☒

4. Initial Calibration Blank (ICB) – All elements below MQL ☒

Water = 0.20 ug/L Soil = 0.02 mg/Kg

5. Initial Calibration Verification (ICV) – 2nd Source SRN: M6-89-18
Concentration 5.0 ug/L +/- 10% Found: 4.99 %Difference: 0

6. Continuing Calibration Blank (CCB) – All elements below MQL indicate by ☒

Metal	CCB1	CCB2	CCB3	CCB4	CCB5	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	CCB12	CCB13	CCB14	CCB15
Hg	☒	☒	☒												

7. Continuing Calibration Verification (CCV) – Range: EPA 90-110% SW-846 80-120%

All elements within QC limits indicate by ☒ (Concentration same as ICV) SRN: M6-89-18

Metal	CCV1	CCV2	CCV3	CCV4	CCV5	CCV6	CCV7	CCV8	CCV9	CCV10	CCV11	CCV12	CCV13	CCV14	CCV15
Hg	☒	☒	☒												

8. Method Blank (USACE) <1/2 MQL: _____ LCS % Recovery 80-120%: _____

Applicable ETC Order Nos. for this sequence:

<u>SBLC V10A832</u>	<u>212655</u>	<u>212155</u>	<u>212158</u>	<u>212161</u>
<u>212055</u>	<u>212126</u>	<u>212156</u>	<u>212159</u>	<u>BLR PL-1 12/4/12</u>
<u>211694</u>	<u>212154</u>	<u>212157</u>	<u>212160</u>	<u>MK test</u>

QID	QID	QID	QID	QID	QID
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
31	32	33	34	35	36
37	38	39	40	41	42
43	44	45	46	47	48
49	50	51	52	53	54
55	56	57	58	59	60
61	62	63	64	65	66
67	68	69	70	71	72
73	74	75	76	77	78
79	80	81	82	83	84
85	86	87	88	89	90
91	92	93	94	95	96
97	98	99	100	101	102
103	104	105	106	107	108
109	110	111	112	113	114
115	116	117	118	119	120
121	122	123	124	125	126
127	128	129	130	131	132
133	134	135	136	137	138
139	140	141	142	143	144
145	146	147	148	149	150
151	152	153	154	155	156
157	158	159	160	161	162
163	164	165	166	167	168
169	170	171	172	173	174
175	176	177	178	179	180
181	182	183	184	185	186
187	188	189	190	191	192
193	194	195	196	197	198
199	200	201	202	203	204
205	206	207	208	209	210
211	212	213	214	215	216
217	218	219	220	221	222
223	224	225	226	227	228
229	230	231	232	233	234
235	236	237	238	239	240
241	242	243	244	245	246
247	248	249	250	251	252
253	254	255	256	257	258
259	260	261	262	263	264
265	266	267	268	269	270
271	272	273	274	275	276
277	278	279	280	281	282
283	284	285	286	287	288
289	290	291	292	293	294
295	296	297	298	299	300

89

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
MERCURY

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/6/02 1340 Instrument M6000

Initial Calibration Source C1 M6-89-17

Continuing Calibration Source ICV/CCV M6-89-18

Analyte	Initial Calibration Verification				Continuing CCV1				Continuing CCV2				Continuing CCV3			
	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag		
Mercury	5.00	4.99	0.2	<5	5.00	5.22	4.4	<5	5.13	2.6	<5	5.06	1.2	<5		

(1) Percent difference from true value < = 10%

000062

720 30

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/6/02 1340 Instrument M6000

000063

Analyte	MDL ug/L	Initial Cal Blank (ICB) ug/L	CCB1	CCB2	CCB3	Continuing Calibration Blank ug/L									
Mercury	0.06	ND	ND	ND	ND										

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Volatiles**

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

729 92

Sequence ID: V412051 Matrix: H₂O/Sol IBN: _____
Date: 12-9-02 Analyst: ES
Super: [Signature]

Applicable ETC Order Nos. for this sequence:

0211-659-1 0212-055-1-6
0211-617-1-3

Validated

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method: V412051.8260M

- a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
- b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ✓
- c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ✓
- d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient ≥ 0.99 ✓

3. Calibration Verification - Each 12-Hour Shift

- a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
- b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ✓
- c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ✓
- d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$ ✓

Acetone, Chloromethane, Ethyl Acetate

- e. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ✓
- f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ✓

4. Method Blanks included in this sequence :

Analyze daily or for each analytical batch (20 samples):

List compounds identified in Method Blank w/concentration.

Flag final result "B-Detected in Blank"

V412051 BDL
TCLP BIK 1204-1
B0113SLB

5. Matrix Spike/Matrix Spike Duplicates included in this sequence :

Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)

List MS/MSD(s) performed with any failures :

0211-617-3ms, msd
0212-055-6ms, msd 0211-RPD

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

01/7-Sol 01/11-H₂O

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range ✓

Narrative/Notes .

000065

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

720 93

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID: 0102002

BFB Injection Date: 12/05/02

Instrument ID: VOC4

BFB Injection Time: 1339

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.1
75	30.0 - 60.0% of mass 95	47.6
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.8
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	109.5
175	5.0 - 9.0% of mass 174	8.3 (7.6)1
176	95.0 - 101.0% of mass 174	107.4 (98.1)1
177	5.0 - 9.0% of mass 176	7.2 (6.7)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V4120512LCS	12LCS	0202004LCS	12/05/02	1427
02	DCS100PPB		0202004	12/05/02	1427
03	V4120511LB	11LB	0303003	12/05/02	1629
04	021205501	021205501	0601006	12/05/02	1803
05	021205502	021205502	0701007	12/05/02	1834
06	021205503	021205503	0801008	12/05/02	1906
07	021205504	021205504	0901009	12/05/02	1937
08	021205505	021205505	1001010	12/05/02	2008
09	021205506	021205506	1101011	12/05/02	2039
10	021205506MS	MS	1901019	12/06/02	0049
11	021205506MSD	MSD	2001020	12/06/02	0120
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

723 94

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Instrument ID: VOC4

Calibration Date: 12/05/02

Time: 1427

Lab File ID: 0202004

Init. Calib. Date(s): 10/25/02

10/25/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1455

2007

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
Acetone	109.6	100.0	AVRG	9.6	30.0
Acetonitrile	928.6	1000	AVRG	7.1	30.0
Acrolein	48.13	100.0	AVRG	51.9	30.0
Acrylonitrile	83.20	100.0	AVRG	16.8	30.0
Allyl chloride	112.0	100.0	AVRG	12.0	30.0
Benzene	83.65	100.0	AVRG	16.4	30.0
Bromobenzene	98.31	100.0	AVRG	1.7	30.0
Bromochloromethane	94.70	100.0	AVRG	5.3	30.0
Bromodichloromethane	99.20	100.0	AVRG	0.8	30.0
Bromoform	113.4	100.0	AVRG	13.4	30.0
2-Butanone	86.31	100.0	AVRG	13.7	30.0
Bromomethane	101.3	100.0	AVRG	1.3	30.0
n-Butylbenzene	102.7	100.0	AVRG	2.7	30.0
sec-Butylbenzene	97.57	100.0	AVRG	2.4	30.0
tert-Butylbenzene	98.44	100.0	AVRG	1.6	30.0
Carbon Disulfide	87.22	100.0	AVRG	12.8	30.0
Carbon Tetrachloride	95.90	100.0	AVRG	4.1	30.0
Chlorobenzene	96.29	100.0	AVRG	3.7	30.0
Chlorodibromomethane	101.7	100.0	AVRG	1.7	30.0
Chloroethane	99.89	100.0	AVRG	0.1	30.0
2-Chloroethyl vinyl ether	80.84	100.0	LINR	19.2	30.0
Chloroform	84.28	100.0	AVRG	15.7	20.0
Chloromethane	56.13	100.0	AVRG	43.9	30.0
Chloroprene	81.22	100.0	AVRG	18.8	30.0
2-Chlorotoluene	90.52	100.0	AVRG	9.5	30.0
4-Chlorotoluene	94.82	100.0	AVRG	5.2	30.0
1,2-Dibromo-3-chloropropane	107.3	100.0	AVRG	7.3	30.0
1,2-Dibromoethane	96.04	100.0	AVRG	4.0	30.0
Dibromomethane	97.89	100.0	AVRG	2.1	30.0
1,2-Dichlorobenzene	98.03	100.0	AVRG	2.0	30.0
1,3-Dichlorobenzene	97.30	100.0	AVRG	2.7	30.0
1,4-Dichlorobenzene	94.52	100.0	AVRG	5.5	30.0
cis-1,4-Dichloro-2-butene	105.7	100.0	AVRG	5.7	30.0
trans-1,4-Dichloro-2-butene	101.6	100.0	AVRG	1.6	30.0
Dichlorodifluoromethane	78.22	100.0	AVRG	21.8	30.0
1,1-Dichloroethane	100.1	100.0	AVRG	0.1	30.0
1,2-Dichloroethane	92.24	100.0	AVRG	7.8	30.0

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FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

723 95

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Instrument ID: VOC4

Calibration Date: 12/05/02 Time: 1427

Lab File ID: 0202004

Init. Calib. Date(s): 10/25/02 10/25/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1455 2007

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	102.5	100.0	AVRG	2.5	20.0
cis-1,2-Dichloroethene	89.95	100.0	AVRG	10.0	30.0
trans-1,2-Dichloroethene	101.2	100.0	AVRG	1.2	30.0
1,2-Dichloropropane	90.08	100.0	AVRG	9.9	20.0
1,3-Dichloropropane	93.44	100.0	AVRG	6.6	30.0
2,2-Dichloropropane	88.93	100.0	AVRG	11.1	30.0
1,1-Dichloropropene	89.22	100.0	AVRG	10.8	30.0
cis-1,3-Dichloropropene	96.63	100.0	AVRG	3.4	30.0
trans-1,3-Dichloropropene	98.89	100.0	AVRG	1.1	30.0
Di isopropyl ether	86.09	100.0	AVRG	13.9	30.0
1,4-Dioxane	1949	2000	AVRG	2.6	30.0
Ethyl Acetate	68.53	100.0	AVRG	31.5	30.0
Ethylbenzene	94.10	100.0	AVRG	5.9	20.0
Ethyl methacrylate	181.6	200.0	AVRG	9.2	30.0
Furan	155.7	153.0	AVRG	1.8	30.0
Hexachlorobutadiene	108.3	100.0	AVRG	8.3	30.0
Hexane	95.81	117.0	AVRG	18.1	30.0
2-Hexanone	94.93	100.0	AVRG	5.1	30.0
Iodomethane	126.6	100.0	AVRG	26.6	30.0
Isobutyl Alcohol	1436	2000	AVRG	28.2	30.0
Isopropylbenzene	93.47	100.0	AVRG	6.5	30.0
4-Isopropyltoluene	101.4	100.0	AVRG	1.4	30.0
Methacrylonitrile	757.1	1000	AVRG	24.3	30.0
Methylene Chloride	92.33	100.0	LINR	7.7	30.0
Methyl methacrylate	181.3	200.0	AVRG	9.4	30.0
4-Methyl-2-Pentanone	86.21	100.0	AVRG	13.8	30.0
Methyl-tertbutyl-Ether	85.36	100.0	AVRG	14.6	30.0
Naphthalene	97.21	100.0	AVRG	2.8	30.0
Propionitrile	897.2	1000	AVRG	10.3	30.0
n-Propyl Acetate	127.6	151.0	AVRG	15.5	30.0
n-Propylbenzene	88.87	100.0	AVRG	11.1	30.0
Styrene	91.12	100.0	AVRG	8.9	30.0
1,1,1,2-Tetrachloroethane	101.7	100.0	AVRG	1.7	30.0
1,1,2,2-Tetrachloroethane	98.04	100.0	AVRG	2.0	30.0
Tetrachloroethene	103.8	100.0	AVRG	3.8	30.0
Tetrahydrofuran	68.34	91.50	AVRG	25.3	30.0
1,2,3-Trichlorobenzene	109.7	100.0	AVRG	9.7	30.0

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FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

720 96

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Instrument ID: VOC4

Calibration Date: 12/05/02

Time: 1427

Lab File ID: 0202004

Init. Calib. Date(s): 10/25/02

10/25/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1455

2007

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL100 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	88.25	100.0	AVRG	11.8	20.0
1,1,1-Trichloroethane	95.26	100.0	AVRG	4.7	30.0
1,1,2-Trichloroethane	96.00	100.0	AVRG	4.0	30.0
1,1,2-trichloro-1,2,2-triflu	96.15	100.0	AVRG	3.8	30.0
Trichloroethene	93.03	100.0	AVRG	7.0	30.0
Trichlorofluoromethane	112.9	100.0	AVRG	12.9	30.0
1,2,3-Trichloropropane	97.15	100.0	AVRG	2.8	30.0
1,2,4-Trimethylbenzene	96.60	100.0	AVRG	3.4	30.0
1,2,4-Trichlorobenzene	114.5	100.0	AVRG	14.5	30.0
1,3,5-Trimethylbenzene	93.47	100.0	AVRG	6.5	30.0
Vinyl Acetate	87.38	100.0	AVRG	12.6	30.0
Vinyl Chloride	94.08	100.0	AVRG	5.9	20.0
Xylene-mp	173.3	200.0	AVRG	13.4	30.0
Xylene-o	88.06	100.0	AVRG	11.9	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	40.16	50.00	AVRG	19.7	30.0
Toluene-d8	45.75	50.00	AVRG	8.5	30.0
Bromofluorobenzene	42.91	50.00	AVRG	14.2	30.0
1,2-Dichloroethane-d4	40.01	50.00	AVRG	20.0	30.0

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

720 97

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID (Standard): 0202004

Date Analyzed: 12/05/02

Instrument ID: VOC4

Time Analyzed: 1427

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	907644	6.13	775446	6.71	697828	8.94
UPPER LIMIT	1815288	6.63	1550892	7.21	1395656	9.44
LOWER LIMIT	453822	5.63	387723	6.21	348914	8.44
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V4120511LB	731581	6.13	628103	6.71	528073	8.93
02 021205501	646226	6.13	530163	6.71	453057	8.93
03 021205502	597029	6.13	530948	6.71	460760	8.93
04 021205503	629669	6.13	495273	6.71	450238	8.93
05 021205504	598068	6.12	547497	6.71	462603	8.93
06 021205505	629708	6.13	521696	6.71	461915	8.93
07 021205506	575218	6.12	545375	6.71	456890	8.93
08 021205506MS	680019	6.13	580249	6.71	604937	8.94
09 021205506MSD	788865	6.13	778183	6.71	667861	8.93
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 98

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID (Standard): 0202004

Date Analyzed: 12/05/02

Instrument ID: VOC4

Time Analyzed: 1427

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	412277	10.73				
UPPER LIMIT	824554	11.23				
LOWER LIMIT	206139	10.23				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V4120511LB	359428	10.73				
02 021205501	305560	10.73				
03 021205502	310421	10.73				
04 021205503	310865	10.73				
05 021205504	308946	10.73				
06 021205505	307487	10.73				
07 021205506	302351	10.73				
08 021205506MS	393488	10.73				
09 021205506MSD	397129	10.72				
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

Report Date : 30-Oct-2002 13:40

Page 1

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Calibration File Names:

Level 1: \\ETCBDC\DD\chem\voc4.i\V410251.B\0301005.D
 Level 2: \\ETCBDC\DD\chem\voc4.i\V410251.B\0401006.D
 Level 3: \\ETCBDC\DD\chem\voc4.i\V410251.B\0601008.D
 Level 4: \\ETCBDC\DD\chem\voc4.i\V410251.B\0701009.D
 Level 5: \\ETCBDC\DD\chem\voc4.i\V410251.B\0801010.D
 Level 6: \\ETCBDC\DD\chem\voc4.i\V410251.B\0901011.D
 Level 7: \\ETCBDC\DD\chem\voc4.i\V410251.B\1001012.D
 Level 8: \\ETCBDC\DD\chem\voc4.i\V410251.B\1101013.D
 Level 9: \\ETCBDC\DD\chem\voc4.i\V410251.B\1201014.D
 Level 10: \\ETCBDC\DD\chem\voc4.i\V410251.B\1301015.D

Compound	0 500000		1 0000		5 0000		20 0000		50 0000		100 0000		Coefficients			RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	b	m1	m2	
1 Dichlorodifluoromethane	0 66660	0 41793	0 56272	0 56625	0 53699	0 49992								0 54473		12 00684

000072

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 10/31/02
 0 54473

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.1\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compou-d	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	m2	MSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
120 0000	150 0000	170 0000	200 0000	Level 10							
Level 7	Level 8	Level 9	Level 10								
2 Chloromethane	0 33714	0 26598	0 28420	0 24906	0 24438	0 23460	AVRG		0 27553		10 73622
	0 30542	0 27801	0 27170	0 28778							
3 Vinyl Chloride	****	0 18521	0 23748	0 21923	0 21537	0 19786	AVRG		0 20574		10 67106
	0 23490	0 19877	0 17964	0 18315							
4 Bromomethane	****	0 18755	0 17674	0 15471	0 16313	0 17818	AVRG		0 18428		11 45973
	0 22729	0 20029	0 18130	0 18934							
5 Chloroethane	0 07834	0 09323	0 13319	0 11581	0 11540	0 11313	AVRG		0 11290		14 86205
	0 13489	0 11924	0 11175	0 11399							
6 Acro.ein	****	****	****	0 05680	0 00762	0 00827	AVRG		0 00787		7 79941
	0 00853	0 00847	0 00755	0 03786							

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 5000000	1 0000	Level 2	5 0000	Level 3	20 0000	Level 4	50 0000	Level 5	100 0000	Curve	b	Coefficients	m1	m2	MSD	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10							
7 Trichlorofluoromethane	0 46912	0 54829	0 61697	0 62780	0 60107	0 55199					AVRG			0 56766			9 75089
8 Acetonitrile	0 01563	0 01492	0 01436	0 01152	0 01374	0 01433					AVRG			0 01422			8 68607
9 Acetone	0 11137	0 10305	0 09608	0 11017	0 10849	0 10299					AVRG			0 10295			8 03496
10 Fluor	0 49281	0 43625	0 40547	0 41968	0 40541	0 41527					AVRG			0 42669			7 10777
11 1,1-Dichloroethene	0 19973	0 22027	0 24705	0 22694	0 22636	0 21927					AVRG			0 23186			8 11478

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 5000000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	m1	m2	RSD or R^2
Level 1	Level 2	Level 3	Level 4	Level 5	Level 6							
12 Acrylonitrile	0 05897	0 05703	0 05426	0 05220	0 05476	0 05582	AVRG		0 05405			5 02707
13 Iodomethane	0 37540	0 32483	0 28769	0 26867	0 35287	0 33257	AVRG		0 32564			10 68582
14 Methylene Chloride	45655	48930	77496	151024	362507	693642	LINR	-0 08187	0 27155			0 99049
15 1,1,2-trichloro-1,2,2-trifluoroethane	0 38111	0 32364	0 35128	0 33615	0 33653	0 31203	AVRG		0 33331			6 91280
16 Allyl chloride	0 30999	0 27355	0 30650	0 28570	0 27922	0 26549	AVRG		0 27609			8 16210

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720 102

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	m2	WSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
17 Carbon Disulfide	0 89935	0 82161	0 76028	0 72261	0 76734	0 70567	AVRG		0.80730		14 54399
18 trans-1,2-Dichloroethene	0 23865	0 26495	0 27237	0 27048	0 27478	0 27297	AVRG		0 27627		7 52462
	0 31952	0 29654	0 27738	0 27501							
19 Methyl-tertbutyl-Ether	0 16244	0 15090	0 13950	0 13467	0 15453	0 14545	AVRG		0 15264		7 51515
20 Propionitrile	0 01781	0 01470	0 02169	0 02154	0 02213	0 02266	AVRG		0 02155		14 56620
	0 02502	0 02475	0 02299	0 02321							
21 1-Dichloroethane	0 39654	0 44184	0 48156	0 49245	0 47612	0 45586	AVRG		0 46291		7 39871
	0 51677	0 48399	0 43749	0 44643							

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729 103

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	m1	m2	SRSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
22 Vinyl Acetate	0 4720	0 53030	0 40464	0 41100	0 42476	0 41901	AVRG			0 44391		9 61216
23 Chloroprene	0 44613	0 47397	0 52012	0 5938	0 61060	0 57136	AVRG			0 55343		11 64763
24 2-Butanone	0 03566	0 03482	0 03286	0 03075		0 03232	AVRG			0 03303		8 37056
25 Hexane	0 35240	0 34258	0 29962	0 28469	0 32556	0 30281	AVRG			0 31852		7 06052
26 Di Isopropyl ether	0 72712	0 73787	0 76072	0 74147	0 91131	0 85988	AVRG			0 84381		11 20171

000077

729 104

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	14SD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
27 Methacrylonitrile	0.11900	0.14481	0.12759	0.12305	0.14660	0.13304	AVRG		0.13217		8.18830
	0.14564	0.13633	0.12687	0.11872							
28 cis-1,2-Dichloroethene	0.27729	0.34189	0.28925	0.28553	0.31129	0.29632	AVRG		0.30861		7.29231
	0.34017	0.32859	0.30606	0.30968							
29 Ethyl Acetate	0.28802	0.27252	0.25803	0.24794			AVRG		0.26211		9.01970
30 Bromochloromethane	0.14586	0.15910	0.16405	0.15219	0.17334	0.16294	AVRG		0.16689		7.71308
	0.19020	0.17726	0.17053	0.17347							
31 Chloroform	0.90230	0.84043	0.84495	0.79557	0.87099	0.81305	AVRG		0.83290		5.15660
		0.83122	0.76469	0.79557	0.87099	0.81305					

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720 105

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	C 5000000	1 0000	Level 2	5 0000	Level 3	20 0000	Level 4	50 0000	Level 5	100 0000	Level 6	Curve	b	Coefficients	m1	m2	RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 14	Level 15	Level 16	Level 17
32 Isobutyl Alcohol	0 01022	0 00954	0 01181	0 00999	0 01082	0 00981	AVRG								0 01002		9 45722
33 2,2-Dichloropropane	0 71154	0 71839	0 77574	0 75494	0 76795	0 71767	AVRG								0 73024		6 50531
35 Tetrahydrofuran	0 2676	0 12254	0 08951	0 09700	0 10428	0 10922	AVRG								0 10865		11 70861
38 1,2-Dichloroethane	0 63618	0 64617	0 72960	0 71882	0 73525	0 71907	AVRG								0 69460		7 51713
39 1,1,1-Trichloroethane	0 81072	0 85753	0 91522	0 92868	0 95544	0 90118	AVRG								0 90228		6 66389

000079

729 106

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50.0000	100 0000	Curve	b	Coefficients	m1	m2	RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
40 1,1-Dichloropropene	0 56069	0 55598	0 57739	0 56734	0 57991	0 54883	AVRG		0 56849			4 34465
	0 62534	0 58230	0 54755	0 53586								
41 Carbon Tetrachloride	0 76895	0 81624	0 89450	0 91124	0 95046	0 89961	AVRG		0 88627			7 36622
	1 00570	0 91486	0 83790	0 82322								
42 Benzene	1 22733	1 25256	1 24581	1 16878	1 19520	1 12701	AVRG		0 21157			4 30769
	1 30893	1 23328	1 17574	1 18106								
44 Dibromomethane	0 30509	0 28718	0 31130	0 31061	0 31678	0 29366	AVRG		0 29260			7 84972
	0 30983	0 25193	0 25916	0 25049								
45 1,2-Dichloropropane	0 34418	0 31552	0 34732	0 33677	0 32510	0 29866	AVRG		0 31465			8 22763
	0 32577	0 29826	0 28372	0 27120								

000080

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	m1	m2	NRSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						or R^2
46 Trichloroethene	0 42084	0 44345	0 45212	0 43572	0 43709	0 40533	AVRG			0 43040		4 29642
47 Bromodichloromethane	5603	12686	61530	234649	631911	1248227	LINR	-0 02592	0 50666			0 99236
48 n-Propyl Acetate	0 76943	0 72628	0 85634	0 78586	0 82056	0 72357	AVRG		0 74352			9 68665
49 Methyl methacrylate	0 21752	0 20802	0 23789	0 22881	0 23730	0 20390	AVRG		0 21330			8 77404
50 1,4-Dioxane	0 00323	0 00309	0 00256	0 00296	0 00295	0 00298	AVRG		0 00295			6 50778

000081

720 108

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\voc4.i\410251.B\410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	m2	RSD or R2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
51 2-Chloroethyl vinyl ether	1731	2651	18457	35634	111925	223928	LINR	-0.01133	0.09284		0.99732
52 c.s.-1,3-Dichloropropene	0.64735	0.65403	0.71611	0.72393	0.75194	0.70028	AVRG		0.70257		6.39608
53 4-Methyl-2-Pentanone	0.36851	0.34639	0.33172	0.31401	0.35790	0.33348	AVRG		0.33983		5.12282
54 trans-1,3-Dichloropropene	0.59686	0.61320	0.68979	0.71564	0.75777	0.70214	AVRG		0.68763		8.67674
55 1,1,2-Trichloroethane	0.26143	0.24937	0.28222	0.27105	0.28181	0.26105	AVRG		0.26705		5.40486

000082

723 109

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
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 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 5000000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	m2	SRSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
62 1,2-Dibromoethane	0 35144	0 38541	0 41245	0 40725	0 43352	0 40927	AVRG		0 40466		6 43895
	0 44891	0 41825	0 38936	0 38072							
63 Tetrachloroethene	0 50471	0 50797	0 49384	0 51531	0 55286	0 53169	AVRG		0 53036		5 94475
	0 59506	0 56386	0 52806	0 51022							
64 1,1,1,2-Tetrachloroethane	0 57219	0 55931	0 56619	0 51172	0 58162	0 56057	AVRG		0 55085		8 93831
	0 65344	0 51781	0 50091	0 48472							
66 Chlorobenzene	1 09813	1 04449	0 99266	0 90790	1 00942	0 95713	AVRG		0 98750		9 02073
	1 15237	0 91592	0 90142	0 89558							
67 Ethylbenzene	2 28293	2 16473	2 11728	1 91171	2 11377	1 98701	AVRG		2 00828		11 42076
	2 30951	1 83223	1 73584	1 62776							

000083

720 110

Environmental Testing and Consulting, Inc.

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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	C 5000000	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	ml	m2	ASD or R ²
68 Xylene mp	0 73684	0 71418	0 65624	0 56391	0 59994	0 57126		AVRG		0 63194		11 63383
69 Bromoform	0 48755	0 49624	0 54770	0 52387	0 64044	0 52608		AVRG		0 58750		13 66451
70 trans-1,4-Dichloro-2-butene	0 17024	0 10713	0 14120	0 13302	0 15823	0 15368		AVRG		0 14537		12 59279
71 Styrene	0 27353	0 08137	0 05817	0 96322	0 05797	0 00583		AVRG		1 03598		11 02897
72 Xylene-o	0 73629	0 66658	0 61489	0 54867	0 57275	0 54104		AVRG		0 57609		14 49940

000084

720 111

Environmental Testing and Consulting, Inc.

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 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coefficients	r1	r2	VRSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
73 1,1,2,2-Tetrachloroethane	0 61177	0 58631	0 65130	0 57952	0 61358	0 58003	AVRG			0 61761		5 02629
	0 66028	0 65203	0 63825	0 60305								
74 cis-1,4-Dichloro-2-butene	0 12543	0 12562	0 14597	0 13942	0 16708	0 15140	AVRG			0 13583		14 75153
	0 16107	0 12475	0 11742	0 11009								
75 1,2,3-Trichloropropane	0 17540	0 15702	0 16702	0 15238	0 17434	0 16083	AVRG			0 15503		12 28052
	0 17277	0 13783	0 13006	0 12260								
76 Isopropylbenzene	2 02113	1 98835	1 87512	1 73132	1 91245	1 80014	AVRG			1 78987		11 33930
	1 98475	1 59396	1 53205	1 45942								
78 Bromobenzene	0 74648	0 68983	0 66505	0 61969	0 71247	0 68922	AVRG			0 67579		9 40590
	0 75422	0 63483	0 61027	0 59588								

000085

720 112

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	Coefficients										RSD or R ²
	0 5000000	1 0000	5 0000	20 0003	50 0300	100 0000	Curve	b	m1	m2	
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
79 n-Propylbenzene	2 87126	2 62301	2 31109	2 11340	2 35666	2 19298	AVRG		2 34923		12 75424
	2 41756	1 90792	.....	.....	.....	.....					
80 2-Chlorotoluene	.....	1 59802	1 57184	1 40689	1 63262	1 44353	AVRG		1 46563		10 54299
	1 56541	1 31016	1 19658	.....	.....	.....					
81 4-Chlorotoluene	1 96532	1 71251	1 56552	1 43526	1 57083	1 43314	AVRG		1 56621		13 92326
	1 61973	1 22776	.....	.....	.....	.....					
82 1,3,5-Trimethylbenzene	2 02113	1 98835	1 87512	1 73132	1 92445	1 80014	AVRG		1 78987		11 33930
	1 98475	1 59396	1 53205	1 45942	.....	.....					
83 1,2,4-Trimethylbenzene	.....	1 79770	1 63327	1 48405	1 64653	1 52233	AVRG		1 53269		11 52936
	1 68966	1 31769	1 25793	1 44508	.....	.....					

000086

720 113

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	1000000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	Coeficients	m2	MSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
85 tert-Butylbenzene	1 46464	1 15427	1 10197	1 29484	1 44291	1 34371	AVRG		1 32484		10 16953
86 sec-Butylbenzene	1 98746	2 15065	2 00368	1 83430	2 00350	1 83066	AVRG		1 82288		13 11436
87 4-Isopropyltoluene	1 67670	1 31636	1 26592	1 51468	1 64914	1 52456	AVRG		1 51394		13 08213
89 1,3-Dichlorobenzene	1 84009	1 58561	1 52148	1 50496	1 62499	1 56717	AVRG		1 68426		8 15200
90 1,4-Dichlorobenzene	1 95325	1 83958	1 56394	1 51577	1 56856	1 54065	AVRG		1 68217		8 45636

000037

720 114

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\voc4.i\410251.B\410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 500000	1 0000	5 0000	20 0000	50 0000	100 0000	Curve	b	ml	m2	MSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
	Level 7	Level 8	Level 9	Level 10							
91 1,2-Dichlorobenzene	1 67327	1 47147	1 43806	1 43199	1 53073	1 47650	AVRG		1 57430		7 37750
	1 74065	1 68553	1 65157	1 64320							
92 n-Butylbenzene	2 89362	2 57652	2 39077	2 40681	2 52217	2 37281	AVRG		2 51547		6 29438
	2 62606	2 52815	2 42547	2 41136							
93 1,2-Dibromo-3-chloropropane	0 17559	0 14024	0 16612	0 16898	0 18976	0 18041	AVRG		0 17827		9 76544
	0 20303	0 19374	0 18536	0 17947							
94 1,2,4-Trichlorobenzene	1 54881	1 31084	1 17380	1 24639	1 36469	1 39597	AVRG		1 43094		10 80039
	1 63168	1 57112	1 52797	1 53813							
95 Naphthalene	2 15604	2 15604	2 59268	2 13570	1 85293	1 83899	AVRG		1 95551		10 25370
	2 15604	2 15604	2 59268	2 13570							

000088

720 115

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\V410251.B\V410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0 5000000	1 0000	Level 2	5 0000	Level 3	20 0000	Level 4	50 0000	Level 5	100 0000	Level 6	Curve	b	Coefficients m1	m2	MSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10						
96 Hexachlorobutadiene	0 71006	0 62432	0 56973	0 59479	0 62139	0 60096								0 62721		6 33417
	0 67086	0 64179	0 61744	0 62065												
97 1,2,3-Trichlorobenzene	1 52796	1 24663	1 12141	1 15666	1 26626	1 29576								1 34997		11 20830
	1 52996	1 46835	1 43149	1 45521												
34 Dibromofluoromethane	0 41021	0 40432	0 38581	0 39154	0 44750	0 42776								0 42589		7 87342
37 1,2-Dichloroethane-d4	0 54040	0 57024	0 64343	0 63269	0 62150	0 60946								0 57391		8 87868
	0 56590	0 54353	0 51583	0 49610												
56 Toluene-d8	1 24252	1 24952	1 21868	1 25646	1 24866	1 20595								1 20288		3 97106
	1 16690	1 16053	1 15587	1 12374												

000089

720 116

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 25-OCT-2002 14:55
 End Cal Date : 25-OCT-2002 20:07
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\voc4.i\410251.B\410251.8260.m
 Cal Date : 26-Oct-2002 10:36 lisa

Compound	0.500000	1.0000	5.0000	20.0000	50.0000	100.0000	Curve	b	Coefficients	m2	MSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
	120.0000	150.0000	170.0000	200.0000							
	Level 7	Level 8	Level 9	Level 10							
5 77 Bromofluorobenzene	0.53988	0.60820	0.58452	0.57309	0.60325	0.57211	AVRG		0.53151		14.23438

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Linear	Amt = b * Rsp/ml	Response

000000

720 117

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Semi-Volatiles**

ENVIRONMENTAL TESTING & CONSULTING, INC

GC/MS BNA Sequence Check List (SW-846)

Sequence ID B1121001System ID BNA1Date 12/10/02Analyst ESM

Applicable ETC Order Nos. for this sequence:

<u>0211055</u>	<u>0212031</u>	<u>0212070</u>	<u>0212078</u>	<u>0212129</u>
<u>0211059</u>	<u>0212084</u>	<u>0212167</u>	<u>0212085</u>	

Validated

1. DFTPP Daily 12-Hour Tune Meets Criteria. No analysis begins until criteria are met. (SOP) ✓2. Degradation/Peak Tailing Check (may be combined with DFTPP Tune): ✓a. DDT to DDE/DDD $\leq 20\%$ Benzidine/PCP - Normal Response with no visible peak tailing. ✓2. Initial Calibration Verification Criteria - Method: B1101601.M ✓a. SPCC - Mean RF ≥ 0.050 ✓b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ✓c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ✓d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient ≥ 0.99 ✓

3. Calibration Verification - Each 12-Hour Shift

a. SPCC - RF ≥ 0.050 ✓b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ✓c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ✓d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$ ✓TCLP, ACIDS, PAH, + Short List 8270 Onlye. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ✓f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ✓3. Method Blanks included in this sequence: ✓

Analyze for each analytical batch (20 samples):

List compounds identified in Method Blank w/concentration.

Flag final result "B-Detected in Blank"

P09028LB $\rightarrow$ NDS01097LB $\rightarrow$

4. Matrix Spike/Matrix Spike Duplicates included in this sequence:

Analyze for each analytical batch (20 samples). List MS/MSD(s) performed with any failures: ✓0212026 01/MS/D021105901 MS/D $\Rightarrow$ 0/12 RPDs 0/24 recoveries5. Laboratory Control Samples included in this sequence: ✓

Must contain all Target Analytes

P09028 LCS/D $\rightarrow$ 3/166 recoveries outS01097 LCS $\rightarrow$ 6. Surrogate Recoveries within QC Limits ✓7. 1 positive compounds within calibration range ✓

Narrative/Notes:

000092

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Other	Test
198	Base Peak, 100% relative abundance	100.00		PASS
51	30 - 60% of mass 198	35.73		PASS
68	Less than 2% of mass 69	0.00	(0.00)	PASS
69	Mass 69 relative abundance	47.49		PASS
70	Less than 2% of mass 69	0.00	(0.00)	PASS
127	40 - 60% of mass 198	49.42		PASS
197	0 - 1% of mass 198	0.00		PASS
199	5 - 9% of mass 198	6.98		PASS
275	10 - 30% of mass 198	28.79		PASS
365	Greater than 1% of mass 198	5.13		PASS
441	Present, but less than mass 443	11.37	(79.29)	PASS
442	Greater than 40% of mass 198	72.60		PASS
443	17 - 23% of mass 442	14.34	(19.75)	PASS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	0.7496855	5.000	PASS
Benzidine	1.0265018	3.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	306869			N/A
4,4-DDE	0	0.0	15.0	PASS
4,4-DDD	0	0.0	15.0	PASS
4,4-DDD + DDE	0	0.0	15.0	PASS

Tuning Sample, //ETCBDC/DD/chem/bna1.i/B1121001.B/0101001.D/0101001.D, *** PASSED **

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

723 121

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID: 0101001

DFTPP Injection Date: 12/10/02

Instrument ID: BNA1

DFTPP Injection Time: 1119

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	35.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	47.5
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	49.4
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	28.8
365	Greater than 1.0% of mass 198	5.13
441	Present, but less than mass 443	11.4
442	Greater than 40.0% of mass 198	72.6
443	17.0 - 23.0% of mass 442	14.3 (19.8)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DCS 50		0201002	12/10/02	1133
02	P09028LB	LB	0301004	12/10/02	1216
03	P09028LCS	LCS	0401005	12/10/02	1235
04	P09028LCSD	LCSD	0501006	12/10/02	1253
05	021205501	021205501	0701008	12/10/02	1330
06	021205502	021205502	0801009	12/10/02	1349
07	021205503	021205503	0901010	12/10/02	1408
08	021205504	021205504	1001011	12/10/02	1426
09	021205505	021205505	1101012	12/10/02	1445
10	021205506	021205506	1201013	12/10/02	1503
11	021165901	021165901	1301001	12/10/02	1534
12	021165901MS	MS	1401002	12/10/02	1553
13	021165901MSD	MSD	1501003	12/10/02	1611
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

720 122

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Instrument ID: BNA1

Calibration Date: 12/10/02 Time: 1133

Lab File ID: 0201002

Init. Calib. Date(s): 10/16/02 10/16/02

Init. Calib. Times: 0837 1117

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

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,4-Dichlorobenzene	42.58	50.00	AVRG	14.8	20.0
2,4-Dinitrotoluene	45.33	50.00	AVRG	9.3	30.0
Hexachlorobenzene	43.58	50.00	AVRG	12.8	30.0
Hexachlorobutadiene	41.42	50.00	AVRG	17.2	20.0
Hexachloroethane	43.91	50.00	AVRG	12.2	30.0
2-Methylphenol	46.99	50.00	AVRG	6.0	30.0
3&4-Methylphenol	49.48	50.00	AVRG	1.0	30.0
Nitrobenzene	43.21	50.00	AVRG	13.6	30.0
Pentachlorophenol	51.66	50.00	2ORDR	3.3	20.0
Pyridine	48.18	50.00	AVRG	3.6	30.0
2,4,5-Trichlorophenol	45.52	50.00	2ORDR	9.0	30.0
2,4,6-Trichlorophenol	46.31	50.00	AVRG	7.4	20.0
=====	=====	=====	=====	=====	=====
Nitrobenzene-d5	46.41	50.00	AVRG	7.2	30.0
2-Fluorobiphenyl	50.20	50.00	AVRG	0.4	30.0
Terphenyl-d14	42.24	50.00	AVRG	15.5	30.0
Phenol-d6	53.34	50.00	AVRG	6.7	30.0
2,4,6-Tribromophenol	47.18	50.00	2ORDR	5.6	30.0
2-Fluorophenol	55.24	50.00	AVRG	10.5	30.0

FORM VII BNA-GCMS

000095

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 123

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID (Standard): 0201002

Date Analyzed: 12/10/02

Instrument ID: BNA1

Time Analyzed: 1133

	IS1 (DCB)		IS2 (NPT)		IS3 (ANT)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	162555	4.25	633217	4.93	367215	5.84
UPPER LIMIT	325110	4.75	1266434	5.43	734430	6.34
LOWER LIMIT	81278	3.75	316609	4.43	183608	5.34
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 P09028LB	175141	4.25	644610	4.93	356095	5.84
02 P09028LCS	180081	4.25	674402	4.93	394817	5.84
03 P09028LCSD	178573	4.25	648369	4.93	382435	5.84
04 021205501	206560	4.25	762562	4.93	427609	5.84
05 021205502	203210	4.25	753710	4.93	427280	5.84
06 021205503	204753	4.25	748776	4.93	438925	5.84
07 021205504	184463	4.25	684336	4.93	389313	5.84
08 021205505	185418	4.25	691358	4.93	393021	5.84
09 021205506	184658	4.25	681491	4.93	392701	5.84
10 021165901	196414	4.25	742577	4.93	423960	5.84
11 021165901MS	192890	4.25	701540	4.93	392671	5.84
12 021165901MSD	196160	4.25	736582	4.93	416841	5.84
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 124

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212055

Lab File ID (Standard): 0201002

Date Analyzed: 12/10/02

Instrument ID: BNA1

Time Analyzed: 1133

	IS4 (PHN)		IS5 (CRY)		IS6 (PRY)	
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	710538	6.59	761717	8.05	689577	9.20
UPPER LIMIT	1421076	7.09	1523434	8.55	1379154	9.70
LOWER LIMIT	355269	6.09	380859	7.55	344789	8.70
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 P09028LB	682551	6.59	671959	8.05	498600	9.19
02 P09028LCS	767492	6.59	798851	8.05	671434	9.19
03 P09028LCSD	738188	6.59	780792	8.05	636093	9.19
04 021205501	810195	6.59	823705	8.05	643626	9.19
05 021205502	829484	6.59	830573	8.05	646304	9.19
06 021205503	825220	6.59	833600	8.05	632474	9.19
07 021205504	746711	6.59	749542	8.05	570992	9.19
08 021205505	750218	6.59	762010	8.04	587190	9.19
09 021205506	730968	6.59	723373	8.05	556383	9.19
10 021165901	800038	6.59	810801	8.05	618600	9.19
11 021165901MS	743395	6.59	767317	8.05	594512	9.19
12 021165901MSD	771385	6.59	786135	8.05	605712	9.19
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

E. J. Mordy 10/16/02
 Page 1
M 10/16/02
010-17-02

Report Date : 16-Oct-2002 15:47

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-Oct-2002 08:37
 End Cal Date : 16-Oct-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

SANICAL # 01-13-72-01
SANICV # 01-13-55-01

Calibration File Names:
 Level 1: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0201013.D
 Level 2: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0301001.D
 Level 3: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0401002.D
 Level 4: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0501003.D
 Level 5: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0601004.D
 Level 6: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0701005.D
 Level 7: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0801006.D
 Level 8: \\ETCDBC\DD\chem\bna1.i\B1101601.B\0901007.D
 Level 9: \\ETCDBC\DD\chem\bna1.i\B1101601.B\1001008.D

Compound	Coefficients									RSD or R ²
	b	m1	m2	Curve	Level 6	Level 5	Level 4	Level 3	Level 2	
: N-Nitrosodimethylamine										
	0.83817	0.89048	0.78101	AVRG						0.10012

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0030 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients ml	m2	MSD or R ²
2 Pyridine	1 45412 : 43800	1 31605 1 43744	1 44582 1 35642	1 0796	1 37393	1 36775	AVRG		1 35639		10 00653
3 Methyl methanesulfonate	1 04935 0 95451	0 95666 0 93272	0 98469 0 87519	1 04794	1 01016	0 93550	AVRG		0 97286		5 88339
5 N-Nitrosodiethylamine	0 66090 0 56813	0 55807 0 59177	0 58464 0 55033	0 60373	0 58668	0 56051	AVRG		0 58609		5 51841
6 Ethyl methanesulfonate	1 17611 1 01651	1 05762 1 01865	1 06515 0 96096	1 13653	1 07793	1 01191	AVRG		1 05793		6 28559
8 Phenol	1 56705 1 60222	1 43846 1 63449	1 51921 1 58228	1 62144	1 59941	1 51451	AVRG		1 56434		4 01390
ccc											

000099

720 126

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients r1	r2	RSD or R2
9 Aniline	C 73199 C 76528	C 77818 C 77838	C 79342 C 72826	C 83911	C 80571	C 74446	AVRG		0.77387		4.67351
10 B.s.2-chloroethyl ether	1 02747 C 78712	0 86459 0 82552	0 85840 C 80388	0 88512	0 82403	0 79879	AVRG		0.85277		8.58919
11 2-Chlorophenol	1 27509 1 24898	1 15419 1 26401	1 24991 1 25981	1 28492	1 25092	1 18466	AVRG		1.24139		3.47950
12 1,3-Dichlorobenzene	1 64721 1 40406	1 52618 1 44937	1 50634 1 48564	1 44735	1 37414	1 36350	AVRG		1.46709		5.99415
14 1,4-Dichlorobenzene	1 95074 1 40406	1 54887 1 44937	1 50634 1 48564	1 44735	1 37414	1 36350	AVRG		1.50333		11.86921

ccc

000100

Report Date : 16-Oct-2002 15:47

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coeficients	m1	m2	MSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
15 Benzyl alcohol	6206	12315	33819	72668	182667	294127	QUAD	0 01780	1 27534	-0 01590	0 99941	
	477029	439775	731480									
16 2-Methylpheno:	1 01125	0 96773	0 94487	1 00516	0 96329	0 57024	AVRG		0 93135			14 72005
	0 97623	0 95872	0 98466									
17 1,2-Dichlorobenzene	1 61751	1 36219	1 35608	1 36657	1 29524	1 28565	AVRG		1 37147			7 08486
	1 33835	1 35216	1 36945									
18 B.S.(2-chloroisopropyl)ether	3238	5525	12756	27245	61090	90947	LINR	-0 05142	0 24362			0 99236
	161778	131971	215896									
19 3,4-Methy-pheno:	1 10525	1 03916	1 06798	1 11686	1 06820	1 04051	AVRG		1 07699			2 44410
	1 08314	1 09022	1 08164									

000101

720 128

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coef. cients	m2	1std of R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
20 N-Nitrosodi-n-propylamine <i>SPC</i>	0 29323	0 25575	0 25293	0 26105	0 24312	0 23815	AVRG		0 25360		6 47250
21 Acetophenone	0 51463	0 45891	0 46153	0 48293	0 46248	0 46012	AVRG		0 47741		4 37895
22 hexachlorocyclopentadiene	0 19332	0 16303	0 16376	0 16601	0 15074	0 14803	AVRG		0 16241		8 05772
24 Nitrobenzene	0 45420	0 40796	0 40505	0 40136	0 36874	0 35993	AVRG		0 39084		7 55653
25 Isopropyl alcohol	0 67741	0 59079	0 59815	0 63813	0 59472	0 58414	AVRG		0 61010		4 85216

000102

729 129

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients m1	m2	RSD or R ²
26 2,4-D-methylphenol	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
27 Benzoic acid	0 36471	0 36274	0 35448								
	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
28 2-Nitrophenol	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
29 2,4-D-chloroethoxyphenol	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
30 2,4-D-chlorophenol	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
CCC	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
28 2-Nitrophenol	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
29 2,4-D-chloroethoxyphenol	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
30 2,4-D-chlorophenol	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368
CCC	0 33749	0 29734	0 31996	0 35114	0 34103	0 31929	AVRG		0 34091		6 29368

*1 970293 = 18.8

000103

720 130

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000		5 0000		10 0000		20 0000		50 0000		80 0000		Level 5		Curve	Coefficients		b	m1		m2	VRSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	Level 13	Level 14								
31 1,2,4-Trichlorobenzene	0 37669	0 29740	0 31486	0 33471	0 31828	0 31960									AVRG			0 33197				6 89851
	0 33695	0 34200	0 34728																			
33 Naphthalene	1 10376	0 93836	0 93591	0 98732	0 94207	0 92311									AVRG			0 95654				6 43138
	0 94780	0 94755	0 88286																			
34 4-Chloroaniline	0 34490	0 32296	0 35105	0 37742	0 33449	0 35258									AVRG			0 3748				10 56301
	0 41604	0 42212	0 42177																			
35 2,6-Dichlorophenol	0 23332	0 23269	0 24865	0 27257	0 26757	0 26524									AVRG			0 26749				9 63709
	0 29040	0 29111	0 30581																			
36 Hexachlorobutadiene	0 23845	0 21179	0 20328	0 21853	0 21264	0 21931									AVRG			0 22521				6 79145
ccc	0 23751	0 23848	0 24690																			

000104

720 131

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients m1	m2	RSD or R ²
37 N-Nitrosod-butylamine	0 22834 0 23845	0 21485 0 25261	0 22492 0 24739	0 24471	0 23683	0 23228	AVRG		0 23560		5 04245
38 4-Chloro-3-methylphenol CCC	0 27213 0 30417	0 24803 0 30864	0 26896 0 31202	0 29531	0 29557	0 29123	AVRG		0 28845		7 34998
39 2-Methyl-naphthalene	0 67593 0 69773	0 61122 0 69931	0 63081 0 66420	0 68926	0 63563	0 67127	AVRG		0 66393		4 73599
40 Hexachlorocyclopentadiene SPEC	6237 553584	11536 512859	28864 858611	68553	202963	301224	QUAD	0 04495	2 86996	-0 35469	0 99641 $\times$
41 1,2,4,5-Tetrachlorobenzene	0 62076 0 66134	0 51600 0 69665	0 53421 0 69433	0 58225	0 58297	0 60836	AVRG		0 61076		10 58709

 $\times, RF = 0.23$

000105

720 132

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	r ²	VRSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					or R ²
42 2,4,6 Trichlorophenol	0 28337	0 27875	0 31304	0 37123	0 36282	0 37354	AVRG		0 35468		14 38504
43 2,4,5-Trichloropheno.	568522	12471	35715	76927	218552	339236	QUAD	0 02958	2 73400	-0 35215	0 99905
45 2-Chloronaphthalene	1 05514	0 87631	0 88547	0 94652	0 91904	0 94085	AVRG		0 95629		6 14165
46 2-Nitrocarilene	0 32726	0 33170	0 33257	0 31162	0 29764	0 31376	AVRG		0 30838		8 21572
47 4-Nitrophenol	12345	5316	17263	41536	131886	200255	LINR	0 09510	0 2613		0 99473
Spec	321718	326966	514928								*

*₁ RF = 0.18

000108

720 133

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	Level 1	5 0000	Level 2	10 0000	Level 3	20 0000	Level 4	50 0000	Level 5	80 0000	Level 6	Curve	b	Coefficients	m1	m2	RSR or R ²
48 Dimethyl- phthalate	1 38097	1 19415	1 19415	1 22826	1 22826	1 22826	1 32327	1 26809	1 26118				AVRG	1 28574				4 37213
49 2,4-Dinitrotoluene	0 26782	0 23182	0 23182	0 25408	0 25408	0 31242	0 26893	0 27229	0 27160				AVRG	0 27537				9 17499
50 Acenaphthylene	1 62681	1 41055	1 41055	1 46664	1 46664	1 49100	1 54011	1 51003	1 49859				AVRG	1 52035				4 26949
51 3-Nitroaniline	0 19714	0 24247	0 24247	0 25309	0 25309	0 23279	0 30715	0 27152	0 21680				AVRG	0 24247				13 22801
53 2,4-Dinitrophenol	4682	7623	7623	21820	21820	537218	50236	148164	227785				LNR	0 06301				0 99753
SAC	352252	358386	358386	537218	537218													

*₁ RF = 0.21

000107

720 134

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erlca

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients m1	m2	RRSD or R ²
54 Acenaphthene ccc	1 05580 1 16037	0 96377 1 18992	0 96109 1 13667	1 01647	1 06883	1 11085	AVRG		1 07380		7 70865
55 2,6-Dinitrotoluene	5697, 362558	10328 353122	27980 524022	58589	155725	239221	LINR	-0 00242	0 27092		0 99841
56 Pentachlorobenzene	0 71000 0 83887	0 68319 0 97299	0 67427 0 98047	0 72139	0 80371	0 83113	AVRG		0 80845		14 91697
57 Dibenzofuran	1 47665 1 64217	1 37627 1 66295	1 43289 1 58739	1 53590	1 44114	1 55751	AVRG		1 52365		6 47185
58 Diethyl phthalate	1 30320 1 20010	1 16287 1 27595	1 17373 1 21074	1 25066	1 18860	1 18949	AVRG		1 21726		3 97493

000100

720 135

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0003	10 0000	20 0000	50 0000	80 0000	Curve	b	Coef.f.c.ents	m1	m2	MSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
59 2,3,4,6-Tetrachlorophenol	3514	7720	24373	59660	176604	277713	QUAD	0 05268	3 29526	-0 53252	0 99889	
	470337	483969	795421									
60 4-Chlorophenyl phenyl ether	0 65125	0 58945	0 59797	0 65037	0 64617	0 66934	AVRG		0 66657			9 38626
	0 71003	0 73631	0 74826									
61 4-N-troaniline	3760	7726	24195	51277	130715	198822	QUAD	-0 01920	4 98905	-1 45948	0 99843	
	333966	326899	*****									
62 4,6-Di-n-tro-2-methylphenol	1409	3209	13099	33218	117465	186506	QUAD	0 08742	9 20633	-4 56758	0 99799	
	329562	330342	614642									
63 Fluorene	1 29736	1 14402	1 16185	1 25526	1 24279	1 25587	AVRG		1 25623			5 31053
	1 30555	1 34695	1 30038									

000109

729 136

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	60 0000	Curve	b	Coefficients m1	m2	%RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
6, N,N-tetradiphenylamine ccc	0 11521	0 10206	0 10580	0 11049	0 10473	0 11596	AVRG		0 11629		10 29650
65 1 2-Diphenylhydrazine/Azo benzene	0 10851	0 10308	0 09225	0 09906	0 09344	0 09584	AVRG		0 10128		6 60459
67 Phenacetin	7305	15309	48623	113834	338082	525098	QUAD	0 04168	3 20448	-0 25782	0 99838
68 4-Bromophenyl phenyl ether	0 22625	0 19668	0 19262	0 21309	0 21750	0 22409	AVRG		0 22691		11 36107
69 Hexachlorobenzene	0 24270	0 21083	0 21619	0 23144	0 24123	0 25912	AVRG		0 24945		13 26340

000110

720 137

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m1	m2	RSR	or R^2
Level 1	Level 2	Level 3	Level 4	Level 5	Level 6								
Level 7	Level 8	Level 9											
70 Pentachlorophenol	6605	16160	43156	144064	236720		QUAD	0.06683	7.91559	-4.23797		0.99863	*
71 Pentachlorobenzene	0.10396	0.09831	0.10415	0.11260	0.10959	0.11043	AVRG		0.11076			7.04909	
73 Phenanthrene	1.01466	0.93385	0.90219	0.93581	0.94028	0.95516	AVRG		0.94271			3.82284	
74 Anthracene	0.95198	0.82321	0.85654	0.91665	0.93687	0.93797	AVRG		0.91629			5.58569	
75 Carbazole	0.70876	0.63141	0.67597	0.72361	0.70739	0.69144	AVRG		0.70328			4.96320	

*1 90RSD = 26.2

000111

720 138

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000		5 0000		10 0000		20 0000		50 0000		80 0000		Coefficients		m2	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	b	m1		
76 Di n-butyl phthalate	1 07337	0 99625	1 05333	1 15080	1 10228	1 07489	1 04997	1 10072	0 95259				AVRG	1 06269		5 54107
77 Fluoranthene	1 12628	0 96390	1 02132	1 10656	1 11616	1 12251	1 10299	1 13667	1 01367				AVRG	1 07890		5 77100
78 Benzidine	0 30058	0 31918	0 35240	0 37812	0 31014	0 31958	0 38536	0 36610	0 35724				AVRG	0 34319		9 12603
79 Pyrene	1 07804	0 94697	0 99494	1 06247	1 07640	1 07005	1 03774	1 11746	0 99258				AVRG	1 04185		5 15641
81 Chlorobenzilate	0 46737	0 32706	0 34271	0 39229	0 39252	0 40305	0 46737	0 47165	0 47487				AVRG	0 40894		14 12740

000112

720 133

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m1	m2	WSTD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
62 Butyl benzyl phthalate	0 61346	0 47026	0 51987	0 58476	0 55294	0 55850	AVRG			0 55797		8 11787
83 3,3-Dimethylbenzidine	0 40278	0 40050	0 40671	0 45709	0 43837	0 42842	AVRG			0 44481		8 78564
84 Bis(2-ethylhexyl)phthalate	0 55643	0 55935	0 63690	0 75618	0 69948	0 72629	AVRG			0 58834		12 22237
85 3,3'-Dichlorobenzidine	7054	16351	51526	119695	342880	638466	LINR	0 68538	0 43629			0 99340
86 Benz(a)Anthracene	1 18299	1 02649	1 03413	1 10915	1 05845	1 05089	AVRG			1 08900		4 76247

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m2	MSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			m1		or R ²
88 Chrysene	1 17548	0 97849	0 99070	1 00438	0 99946	0 98514	AVRG		1 02108		6 07372
89 Di-n-octyl phthalate	1 16807	36363	134322	318990	930671	1550846	OCAD	0 03932	0 97394	0 00023	0 99918 *
90 Benzo(b)fluoranthene	1 45953	1 22113	1 22383	1 41823	1 33554	1 56185	AVRG		1 48634		14 04827
91 Benzo(k)fluoranthene	1 73983	1 26387	1 33903	1 36485	1 50410	1 37145	AVRG		1 51671		12 79198
92 Benzo(a)pyrene	1 05951	0 87662	0 97751	1 07273	1 11733	1 14565	AVRG		1 22121		12 98643

* 90 MSD = 18.0

000114

720 141

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erlca

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	#2	%RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			mi		of R ²
	100 0000	120 0000	160 0000								
	Level 7	Level 8	Level 9								
94 Indeno(1,2,3-cd)pyrene	0 74797	0 78358	0 90804	0 97560	0 93130	0 99974	AVRG		0 93284		11 43467
	0 97111	0 99676	1 08149								
95 Diberz(a,h)anthracene	9175	25296	32174	190274	525570	806813	QUAD	0 01729	1 26573	-0 05206	0 99965
	916402	1181827	*****								
96 Benzo(g,h)perylene	0 63441	0 63949	0 73825	0 75453	0 71226	0 71820					
	0 69593	0 70162	0 75181				AVRG		0 70517		6 21063
97 2-Fluorophenol	1 26183	1 17389	1 29503	1 32173	1 26340	1 30010	AVRG		1 27625		4 23127
	1 26974	1 36466	1 23588								
98 7 Pherol-d6	1 58429	1 42217	1 51559	1 64185	1 58935	1 64320	AVRG		1 59569		5 74196
	1 62250	1 75523	1 59598								

000115

720 142

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
 End Cal Date : 16-OCT-2002 11:17
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1101601.B\B1101601.M
 Cal Date : 16-Oct-2002 15:02 erica

Compound	2 0000		5 0000		10 0000		20 0000		50 0000		80 0000		Coefficients		RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	m1	m2	
100 0000	120 0000	160 0000													
Level 7	Level 8	Level 9													
23 Nitrobenzene-d5	0 50397	0 41695	0 41196	0 42405	0 38753	0 36332							0 41189		9 49477
	0 39212	0 41070	0 39644												
44 2-Fluorophenyl	28227	17467	1 23203	1 28892	1 23125	1 20001							1 26523		4 77471
	1 32892	1 36021	1 28880												
66 2,4,6-Trisbromophenol	2401	5427	17001	39787	122699	230222							0 09834	7 55626	-3 16577 0 99620
	383303	412594	651941												
80 Tetraphenyl-d4	0 91035	0 83436	0 87006	0 95891	0 91836	0 88537							0 93924		7 97895
	1 07593	1 02478	0 96433												

000116

720 143

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-OCT-2002 08:37
End Cal Date : 16-OCT-2002 11:17
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCDDC\DD\chem\bna1.i\B1101601.B\B1101601.M
Cal Date : 16-Oct-2002 15:02 erica

Curve	Formula	Units
Averaged	Amt = Rsp/m1	Response
Linear	Amt = b + m1*Rsp/m1	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

60011.

729 144

BACKGROUND ANALYSIS REPORT



ENVIRONMENTAL TESTING & CONSULTING, INC.

2924 Walnut Grove Road • Memphis TN 38111 • (901) 327-2750 • FAX (901) 327-6331

Founded 1972

December 27, 2002

Mr. Kraig Smith
 Jacobs
 600 William Northern Blvd.
 Tullahoma, TN 37388

Ref: Analytical Testing
 ETC Order # 0212293
 Project Description Memphis Depot
 Pistol Range
 Project Number C5X51112

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

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

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

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

Sincerely,

Connie Bradberry
 Laboratory Project Manager

rt
 Attachment

JACOBS_DDMT

Certifications

Tennessee #02027
 Arkansas
 Kentucky #90047
 Alabama #40750
 Illinois #000537

Mississippi
 Oklahoma #9311
 Virginia #00106
 Louisiana DEQ #04015
 USACE_HTRW

USDA #S-46279
 EPA #TN00012
 NELAP #04015

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

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

Q	Surrogate Recovery Outside QC Limits
J	Estimated Value. Presence of the compound was confirmed but less than the reported detection limit.
E	Concentration exceeds the established method calibration range but is within the working range of the instrument.
B	Analyte detected in the associated Method Blank.
U	Reported result was unconfirmed. Refer to Case Narrative.
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.

729 143

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name Jacobs
Site ID Memphis Depot
Pistol Range

C5X51112

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Sample Date</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
021229301	BG-1	12/10/02	SOIL	6010B	Silver
021229301	BG-1	12/10/02	SOIL	6010B	Aluminum
021229301	BG-1	12/10/02	SOIL	6010B	Arsenic
021229301	BG-1	12/10/02	SOIL	6010B	Barium
021229301	BG-1	12/10/02	SOIL	6010B	Beryllium
021229301	BG-1	12/10/02	SOIL	6010B	Calcium
021229301	BG-1	12/10/02	SOIL	6010B	Cadmium
021229301	BG-1	12/10/02	SOIL	6010B	Cobalt
021229301	BG-1	12/10/02	SOIL	6010B	Chromium
021229301	BG-1	12/10/02	SOIL	6010B	Copper
021229301	BG-1	12/10/02	SOIL	6010B	Iron
021229301	BG-1	12/10/02	SOIL	7471A	Mercury
021229301	BG-1	12/10/02	SOIL	6010B	Potassium
021229301	BG-1	12/10/02	SOIL	6010B	Magnesium
021229301	BG-1	12/10/02	SOIL	6010B	Manganese
021229301	BG-1	12/10/02	SOIL	6010B	Sodium
021229301	BG-1	12/10/02	SOIL	6010B	Nickel
021229301	BG-1	12/10/02	SOIL	6010B	Lead
021229301	BG-1	12/10/02	SOIL	6010B	Antimony
021229301	BG-1	12/10/02	SOIL	6010B	Selenium
021229301	BG-1	12/10/02	SOIL	6010B	Thallium
021229301	BG-1	12/10/02	SOIL	6010B	Vanadium
021229301	BG-1	12/10/02	SOIL	6010B	Zinc
021229301	BG-1	12/10/02	SOIL	8260B	GC/MS Volatile Organics
021229301	BG-1	12/10/02	SOIL	8270C	GC/MS Base/Neutral & Acid
021229301	BG-1	12/10/02	SOIL	8081A	Organochlorine Pesticides
021229301	BG-1	12/10/02	SOIL	8082	PCBs

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**



Environmental Testing & Consulting, Inc
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order: 02/2293

729 150

[illegible]

Distribution

Original and Yellow accompany samples to the laboratory Pink copy for Field Crew

Original copy returned with results Yellow copy for ETC, inc files

F:\CAQC\SL\OP\COC\0896.XLS

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date/Time Received 12/10/02-15:00
 Date/Time Checked In 12/10/02-15:00
 Carrier/Bill# Client hand-delivered

LIMS# 0212-293
 Project Memphis Depot
Pistol Range
 By Rebekah Barger

1. Custody Seals?/Location-	No
2. Samples are non-radioactive?	Yes
3. Chain of Custody in plastic?	Yes
4. Temperature at receipt (ok = 4 ± 2 °C) < 40C	OK
5. Ice & Packing- bubble wrap, ice	Yes
6. Chain of Custody filled out properly?	Yes
7. All containers in separate bags?	Yes
8. Sample containers intact?	Yes
9. Label(s) complete and in good condition?	Yes
10. Label(s) agree with Chain of Custody?	Yes
11. Correct containers used?	Yes
12. Sufficient sample?	Yes
13. VOA via's bubble-free (H ₂ O) or no head space (soil)?	Yes
14. Preservation OK? TM pH ____; TRPH pH ____; TOC pH ____, TOX pH ____; CN pH ____; N/P pH ____; Other pH ____	Yes

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

Memphis, TN
PERCENT SOLIDS

729 153

Client Name
Project Name

Jacobs
Memphis Depot
Pistol Range

Date Sample Received 12/10/02
Contract Laboratory Order Number 0212-293

<u>ETC, Inc.</u> <u>Sample No</u>	<u>Field</u> <u>ID</u>	<u>Date</u> <u>Sampled</u>	<u>Result</u> <u>Units : (%)</u>	<u>Date</u> <u>Analyzed</u>	<u>Method</u>	<u>By</u>
0212-293-01	BG-1	12/10/02	78	12/11/02	160 3	GD

JB
Data Validator

000007

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 154

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Memphis Depot**
Pistol RangeDate Arrived **12/10/02**
ETC Order Number **0212293**ETC Lab ID **0212293-01**
Field ID **BG-1**Matrix **SOIL**
Sample Date **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-36				12/11/02		3051
Mercury Digestion Batch	V9-SO-25				12/12/02	JF	7471A
Silver	ND	mg/Kg	0.500	12/11/02	12/11/02	SH	6010B
Aluminum	12,400	mg/Kg	10.0	12/17/02	12/11/02	SH	6010B
Arsenic	9.09	mg/Kg	0.600	12/11/02	12/11/02	SH	6010B
Barium	106	mg/Kg	2.00	12/11/02	12/11/02	SH	6010B
Beryllium	0.505	mg/Kg	0.050	12/11/02	12/11/02	SH	6010B
Calcium	1,790	mg/Kg	10.0	12/11/02	12/11/02	SH	6010B
Cadmium	ND	mg/Kg	0.100	12/11/02	12/11/02	SH	6010B
Cobalt	7.64	mg/Kg	1.00	12/11/02	12/11/02	SH	6010B
Chromium	20.1	mg/Kg	0.500	12/11/02	12/11/02	SH	6010B
Copper	16.7	mg/Kg	0.500	12/11/02	12/11/02	SH	6010B
Iron	19,000	mg/Kg	12.0	12/17/02	12/11/02	SH	6010B
Mercury	0.046	mg/Kg	0.020	12/13/02	12/12/02	JF	7471A
Potassium	1,140	mg/Kg	10.0	12/17/02	12/11/02	SH	6010B
Magnesium	2,140	mg/Kg	10.0	12/11/02	12/11/02	SH	6010B
Manganese	541	mg/Kg	1.00	12/11/02	12/11/02	SH	6010B
Sodium	ND	mg/Kg	20.0	12/11/02	12/11/02	SH	6010B
Nickel	16.0	mg/Kg	1.00	12/11/02	12/11/02	SH	6010B
Lead	54.0	mg/Kg	0.400	12/11/02	12/11/02	SH	6010B
Antimony	ND	mg/Kg	1.00	12/11/02	12/11/02	SH	6010B
Selenium	ND	mg/Kg	0.600	12/11/02	12/11/02	SH	6010B
Thallium	ND	mg/Kg	1.00	12/11/02	12/11/02	SH	6010B
Vanadium	25.9	mg/Kg	2.00	12/11/02	12/11/02	SH	6010B
Zinc	63.8	mg/Kg	1.00	12/11/02	12/11/02	SH	6010B

RT
Data Validator

ND Not Detected

000008

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 155

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**
Pistol Range
 FID #

Date Arrived **12/10/02**
 ETC Order Number **0212293**

ETC Lab ID **0212293-01**
 Field ID : **BG-1**

Matrix : **SOIL**
 Sample Date **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				12/17/02	LS	8260B 5030A
QC Batch	V412171					
Dilution Factor	1					
Acetone	ND	ug/Kg	51.2			
Acetonitrile	ND	ug/Kg	128			
Acrolein	ND	ug/Kg	51.2			
Acrylonitrile	ND	ug/Kg	51.2			
Benzene	ND	ug/Kg	2.56			
Bromobenzene	ND	ug/Kg	2.56			
Bromochloromethane	ND	ug/Kg	2.56			
Bromodichloromethane	ND	ug/Kg	2.56			
Bromoform	ND	ug/Kg	2.56			
Bromomethane(Methyl Bromide)	ND	ug/Kg	2.56			
n-Butylbenzene	ND	ug/Kg	2.56			
sec-Butylbenzene	ND	ug/Kg	2.56			
tert-Butylbenzene	ND	ug/Kg	2.56			
2-Butanone (MEK)	ND	ug/Kg	51.2			
Carbon Disulfide	ND	ug/Kg	2.56			
Carbon Tetrachloride	ND	ug/Kg	2.56			
Chlorobenzene	ND	ug/Kg	2.56			
Chlorodibromomethane	ND	ug/Kg	2.56			
Chloroethane	ND	ug/Kg	2.56			
2-Chloroethyl vinyl ether	ND	ug/Kg	12.8			
Chloroform	ND	ug/Kg	2.56			
Chloromethane	ND	ug/Kg	2.56			
2-Chlorotoluene	ND	ug/Kg	2.56			
4-Chlorotoluene	ND	ug/Kg	2.56			
1,2-Dibromo-3-Chloropropane	ND	ug/Kg	12.8			
1,2-Dibromoethane	ND	ug/Kg	2.56			
Dibromomethane	ND	ug/Kg	2.56			
1,2-Dichlorobenzene	ND	ug/Kg	2.56			
1,3-Dichlorobenzene	ND	ug/Kg	2.56			
1,4-Dichlorobenzene	ND	ug/Kg	2.56			
Dichlorodifluoromethane	ND	ug/Kg	2.56			
1,1-Dichloroethane	ND	ug/Kg	2.56			
1,2-Dichloroethane	ND	ug/Kg	2.56			
1,1-Dichloroethene	ND	ug/Kg	2.56			
cis-1,2-Dichloroethene	ND	ug/Kg	2.56			
trans-1,2-Dichloroethene	ND	ug/Kg	2.56			
1,2-Dichloropropane	ND	ug/Kg	2.56			
1,3-Dichloropropane	ND	ug/Kg	2.56			
2,2-Dichloropropane	ND	ug/Kg	2.56			
1,1-Dichloropropene	ND	ug/Kg	2.56			
cis-1,3-Dichloropropene	ND	ug/Kg	2.56			
trans-1,3-Dichloropropene	ND	ug/Kg	2.56			
Ethyl Acetate	ND	ug/Kg	25.6			
Ethylbenzene	ND	ug/Kg	2.56			
Hexachlorobutadiene	ND	ug/Kg	2.56			
2-Hexanone (MBK)	ND	ug/Kg	12.8			
Iodomethane	ND	ug/Kg	12.8			

CS
 Data Validator ND Not Detected

Q - Recovery Outside QC Limits

000009
 ** - Method Detection Limit

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 156

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**
Pistol Range
FID #

Date Arrived **12/10/02**
ETC Order Number **0212293**

ETC Lab ID **0212293-01**
Field ID **BG-1**

Matrix **SOIL**
Sample Date **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Volatile Organics				12/17/02	LS	8260B 5030A
Isopropylbenzene	ND	ug/Kg	2.56			
4-Isopropyltoluene	ND	ug/Kg	2.56			
Methylene Chloride	19.6B	ug/Kg	12.8			
4-Methyl-2-pentanone (MIBK)	ND	ug/Kg	12.8			
Methyl-terbutyl-Ether	ND	ug/Kg	12.8			
Naphthalene	ND	ug/Kg	12.8			
n-Propylbenzene	ND	ug/Kg	2.56			
Styrene	ND	ug/Kg	2.56			
1,1,1,2-Tetrachloroethane	ND	ug/Kg	2.56			
1,1,2,2-Tetrachloroethane	ND	ug/Kg	2.56			
Tetrachloroethene	ND	ug/Kg	2.56			
Toluene	ND	ug/Kg	5.12			
1,2,3-Trichlorobenzene	ND	ug/Kg	2.56			
1,2,4-Trichlorobenzene	ND	ug/Kg	2.56			
1,1,1-Trichloroethane	ND	ug/Kg	2.56			
1,1,2-Trichloroethane	ND	ug/Kg	2.56			
Trichloroethene	ND	ug/Kg	2.56			
Trichlorofluoromethane	ND	ug/Kg	2.56			
1,2,3-Trichloropropane	ND	ug/Kg	2.56			
1,2,4-Trimethylbenzene	ND	ug/Kg	2.56			
1,3,5-Trimethylbenzene	ND	ug/Kg	2.56			
Vinyl Acetate	ND	ug/Kg	25.6			
Vinyl Chloride	ND	ug/Kg	2.56			
Xylenes-m,p	ND	ug/Kg	5.12			
Xylene-o	ND	ug/Kg	2.56			

Surrogate Standard	% Recovery	QC Limits
S1 - Dibromofluoromethane	99	79 125
S2 - Toluene-d8	95	84 117
S3 - 4-Bromofluorobenzene	111	52 135
S4 - 1,2-Dichloroethane-d4	81	48 136

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

729 157
CLIENT SAMPLE NO.

021229301

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Sample ID: 021229301

Sample wt/vol: 5.2 (g/mL) G

Lab File ID: 0801013

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/17/02

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Number TICs found: 1

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
1. 66-25-1	HEXANAL	8.23	1.69	NJ
2.				
3.				
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FORM I VOA-GCMS-TIC

000011

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 158

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**
Pistol Range
 FID #

Date Arrived **12/10/02**
 ETC Order Number **0212293**

ETC Lab ID **0212293-01**
 Field ID **BG-1**

Matrix **SOIL**
 Sample Date : **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Base/Neutral & Acid				12/17/02	EM	8270C 3550B
QC Batch	S01099					
Dilution Factor	1					
Acenaphthene	ND	ug/Kg	85.8			
Acenaphthylene	ND	ug/Kg	85.8			
Anthracene	10.4J	ug/Kg	85.8			
Benzo(a)anthracene	67.0J	ug/Kg	85.8			
Benzo(b)fluoranthene	66.0J	ug/Kg	85.8			
Benzo(k)fluoranthene	98.6	ug/Kg	85.8			
Benzo(g,h,i)perylene	48.8J	ug/Kg	85.8			
Benzo(a)pyrene	95.1	ug/Kg	85.8			
Benzoic Acid	ND	ug/Kg	2140			
Benzyl Alcohol	ND	ug/Kg	218			
Bis(2-chloroethoxy)methane	ND	ug/Kg	218			
Bis(2-chloroethyl)ether	ND	ug/Kg	218			
Bis(2-chloroisopropyl)ether	ND	ug/Kg	218			
Bis(2-ethylhexyl)phthalate	ND	ug/Kg	218			
4-Bromophenyl phenyl ether	ND	ug/Kg	218			
Butyl benzyl phthalate	ND	ug/Kg	218			
4-Chloroaniline	ND	ug/Kg	218			
2-Chloronaphthalene	ND	ug/Kg	218			
4-Chloro-3-methylphenol	ND	ug/Kg	218			
2-Chlorophenol	ND	ug/Kg	218			
4-Chlorophenyl phenyl ether	ND	ug/Kg	218			
Chrysene	88.3	ug/Kg	85.8			
Dibenzo(a,h)anthracene	48.5J	ug/Kg	85.8			
Dibenzofuran	ND	ug/Kg	218			
Di-n-butyl phthalate	ND	ug/Kg	218			
3,3'-Dichlorobenzidine	ND	ug/Kg	218			
2,4-Dichlorophenol	ND	ug/Kg	218			
2,6-Dichlorophenol	ND	ug/Kg	218			
Diethyl phthalate	ND	ug/Kg	218			
2,4-Dimethylphenol	ND	ug/Kg	218			
Dimethyl phthalate	ND	ug/Kg	218			
4,6-Dinitro-2-methylphenol	ND	ug/Kg	218			
2,4-Dinitrophenol	ND	ug/Kg	422			
2,4-Dinitrotoluene	ND	ug/Kg	218			
2,6-Dinitrotoluene	ND	ug/Kg	218			
Di-n-octyl phthalate	ND	ug/Kg	218			
Fluoranthene	145	ug/Kg	85.8			
Fluorene	ND	ug/Kg	85.8			
Hexachlorobenzene	ND	ug/Kg	218			
Hexachlorobutadiene	ND	ug/Kg	218			
Hexachlorocyclopentadiene	ND	ug/Kg	218			
Hexachloroethane	ND	ug/Kg	218			
no(1,2,3-cd)pyrene	55.9J	ug/Kg	85.8			
horone	ND	ug/Kg	218			
2-Methylnaphthalene	ND	ug/Kg	218			
2-Methylphenol (o-cresol)	ND	ug/Kg	218			
4-Methylphenol (p-cresol)	ND	ug/Kg	218			


 Data Validator ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 159

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**
Pistol Range
FID #

Date Arrived **12/10/02**
ETC Order Number **0212293**

ETC Lab ID **0212293-01**
Field ID **BG-1**

Matrix **SOIL**
Sample Date **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
GC/MS Base/Neutral & Acid				12/17/02	12/13/02	EM 8270C 3550B
Naphthalene	ND	ug/Kg	85 8			
Nitrobenzene	ND	ug/Kg	218			
2-Nitroaniline	ND	ug/Kg	218			
3-Nitroaniline	ND	ug/Kg	218			
4-Nitroaniline	ND	ug/Kg	218			
2-Nitrophenol	ND	ug/Kg	218			
4-Nitrophenol	ND	ug/Kg	218			
N-Nitrosodiphenylamine	ND	ug/Kg	218			
N-Nitrosodipropylamine	ND	ug/Kg	218			
Pentachlorophenol	ND	ug/Kg	218			
Phenanthrene	68 31	ug/Kg	85 8			
Phenol	ND	ug/Kg	218			
Pyrene	118	ug/Kg	85 8			
2,4,5-Trichlorophenol	ND	ug/Kg	218			
2,4,6-Trichlorophenol	ND	ug/Kg	218			

Surrogate Standard	% Recovery	QC Limits
S1 - Nitrobenzene-d5	86	25 110
S2 - 2-Fluorobiphenyl	88	33 114
S3 - 4-Terphenyl-d14	112	37 115
S4 - Phenol-d6	90	11 125
S5 - 2,4,6-Tribromophenol	84	9 134
S6 - 2-Fluorophenol	84	10 119


Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

000013

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

729 160
CLIENT SAMPLE NO.

021229301

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Sample ID: 021229301

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 0601006

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 12/17/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: 7.0

Number TICs found: 7

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 115-19-5	3-BUTYN-2-OL, 2-METHYL-	2.96	315.7	NJ
2. 14617-88-0	2-BUTENOIC ACID, 4-NITROPHEN	3.18	255.0	NJ
3. 111-90-0	ETHANOL, 2-(2-ETHOXYETHOXY) -	4.12	153.9	NJ
4. 57-10-3	HEXADECANOIC ACID	6.76	185.6	NJ
5. 646-31-1	TETRACOSANE	8.67	165.7	NJ
6. 593-45-3	OCTADECANE	9.28	140.2	NJ
7. 4630-07-3	NAPHTHALENE, 1,2,3,5,6,7,8,8	10.43	223.7	NJ
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FORM I BNA-GCMS-TIC

000014

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 161

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tulahoma, TN 37388

Site ID **Memphis Depot**
Pistol Range
FID #

Date Arrived **12/10/02**
ETC Order Number **0212293**

ETC Lab ID **0212293-01**
Field ID **BG-1**

Matrix · SOIL
Sample Date · **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
Organochlorine Pesticides				12/18/02	12/13/02	MK 8081A 3550B
QC Batch	P08028					
Dilution Factor	10					
Aldrin	ND	ug/Kg	2.56			
Alpha-BHC	ND	ug/Kg	2.56			
Beta-BHC	ND	ug/Kg	2.56			
Delta-BHC	ND	ug/Kg	2.56			
gamma-BHC (Lindane)	ND	ug/Kg	2.56			
Alpha-Chlordane	ND	ug/Kg	2.56			
Gamma-Chlordane	ND	ug/Kg	2.56			
Chlordane	ND	ug/Kg	25.6			
4,4'-DDD	2.56	ug/Kg	2.56			
4,4'-DDE	32.6	ug/Kg	2.56			
4,4'-DDT	18.7	ug/Kg	2.56			
Dieldrin	237	ug/Kg	2.56			
Endosulfan I	ND	ug/Kg	2.56			
Endosulfan II	ND	ug/Kg	2.56			
Endosulfan Sulfate	ND	ug/Kg	2.56			
Endrin	ND	ug/Kg	2.56			
Endrin Aldehyde	ND	ug/Kg	2.56			
Endrin Ketone	ND	ug/Kg	2.56			
Heptachlor	ND	ug/Kg	2.56			
Heptachlor Epoxide	ND	ug/Kg	2.56			
Methoxychlor	ND	ug/Kg	2.56			
Toxaphene	ND	ug/Kg	256			
Surrogate Standard			% Recovery	QC Limits		
S1 - Decachlorobiphenyl	121			37	165	
S2 - Tetrachloro-m-xylene	79			18	158	

Data Validator

ND - Not Detected

Q - Recovery Outside QC Limits

** - Method Detection Limit

000015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 162

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Memphis Depot**
Pistol Range
FID #

Date Arrived **12/10/02**
ETC Order Number **0212293**

ETC Lab ID **0212293-01**
Field ID **BG-1**

Matrix - **SOIL**
Sample Date **12/10/02**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE EXTRACTED BY	METHOD
PCBs				12/17/02	12/13/02	MK 8082 3550B
QC Batch	P10038					
Dilution Factor	1					
PCB-1016	ND	ug/Kg	44 8			
PCB-1221	ND	ug/Kg	44 8			
PCB-1232	ND	ug/Kg	44 8			
PCB-1242	ND	ug/Kg	44 8			
PCB-1248	ND	ug/Kg	44.8			
PCB-1254	ND	ug/Kg	44 8			
PCB-1260	ND	ug/Kg	44 8			
<u>Surrogate Standard</u>	<u>% Recovery</u>		<u>QC Limits</u>			
S1 - Tetrachloro-m-xylene	77		20 122			
S2 - Decachlorobiphenyl	94		17 141			

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
Metals (ICP/GFAA/CV)**

CASE NARRATIVE

METALS-SOIL

Client Name Jacobs
Project Name Memphis Depot
Pistol Range

ETC Order # 0212-293

HOLDING TIMES

QC Batch(s) for this order	ICP Metals	V17-SO-36
	Mercury	V9-SO-25

Sample Preparation/Analysis	All samples digested/ analyzed within holding time
Mercury Preparation/Analysis	All samples analyzed within 28 days of collection

METHOD

Preparation	SW-846 3051/7471A
Analysis	SW-846 6010B/7471A

CALIBRATION

Initial Calibration	All criteria met
Continuing Calibration	All criteria met

SAMPLE ANALYSIS

Instrumentation	Thermo Jarrell Ash Enviro-I ICP CETAC M-6000A Mercury Analyzer
Dilutions Required	Dilutions performed as indicated on the Dilution Summary Table

QUALITY CONTROL

Method Blank

V17-SO-36BLK	ICP Metals
V9-SO-25BLK	Mercury

Calcium was identified in the method blank at 11.1 mg/L. This level was less than 5% of the lowest level identified in the associated project samples. Per ETC, Inc. policy, the sample result was not flagged. The data was not affected.

Laboratory Control Sample(s)

V17-SO-36LCS	ICP Metals
V9-SO-25	Mercury

All acceptance criteria met

Matrix Spike / Matrix Spike Dup - ICP Metals

0212-293-01	RPD	All analytes within QC limits
BG-1	Spike Recovery	All analytes within QC limits

Refer to Form 9 Serial Dilutions and Form 5B for Post Digestion Spikes. All acceptance criteria met. Refer to Laboratory Control Sample(s) for system verification.

Matrix Spike / Matrix Spike Dup - Hg

0212-293-01	RPD	All analytes within QC limits
BG-1	Spike Recovery	All analytes within QC limits

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

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 +/-25% of expected value for ICP
----------------------	---

LB
Project Manager

FORM 3A
SOLID METHOD BLANK
METALS

729 165

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals	<u>V17-SO-36</u> BLK	QC Batch <u>V17-SO-36</u>
Laboratory ID Mercury	<u>V9-SO-25</u> BLK	<u>V9-SO-25</u>
Date Sample Prepared	<u>12/11/02</u> ICP/GFAA Metals	
	<u>12/12/02</u> Mercury	

Metals	Concentration mg/Kg	Detection Limit mg/Kg	Date Analyzed	Method
Silver	ND	0.500	12/11/02	6010B
Aluminum	ND	10.0	12/11/02	6010B
Arsenic	ND	0.600	12/11/02	6010B
Barium	ND	2.00	12/11/02	6010B
Beryllium	ND	0.050	12/11/02	6010B
Calcium	11.1	10.0	12/17/02	6010B
Cadmium	ND	0.100	12/11/02	6010B
Cobalt	ND	1.00	12/11/02	6010B
Chromium	ND	0.500	12/11/02	6010B
Copper	ND	0.500	12/11/02	6010B
Iron	ND	12.0	12/11/02	6010B
Potassium	ND	10.0	12/11/02	6010B
Magnesium	ND	10.0	12/11/02	6010B
Manganese	ND	1.00	12/11/02	6010B
Sodium	ND	20.0	12/11/02	6010B
Nickel	ND	1.00	12/11/02	6010B
Lead	ND	0.400	12/11/02	6010B
Antimony	ND	1.00	12/11/02	6010B
Selenium	ND	0.600	12/11/02	6010B
Thallium	ND	1.00	12/11/02	6010B
Vanadium	ND	2.00	12/11/02	6010B
Zinc	ND	1.00	12/11/02	6010B
Mercury	ND	0.020	12/13/02	7471A

ND - Not Detected

Reviewed by 

0212-293 mqc BLANK

000019

FORM 7
SOLID LABORATORY CONTROL SAMPLE
METALS

Lab Name: Environmental Testing and Consulting, Inc

Laboratory Control ID	ICP/GFAA Metals <u>V17-SO-36</u> LCS	QC Batch <u>V17-SO-36</u>
	Mercury <u>V9-SO-25</u> LCS	<u>V9-SO-25</u>
Date Prepared	ICP/GFAA Metals <u>12/11/02</u>	
	Mercury <u>12/12/02</u>	

Metals	Spike Added mg/Kg	Found mg/Kg	% R	QC Limits	
				#	
Silver	20 0	21 1	106	80	120
Aluminum	200	214	107	80	120
Arsenic	8 00	8 54	107	80	120
Barium	200	205	103	80	120
Beryllium	20 0	21 6	108	80	120
Calcium	400	443	111	80	120
Cadmium	1 60	1 56	98	80	120
Cobalt	100	106	106	80	120
Chromium	40 0	42 4	106	80	120
Copper	40 0	43 3	108	80	120
Iron	200	218	109	80	120
Potassium	400	438	110	80	120
Magnesium	400	417	104	80	120
Manganese	20 0	21 5	108	80	120
Sodium	400	411	103	80	120
Nickel	100	106	106	80	120
Lead	8 00	8 10	101	80	120
Antimony	16 0	16 1	101	80	120
Selenium	8 00	7 90	99	80	120
Thallium	8 00	7 99	100	80	120
Vanadium	100	105	105	80	120
Zinc	20 0	21 9	110	80	120
Mercury	0 167	0 158	95	85	115

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by

0212-293 mqc LCS

000020

FORM 6
SOLID MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals	0212-293-01	QC Batch V17-SO-36
Laboratory ID MS Mercury	0212-293-01	V9-SO-25
Date Sample Prepared	12/11/02	ICP/GFAA Metals
	12/12/02	Mercury

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MS Conc mg/Kg	RPD <20% #	MS % Rec #	QC Limits	
Silver	24 7	ND	23 1	0	94	75	125
Aluminum	247	12400	16400	23 *	1619 *	75	125
Arsenic	9 88	9 09	18 6	5	96	75	125
Barium	247	106	354	6	100	75	125
Beryllium	24 7	0 505	25 0	1	99	75	125
Calcium	494	1790	2200	4	83	75	125
Cadmium	1 98	ND	1 44	5	73 *	75	125
Cobalt	124	7 64	126	2	95	75	125
Chromium	49.4	20 1	66 9	1	95	75	125
Copper	49 4	16 7	66 0	1	100	75	125
Iron	247	19000	21700	6	1093 *	75	125
Potassium	494	1140	1690	8	111	75	125
Magnesium	494	2140	2880	13	150 *	75	125
Manganese	24 7	541	423	28 *	-478 *	75	125
Sodium	494	ND	481	1	97	75	125
Nickel	124	16 0	135	2	96	75	125
Lead	9.88	54 0	40 3	20	-139 *	75	125
Antimony	19 8	ND	ND	0	0 *	75	125
Selenium	9 88	ND	9 06	3	92	75	125
Thallium	9 88	ND	10 1	3	102	75	125
Vanadium	124	25 9	138	2	90	75	125
Zinc	24 7	63 8	89 2	6	103	75	125
Mercury	0 211	0 046	0 251	17	97	80	120

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0212-293 mqc MSMSD

000021

FORM 6
SOLID MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name Environmental Testing and Consulting, Inc

	QC Batch	
Laboratory ID MS ICP/GFAA Metals	0212-293-01	V17-SO-36
Laboratory ID MS Mercury	0212-293-01	V9-SO-25
Date Sample Prepared	12/11/02	ICP/GFAA Metals
	12/12/02	Mercury

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MSD Conc mg/Kg		MSD % Rec	#	QC Limits	
Silver	25.4	ND	23.1		91		75	125
Aluminum	254	12400	13000		236	*	75	125
Arsenic	10.2	9.09	17.7		84		75	125
Barium	254	106	333		89		75	125
Beryllium	25.4	0.505	24.8		96		75	125
Calcium	510	1790	2110		63	*	75	125
Cadmium	2.04	ND	1.52		75		75	125
Cobalt	127	7.64	128		95		75	125
Chromium	51.0	20.1	66.5		91		75	125
Copper	51.0	16.7	65.2		95		75	125
Iron	254	19000	20500		591	*	75	125
Potassium	510	1140	1560		82		75	125
Magnesium	510	2140	2520		75		75	125
Manganese	25.4	541	559		71	*	75	125
Sodium	510	ND	487		95		75	125
Nickel	127	16.0	132		91		75	125
Lead	10.2	54.0	49.3		-46	*	75	125
Antimony	20.4	ND	ND		0	*	75	125
Selenium	10.2	ND	8.79		86		75	125
Thallium	10.2	ND	10.4		102		75	125
Vanadium	127	25.9	135		86		75	125
Zinc	25.4	63.8	84.2		80		75	125
Mercury	0.203	0.046	0.212		82		80	120

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0212-293 mqc MSMSD

000022

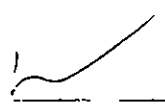
FORM 5B
POST DIGESTION SPIKE
METALS

Lab Name Environmental Testing and Consulting, Inc

QC Batch ICP/GFAA Metals V17-SO-36Date Sample Prepared 12/11/02 ICP/GFAA Metals

Metals	Spike Expected ug/L	Spike Found ug/L	% Recovery	QC Limits	
Antimony	50.0	44.3	89	75	125

Post Digestion Spikes (PDS) were performed on those analytes with recoveries outside QC limits for both the MS and MSD that are less than 25 times the method detection limit

Reviewed by 

PDS 0212-293 mqc

000023

FORM 9
SERIAL DILUTIONS
METALS

Lab Name Environmental Testing and Consulting, Inc

QC Batch ICP/GFAA Metals V17-SO-36Date Prepared 12/11/02 ICP/GFAA Metals

Analyte	Initial Sample Result	Serial Dilution Result	Serial Dilution	% Difference
Aluminum	1 5 12400	12300	1 25	1
Calcium	1790	1850	1 5	3
Iron	1 5 19000	19000	1 25	0
Magnesium	2140	2170	1 5	1
Manganese	541	569	1 5	5
Lead	54 0	56.2	1 5	4

ND - Not Detected

% Difference should be within 10% of the undiluted/lowest dilution result

Reviewed by 

Serial Dilution 0212-293 mqc

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
GC Method - Petroleum Hydrocarbons**

CASE NARRATIVE
GC/MS VOLATILE COMPOUNDS – AQUEOUS

Client Name Jacobs
 Project Name Memphis Depot
 Pistol Range

ETC Order # 0212-293

SAMPLE PRESERVATION

All soil samples preserved with sodium bisulfate within 48 hours of sampling
 All soil samples maintained at 4 degrees C until analysis

HOLDING TIMES

Sample Analysis All samples analyzed within 14 days of collection

METHOD

Preparation SW-846 5030A
 Analysis SW-846 8260B

QUALITY CONTROL

QC Batch Form 4 Summary
 V412171 V412171LB

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits, except as listed below

Method Blank FORM 4

V412171LB

Target analytes were not detected in the method blank, except as listed below

Methylene Chloride was identified in the method blank. This analyte was reported in associated project samples. The method blank was greater than 5% of the level detected in the associated project samples. Per ETC, Inc. policy, the results were flagged "B - Detected in Blank" to indicate that the presence of this analyte was due to laboratory contamination.

Laboratory Control Sample FORM 3

V412171LCS

All target analyte acceptance criteria met, except as listed below

Multiple analytes, including Methylene Chloride, were flagged for high recoveries in the LCS. Methylene Chloride was reported in the associated project sample. Result for this analyte should be considered an estimated value.

Matrix Spike / Matrix Spike Dup FORM 3

Batch V412171

0212-293-01 RPD All analytes within QC limits

BG-1 Spike Recovery All analytes within QC limits

Multiple analytes were flagged outside the recovery range and the RPD range for the MS/MSD. Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

BI B Daily 12-Hour Tune All criteria met FORM 5

Initial Calibration All criteria met FORM 6

Calibration Verification % Differences/% Drift (%D) < 30% FORM 7

Multiple analytes were flagged for high % Differences in the CV. These analytes were not reported in the associated project samples. The data was not affected.

Volatiles Internal Standard Area and RI FORM 8

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits

CASE NARRATIVE

GC/MS VOLATILE COMPOUNDS - AQUEOUS

Client Name
Project Name

Jacobs
Memphis Depot
Pistol Range

SAMPLE ANALYSIS

Instrumentation	HP 5890 Series II GC, 5971MSD
Dilutions	Dilutions were not required
% Solids Adjustment	Sample results and detection limits were adjusted for % solids



Project Manager

FORM 2
SOIL VOA-GCMS SYSTEM MONITORING COMPOUND RECOVERY

729 174

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Level: (low/med) LOW

	CLIENT SAMPLE NO.	SMC1 (DFM) #	SMC2 (TOL) #	SMC3 (BFB) #	OTHER (DCE) #	TOT OUT
01	V4121711LCS	93	94	98	72	0
02	V4121711LB	106	91	113	92	0
03	021229301	99	95	111	81	0
04	021229301MS	104	101	119	96	0
05	021229301MSD	102	98	115	88	0
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

QC LIMITS

SMC1 (DFM) = Dibromofluoromethane (79-125)
 SMC2 (TOL) = Toluene-d8 (84-117)
 SMC3 (BFB) = Bromofluorobenzene (52-135)
 OTHER (DCE) = 1,2-Dichloroethane-d4 (48-136)

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

729 175

CLIENT SAMPLE NO.

V4121711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID: 0303008

Lab Prep Batch: V412171

Date Analyzed: 12/17/02

Time Analyzed: 1607

GC Column: ID: 2 (mm)

Heated Purge: (Y/N) Y

Instrument ID: VOC4

Lab Sample ID: 11LB

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	V4121711LCS	11LCS	0202005LCS	1412
02	021229301	021229301	0801013	1845
03	021229301MS	MS	1501020	2225
04	021229301MSD	MSD	1601021	2256
05				
06				
07				
08				
09				
10				
11				
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30				

COMMENTS:

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

729 176

CLIENT SAMPLE NO.

V4121711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: V412171

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: 0303008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/17/02

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	20.00	U
75-05-8-----	Acetonitrile	20.00	U
107-02-8-----	Acrolein	20.00	U
107-13-1-----	Acrylonitrile	20.00	U
107-05-1-----	Allyl chloride	1.00	U
71-43-2-----	Benzene	1.00	U
108-86-1-----	Bromobenzene	1.00	U
74-97-5-----	Bromochloromethane	1.00	U
75-27-4-----	Bromodichloromethane	1.00	U
75-25-2-----	Bromoform	1.00	U
78-93-3-----	2-Butanone	20.00	U
74-83-9-----	Bromomethane	1.00	U
104-51-8-----	n-Butylbenzene	1.00	U
135-98-8-----	sec-Butylbenzene	1.00	U
98-06-6-----	tert-Butylbenzene	1.00	U
75-15-0-----	Carbon Disulfide	1.00	U
56-23-5-----	Carbon Tetrachloride	1.00	U
108-90-7-----	Chlorobenzene	1.00	U
124-48-1-----	Chlorodibromomethane	1.00	U
75-00-3-----	Chloroethane	1.00	U
110-75-8-----	2-Chloroethyl vinyl ether	20.00	U
67-66-3-----	Chloroform	1.00	U
74-87-3-----	Chloromethane	1.00	U
126-99-8-----	Chloroprene	1.00	U
95-49-8-----	2-Chlorotoluene	1.00	U
106-43-4-----	4-Chlorotoluene	1.00	U
96-12-8-----	1,2-Dibromo-3-chloropropane	1.00	U
106-93-4-----	1,2-Dibromoethane	1.00	U
74-95-3-----	Dibromomethane	1.00	U
95-50-1-----	1,2-Dichlorobenzene	1.00	U
541-73-1-----	1,3-Dichlorobenzene	1.00	U
106-46-7-----	1,4-Dichlorobenzene	1.00	U
1476-11-5-----	cis-1,4-Dichloro-2-butene	1.00	U

FORM I VOA-GCMS

000030

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

729 177

CLIENT SAMPLE NO.

V4121711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: V412171

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: 0303008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/17/02

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
---------	----------	---	---

110-57-6	trans-1,4-Dichloro-2-butene	1.00	U
75-71-8	Dichlorodifluoromethane	1.00	U
75-34-3	1,1-Dichloroethane	1.00	U
107-06-2	1,2-Dichloroethane	1.00	U
75-35-4	1,1-Dichloroethene	1.00	U
156-59-2	cis-1,2-Dichloroethene	1.00	U
156-60-5	trans-1,2-Dichloroethene	1.00	U
78-87-5	1,2-Dichloropropane	1.00	U
142-28-9	1,3-Dichloropropane	1.00	U
594-20-7	2,2-Dichloropropane	1.00	U
563-58-6	1,1-Dichloropropene	1.00	U
10061-01-5	cis-1,3-Dichloropropene	1.00	U
10061-02-6	trans-1,3-Dichloropropene	1.00	U
108-20-3	Di isopropyl ether	2.00	U
123-91-1	1,4-Dioxane	100.0	U
141-78-6	Ethyl Acetate	5.00	U
100-41-4	Ethylbenzene	1.00	U
97-63-2	Ethyl methacrylate	1.00	U
110-00-9	Furan	1.00	U
87-68-3	Hexachlorobutadiene	1.00	U
110-54-3	Hexane	2.19	
591-78-6	2-Hexanone	5.00	U
74-88-4	Iodomethane	1.00	U
78-83-1	Isobutyl Alcohol	100.0	U
98-82-8	Isopropylbenzene	1.00	U
99-87-6	4-Isopropyltoluene	1.00	U
126-98-7	Methacrylonitrile	10.00	U
75-09-2	Methylene Chloride	18.83	
80-62-6	Methyl methacrylate	1.00	U
108-10-1	4-Methyl-2-Pentanone	5.00	U
1634-04-4	Methyl-tertbutyl-Ether	1.00	U
91-20-3	Naphthalene	1.00	U
107-12-0	Propionitrile	10.00	U

FORM I VOA-GCMS

000031

FORM 1
VOA-GCMS ORGANICS ANALYSIS DATA SHEET

729 178

CLIENT SAMPLE NO.

V4121711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: V412171

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: 0303008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/17/02

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	1.00	U
103-65-1-----n-Propylbenzene	1.00	U
100-42-5-----Styrene	1.00	U
630-20-6-----1,1,1,2-Tetrachloroethane	1.00	U
79-34-5-----1,1,2,2-Tetrachloroethane	1.00	U
127-18-4-----Tetrachloroethene	1.00	U
109-99-9-----Tetrahydrofuran	1.00	U
87-61-6-----1,2,3-Trichlorobenzene	1.00	U
108-88-3-----Toluene	1.00	U
71-55-6-----1,1,1-Trichloroethane	1.00	U
79-00-5-----1,1,2-Trichloroethane	1.00	U
76-13-1-----1,1,2-trichloro-1,2,2-triflu	1.00	U
79-01-6-----Trichloroethene	1.00	U
75-69-4-----Trichlorofluoromethane	1.00	U
96-18-4-----1,2,3-Trichloropropane	1.00	U
95-63-6-----1,2,4-Trimethylbenzene	1.00	U
120-82-1-----1,2,4-Trichlorobenzene	1.00	U
108-67-8-----1,3,5-Trimethylbenzene	1.00	U
108-05-4-----Vinyl Acetate	20.00	U
75-01-4-----Vinyl Chloride	1.00	U
108-38-3-----Xylene-mp	1.00	U
95-47-6-----Xylene-o	1.00	U

FORM I VOA-GCMS

000^32

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

729 179

CLIENT SAMPLE NO.

V4121711LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Sample ID: 11LB

Sample wt/vol: 5.0 (g/mL) G

Lab File ID: 0303008

Level: (low/med) LOW

Date Received: _____

% Moisture: not dec. _____

Date Analyzed: 12/17/02

GC Column: ID: 2.00 (mm)

Dilution Factor: 1.0

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 3
SOIL VOA-GCMS LAB CONTROL SAMPLE

729 180

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: V4121711LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acetone	200.0		199.5	100	59-151
Acetonitrile	2000		2479	124	57-143
Acrolein	200.0		554.7	277*	59-134
Acrylonitrile	200.0		225.4	113	60-146
Allyl chloride	200.0		245.8	123*	74-120
Benzene	200.0		228.5	114	72-124
Bromobenzene	200.0		171.9	86	77-120
Bromochloromethane	200.0		219.9	110	74-120
Bromodichloromethane	200.0		166.4	83	68-119
Bromoform	200.0		173.5	87	66-136
2-Butanone	200.0		221.7	111	55-151
Bromomethane	200.0		277.2	139*	40-134
n-Butylbenzene	200.0		254.6	127	69-129
sec-Butylbenzene	200.0		164.4	82	72-127
tert-Butylbenzene	200.0		185.7	93	73-126
Carbon Disulfide	200.0		198.2	99	60-133
Carbon Tetrachloride	200.0		195.4	98	64-123
Chlorobenzene	200.0		194.6	97	77-112
Chlorodibromomethane	200.0		172.6	86	72-118
Chloroethane	200.0		241.6	121	64-142
2-Chloroethyl vinyl eth	200.0		180.2	90	22-165
Chloroform	200.0		190.9	95	70-115
Chloromethane	200.0		165.6	83	58-139
Chloroprene	200.0		172.1	86	73-118
2-Chlorotoluene	200.0		184.8	92	65-132
4-Chlorotoluene	200.0		215.7	108	67-127
1,2-Dibromo-3-chloropro	200.0		207.4	104	56-134
1,2-Dibromoethane	200.0		187.0	94	74-118

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

729 181

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: V4121711LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Dibromomethane	200.0		177.1	88	75-114
1,2-Dichlorobenzene	200.0		225.5	113	80-113
1,3-Dichlorobenzene	200.0		223.5	112	77-119
1,4-Dichlorobenzene	200.0		225.3	113	78-116
cis-1,4-Dichloro-2-bute	200.0		172.6	86	70-130
trans-1,4-Dichloro-2-bu	200.0		196.2	98	62-138
Dichlorodifluoromethane	200.0		176.0	88	48-145
1,1-Dichloroethane	200.0		222.4	111	76-118
1,2-Dichloroethane	200.0		154.8	77	62-124
1,1-Dichloroethene	200.0		222.8	111	69-121
cis-1,2-Dichloroethene	200.0		210.8	105	76-114
trans-1,2-Dichloroethen	200.0		229.1	114	72-121
1,2-Dichloropropane	200.0		184.5	92	64-133
1,3-Dichloropropane	200.0		173.9	87	68-128
2,2-Dichloropropane	200.0		181.8	91	67-132
1,1-Dichloropropene	200.0		186.1	93	76-117
cis-1,3-Dichloropropene	200.0		191.2	96	77-120
trans-1,3-Dichloroprope	200.0		186.0	93	73-124
Di isopropyl ether	200.0		194.8	97	62-160
1,4-Dioxane	4000		3653	91	56-131
Ethyl Acetate	200.0		314.4	157*	52-151
Ethylbenzene	200.0		183.8	92	77-111
Ethyl methacrylate	200.0		174.2	87	57-140
Furan	200.0		315.6	158*	52-124
Hexachlorobutadiene	200.0		208.4	104	69-137
Hexane	200.0		190.1	95	70-130
2-Hexanone	200.0		174.9	87	53-144
Iodomethane	200.0		257.7	129	51-153

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

729 182

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: V4121711LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	4000		4479	112	60-134
Isopropylbenzene	200.0		188.1	94	74-125
4-Isopropyltoluene	200.0		189.4	95	72-127
Methacrylonitrile	2000		1606	80	70-125
Methylene Chloride	200.0		256.3	128*	76-115
Methyl methacrylate	400.0		362.4	91	57-147
4-Methyl-2-Pentanone	200.0		175.6	88	42-144
Methyl-tertbutyl-Ether	200.0		191.4	96	62-122
Naphthalene	200.0		220.0	110	53-124
Propionitrile	2000		2203	110	58-139
n-Propyl Acetate	200.0		339.2	170	88-170
n-Propylbenzene	200.0		198.8	99	75-125
Styrene	200.0		196.0	98	77-117
1,1,1,2-Tetrachloroetha	200.0		172.6	86	79-113
1,1,2,2-Tetrachloroetha	200.0		223.4	112	67-126
Tetrachloroethene	200.0		191.1	96	77-115
Tetrahydrofuran	200.0		153.6	77	76-181
1,2,3-Trichlorobenzene	200.0		226.3	113	62-132
Toluene	200.0		182.6	91	77-115
1,1,1-Trichloroethane	200.0		159.8	80	63-122
1,1,2-Trichloroethane	200.0		192.8	96	69-117
1,1,2-trichloro-1,2,2-t	200.0		209.5	105	70-130
Trichloroethene	200.0		182.3	91	75-113
Trichlorofluoromethane	200.0		227.6	114	55-130
1,2,3-Trichloropropane	200.0		164.0	82	62-130
1,2,4-Trimethylbenzene	200.0		213.6	107	69-126
1,2,4-Trichlorobenzene	200.0		249.4	125	68-132
1,3,5-Trimethylbenzene	200.0		188.1	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

729 183

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: V4121711LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Vinyl Acetate	200.0		345.7	173*	28-146
Vinyl Chloride	200.0		185.6	93	65-134
Xylene-mp	400.0		382.6	96	77-115
Xylene-o	200.0		188.6	94	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: 7 out of 88 outside limits

COMMENTS:

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

729 184

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Acetone	200.0	39.20	228.1	94	59-151
Acetonitrile	2000	0.000	1794	90	57-143
Acrolein	200.0	0.000	56.74	28*	59-134
Acrylonitrile	200.0	0.000	156.9	78	60-146
Allyl chloride	200.0	0.000	195.2	98	74-120
Benzene	200.0	0.000	152.9	76	72-124
Bromobenzene	200.0	0.000	123.4	62*	77-120
Bromochloromethane	200.0	0.000	178.1	89	74-120
Bromodichloromethane	200.0	0.000	172.5	86	68-119
Bromoform	200.0	0.000	149.5	75	66-136
2-Butanone	200.0	0.000	160.4	80	55-151
Bromomethane	200.0	0.000	252.1	126	40-134
n-Butylbenzene	200.0	0.000	132.8	66*	69-129
sec-Butylbenzene	200.0	0.000	118.5	59*	72-127
tert-Butylbenzene	200.0	0.000	148.7	74	73-126
Carbon Disulfide	200.0	0.000	135.9	68	60-133
Carbon Tetrachloride	200.0	0.000	164.7	82	64-123
Chlorobenzene	200.0	0.000	136.3	68*	77-112
Chlorodibromomethane	200.0	0.000	182.7	91	72-118
Chloroethane	200.0	0.000	220.6	110	64-142
2-Chloroethyl vinyl eth	200.0	0.000	162.2	81	22-165
Chloroform	200.0	0.000	189.3	95	70-115
Chloromethane	200.0	0.000	117.9	59	58-139
Chloroprene	200.0	0.000	94.95	47*	73-118
2-Chlorotoluene	200.0	0.000	140.1	70	65-132
4-Chlorotoluene	200.0	0.000	155.2	78	67-127
1,2-Dibromo-3-chloropro	200.0	0.000	146.0	73	56-134
1,2-Dibromoethane	200.0	0.000	183.5	92	74-118

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

* Values outside of QC limits

COMMENTS:

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

729 185

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Dibromomethane	200.0	0.000	174.6	87	75-114
1,2-Dichlorobenzene	200.0	0.000	115.5	58*	80-113
1,3-Dichlorobenzene	200.0	0.000	113.0	56*	77-119
1,4-Dichlorobenzene	200.0	0.000	114.7	57*	78-116
cis-1,4-Dichloro-2-bute	200.0	0.000	147.8	74	70-130
trans-1,4-Dichloro-2-bu	200.0	0.000	141.7	71	62-138
Dichlorodifluoromethane	200.0	0.000	175.9	88	48-145
1,1-Dichloroethane	200.0	0.000	215.0	108	76-118
1,2-Dichloroethane	200.0	0.000	179.6	90	62-124
1,1-Dichloroethene	200.0	0.000	148.7	74	69-121
cis-1,2-Dichloroethene	200.0	0.000	171.1	86	76-114
trans-1,2-Dichloroethen	200.0	0.000	159.0	80	72-121
1,2-Dichloropropane	200.0	0.000	166.1	83	64-133
1,3-Dichloropropane	200.0	0.000	182.2	91	68-128
2,2-Dichloropropane	200.0	0.000	173.2	87	67-132
1,1-Dichloropropene	200.0	0.000	153.6	77	76-117
cis-1,3-Dichloropropene	200.0	0.000	167.2	84	77-120
trans-1,3-Dichloroprope	200.0	0.000	176.4	88	73-124
Di isopropyl ether	200.0	0.000	175.0	88	62-160
1,4-Dioxane	4000	0.000	3070	77	56-131
Ethyl Acetate	200.0	0.000	77.25	39*	52-151
Ethylbenzene	200.0	0.000	139.2	70*	77-111
Ethyl methacrylate	200.0	0.000	160.7	80	57-140
Furan	200.0	0.000	180.8	90	52-124
Hexachlorobutadiene	200.0	0.000	89.24	45*	69-137
Hexane	200.0	0.000	134.0	67*	70-130
2-Hexanone	200.0	0.000	152.4	76	53-144
Iodomethane	200.0	0.000	311.6	156*	51-153

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

* Values outside of QC limits

COMMENTS:

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

729 186

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Isobutyl Alcohol	4000	0.000	3383	84	60-134
Isopropylbenzene	200.0	0.000	145.6	73*	74-125
4-Isopropyltoluene	200.0	0.000	150.7	75	72-127
Methacrylonitrile	2000	0.000	1120	56*	70-125
Methylene Chloride	200.0	15.33	212.7	99	76-115
Methyl methacrylate	400.0	0.000	162.0	40*	57-147
4-Methyl-2-Pentanone	200.0	0.000	162.9	81	42-144
Methyl-tertbutyl-Ether	200.0	0.000	187.0	94	62-122
Naphthalene	200.0	0.000	63.91	32*	53-124
Propionitrile	2000	0.000	1639	82	58-139
n-Propyl Acetate	200.0	0.000	94.59	47*	88-170
n-Propylbenzene	200.0	0.000	144.3	72*	75-125
Styrene	200.0	0.000	54.81	27*	77-117
1,1,1,2-Tetrachloroetha	200.0	0.000	149.1	74*	79-113
1,1,2,2-Tetrachloroetha	200.0	0.000	153.6	77	67-126
Tetrachloroethene	200.0	0.000	147.9	74*	77-115
Tetrahydrofuran	200.0	0.000	120.9	60*	76-181
1,2,3-Trichlorobenzene	200.0	0.000	71.12	36*	62-132
Toluene	200.0	0.000	153.7	77	77-115
1,1,1-Trichloroethane	200.0	0.000	167.4	84	63-122
1,1,2-Trichloroethane	200.0	0.000	174.1	87	69-117
1,1,2-trichloro-1,2,2-t	200.0	0.000	165.7	83	70-130
Trichloroethene	200.0	0.000	148.7	74*	75-113
Trichlorofluoromethane	200.0	0.000	256.0	128	55-130
1,2,3-Trichloropropane	200.0	0.000	151.6	76	62-130
1,2,4-Trimethylbenzene	200.0	0.000	158.1	79	69-126
1,2,4-Trichlorobenzene	200.0	0.000	80.79	40*	68-132
1,3,5-Trimethylbenzene	200.0	0.000	145.6	73	69-128

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
Vinyl Acetate	200.0	0.000	24.17	12*	28-146
Vinyl Chloride	200.0	0.000	194.2	97	65-134
Xylene-mp	400.0	0.000	270.7	68*	77-115
Xylene-o	200.0	0.000	145.0	72*	77-115

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Acetone	200.0	245.6	103	9	20	59-151
Acetonitrile	2000	2094	105	15	20	57-143
Acrolein	200.0	173.8	87	103*	20	59-134
Acrylonitrile	200.0	180.5	90	14	20	60-146
Allyl chloride	200.0	227.6	114	15	20	74-120
Benzene	200.0	173.9	87	13	20	72-124
Bromobenzene	200.0	152.2	76*	20	20	77-120
Bromochloromethane	200.0	197.8	99	11	20	74-120
Bromodichloromethane	200.0	184.1	92	7	20	68-119
Bromoform	200.0	168.9	84	11	20	66-136
2-Butanone	200.0	162.7	81	1	20	55-151
Bromomethane	200.0	345.8	173*	31*	20	40-134
n-Butylbenzene	200.0	179.4	90	31*	20	69-129
sec-Butylbenzene	200.0	146.9	73	21*	20	72-127
tert-Butylbenzene	200.0	179.6	90	20	20	73-126
Carbon Disulfide	200.0	171.9	86	23*	20	60-133
Carbon Tetrachloride	200.0	186.4	93	12	20	64-123
Chlorobenzene	200.0	167.0	84	21*	20	77-112
Chlorodibromomethane	200.0	189.3	95	4	20	72-118
Chloroethane	200.0	281.7	141	25*	20	64-142
2-Chloroethyl vinyl eth	200.0	174.5	87	7	20	22-165
Chloroform	200.0	201.4	101	6	20	70-115
Chloromethane	200.0	165.7	83	34*	20	58-139
Chloroprene	200.0	104.0	52*	10	20	73-118
2-Chlorotoluene	200.0	173.2	87	22*	20	65-132
4-Chlorotoluene	200.0	196.9	98	23*	20	67-127
1,2-Dibromo-3-chloropro	200.0	166.1	83	13	20	56-134
1,2-Dibromoethane	200.0	185.7	93	1	20	74-118

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Dibromomethane	200.0	184.6	92	6	20	75-114
1,2-Dichlorobenzene	200.0	158.1	79*	31*	20	80-113
1,3-Dichlorobenzene	200.0	154.2	77	32*	20	77-119
1,4-Dichlorobenzene	200.0	158.5	79	32*	20	78-116
cis-1,4-Dichloro-2-bute	200.0	161.1	80	8	20	70-130
trans-1,4-Dichloro-2-bu	200.0	159.8	80	12	20	62-138
Dichlorodifluoromethane	200.0	196.8	98	11	20	48-145
1,1-Dichloroethane	200.0	233.3	117	8	20	76-118
1,2-Dichloroethane	200.0	181.1	90	0	20	62-124
1,1-Dichloroethene	200.0	185.5	93	23*	20	69-121
cis-1,2-Dichloroethene	200.0	194.3	97	12	20	76-114
trans-1,2-Dichloroethen	200.0	193.3	97	19	20	72-121
1,2-Dichloropropane	200.0	179.1	90	8	20	64-133
1,3-Dichloropropane	200.0	184.5	92	1	20	68-128
2,2-Dichloropropane	200.0	177.8	89	2	20	67-132
1,1-Dichloropropene	200.0	178.6	89	14	20	76-117
cis-1,3-Dichloropropene	200.0	180.3	90	7	20	77-120
trans-1,3-Dichloroprope	200.0	190.0	95	8	20	73-124
Di isopropyl ether	200.0	189.6	95	8	20	62-160
1,4-Dioxane	4000	2829	71	8	20	56-131
Ethyl Acetate	200.0	143.2	72	59*	20	52-151
Ethylbenzene	200.0	168.8	84	18	20	77-111
Ethyl methacrylate	200.0	141.1	70	13	20	57-140
Furan	200.0	210.1	105	15	20	52-124
Hexachlorobutadiene	200.0	125.3	63*	33*	20	69-137
Hexane	200.0	158.8	79	16	20	70-130
2-Hexanone	200.0	144.9	72	5	20	53-144
Iodomethane	200.0	354.4	177*	13	20	51-153

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

* Values outside of QC limits

COMMENTS:

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

729 190

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Isobutyl Alcohol	4000	3290	82	2	20	60-134
Isopropylbenzene	200.0	172.8	86	16	20	74-125
4-Isopropyltoluene	200.0	183.0	92	20	20	72-127
Methacrylonitrile	2000	1248	62*	10	20	70-125
Methylene Chloride	200.0	248.3	116*	16	20	76-115
Methyl methacrylate	400.0	239.1	60	40*	20	57-147
4-Methyl-2-Pentanone	200.0	155.7	78	4	20	42-144
Methyl-tertbutyl-Ether	200.0	193.4	97	3	20	62-122
Naphthalene	200.0	89.17	44*	32*	20	53-124
Propionitrile	2000	1699	85	4	20	58-139
n-Propyl Acetate	200.0	174.1	87*	60*	20	88-170
n-Propylbenzene	200.0	181.0	90	22*	20	75-125
Styrene	200.0	74.23	37*	31*	20	77-117
1,1,1,2-Tetrachloroetha	200.0	175.1	88	17	20	79-113
1,1,2,2-Tetrachloroetha	200.0	179.3	90	16	20	67-126
Tetrachloroethene	200.0	169.8	85	14	20	77-115
Tetrahydrofuran	200.0	116.6	58*	3	20	76-181
1,2,3-Trichlorobenzene	200.0	101.3	51*	34*	20	62-132
Toluene	200.0	167.5	84	9	20	77-115
1,1,1-Trichloroethane	200.0	176.3	88	5	20	63-122
1,1,2-Trichloroethane	200.0	186.7	93	7	20	69-117
1,1,2-trichloro-1,2,2-t	200.0	192.4	96	14	20	70-130
Trichloroethene	200.0	157.0	78	5	20	75-113
Trichlorofluoromethane	200.0	263.7	132*	3	20	55-130
1,2,3-Trichloropropane	200.0	161.2	81	6	20	62-130
1,2,4-Trimethylbenzene	200.0	197.0	98	21*	20	69-126
1,2,4-Trichlorobenzene	200.0	115.7	58*	37*	20	68-132
1,3,5-Trimethylbenzene	200.0	172.8	86	16	20	69-128

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

* Values outside of QC limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: V412171

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Vinyl Acetate	200.0	89.62	45	116*	20	28-146
Vinyl Chloride	200.0	223.9	112	14	20	65-134
Xylene-mp	400.0	329.4	82	19	20	77-115
Xylene-o	200.0	174.6	87	19	20	77-115

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

* Values outside of QC limits

RPD: 25 out of 88 outside limits

Spike Recovery: 45 out of 176 outside limits

COMMENTS:

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
GC/MS Semi-Volatiles**

CASE NARRATIVE
GC/MS SEMI-VOLATILE COMPOUNDS - SOIL

Client Name Jacobs
 Project Name Memphis Depot
 Pistol Range

ETC Order # 0212-293

SAMPLE PRESERVATION

All soil samples maintained at 4 degrees C until extraction

HOLDING TIMES

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

METHOD

Preparation SW-846 3550B
 Analysis SW-846 8270C

QUALITY CONTROL

QC Batch Form 4 Summary
 S01099 S01099LB

System Monitoring Compounds FORM 2

Surrogate recoveries within QC limits, except as listed below
 Terphenyl-d14 was recovered high in S01099LB

Method Blank FORM 4

S01099LB

Target analytes were not detected in the method blanks, except as listed below

Bis(2-ethylhexyl)phthalate was identified in the method blank. This analyte was not reported in any of the associated project samples. The data was not affected.

Laboratory Control Sample FORM 3

S01099LCS

All target analyte acceptance criteria met

Matrix Spike / Matrix Spike Dup FORM 3

Batch QCBA ICH

0212-350-01

RPD

All analytes within QC limits

Spike Recovery

All analytes within QC limits *

The MS/MSD was performed on a sample not directly associated with this project. Batch QC provided for information only.
 Refer to Laboratory Control Sample(s) for system verification.

CALIBRATION

DE PTP 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

Calibration Verification standard(s) Internal Standard Areas and Retention Times within QC limits

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC, 5971MSD/HP 6890 GC, 5973MSD
 Dilutions Required No dilutions required
 % Solids Adjustment Sample results and detection limits were adjusted for % solids

CB
 Project Manager

FORM 2
SOIL BNA-GCMS SURROGATE RECOVERY

729 194

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Level: (low/med) LOW

	CLIENT SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 (PHL) #	S5 (TBP) #	S6 (2FP) #	S7 #	S8 #	TOT OUT
01	S01099LB	83	88	117*	92	85	83			1
02	S01099LCS	88	92	108	100	88	89			0
03	021229301	86	88	112	90	84	84			0
04										
05										
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QC LIMITS

S1 (NBZ) = Nitrobenzene-d5 (25-110)
S2 (FBP) = 2-Fluorobiphenyl (33-114)
S3 (TPH) = Terphenyl-d14 (37-115)
S4 (PHL) = Phenol-d6 (11-125)
S5 (TBP) = 2,4,6-Tribromophenol (9-134)
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

729 195

CLIENT SAMPLE NO.

S01099LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID: 3301033

Lab Prep Batch: S01099

Instrument ID: BNA1

Lab Sample ID: LB

Matrix: (soil/water) SOIL

Date Analyzed: 12/16/02

Level: (low/med) LOW

Time Analyzed: 1830

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	S01099LCS	LCS	3401034	12/16/02
02	021235001	021235001	3501035	12/16/02
03	021235001MS	MS	3601036	12/16/02
04	021235001MSD	MSD	3701037	12/16/02
05	021229301	021229301	0601006	12/17/02
06				
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COMMENTS:

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

729 196

CLIENT SAMPLE NO.

S01099LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: S01099

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 3301033

Level: (low/med) LOW

Date Received: _____

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

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 12/16/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

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	66.67	U
208-96-8-----	Acenaphthylene	66.67	U
98-86-2-----	Acetophenone	166.7	U
62-53-3-----	Aniline	166.7	U
120-12-7-----	Anthracene	66.67	U
92-87-5-----	Benzidine	666.7	U
56-55-3-----	Benz (a) Anthracene	66.67	U
205-99-2-----	Benzo (b) fluoranthene	66.67	U
207-08-9-----	Benzo (k) fluoranthene	66.67	U
191-24-2-----	Benzo (ghi) perylene	66.67	U
50-32-8-----	Benzo (a) pyrene	66.67	U
65-85-0-----	Benzoic acid	1667	U
100-51-6-----	Benzyl alcohol	166.7	U
111-91-1-----	Bis (2-chloroethoxy) methane	166.7	U
111-44-4-----	Bis (2-chloroethyl) ether	166.7	U
108-60-1-----	Bis (2-chloroisopropyl) ether	166.7	U
117-81-7-----	Bis (2-ethylhexyl) phthalate	81.92	J
101-55-3-----	4-Bromophenyl phenyl ether	166.7	U
85-68-7-----	Butyl benzyl phthalate	166.7	U
86-74-8-----	Carbazole	66.67	U
106-47-8-----	4-Chloroaniline	166.7	U
510-15-6-----	Chlorobenzilate	166.7	U
59-50-7-----	4-Chloro-3-methylphenol	166.7	U
91-58-7-----	2-Chloronaphthalene	66.67	U
95-57-8-----	2-Chlorophenol	166.7	U
7005-72-3-----	4-Chlorophenyl phenyl ether	166.7	U
218-01-9-----	Chrysene	66.67	U
53-70-3-----	Dibenz (a, h) anthracene	66.67	U
132-64-9-----	Dibenzofuran	166.7	U
84-74-2-----	Di-n-butyl phthalate	166.7	U
95-50-1-----	1,2-Dichlorobenzene	166.7	U
541-73-1-----	1,3-Dichlorobenzene	166.7	U
106-46-7-----	1,4-Dichlorobenzene	166.7	U

FORM I BNA-GCMS

000050

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

729 197

CLIENT SAMPLE NO.

S01099LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: S01099

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 3301033

Level: (low/med) LOW

Date Received: _____

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

Date Extracted:

Concentrated Extract Volume: 1(mL)

Date Analyzed: 12/16/02

Injection Volume: 1.0(uL)

Dilution Factor: 1.0

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	66.67	U
208-96-8-----	Acenaphthylene	66.67	U
98-86-2-----	Acetophenone	166.7	U
62-53-3-----	Aniline	166.7	U
120-12-7-----	Anthracene	66.67	U
92-87-5-----	Benzidine	666.7	U
56-55-3-----	Benz(a)Anthracene	66.67	U
205-99-2-----	Benzo(b)fluoranthene	66.67	U
207-08-9-----	Benzo(k)fluoranthene	66.67	U
191-24-2-----	Benzo(ghi)perylene	66.67	U
50-32-8-----	Benzo(a)pyrene	66.67	U
65-85-0-----	Benzoic acid	1667	U
100-51-6-----	Benzyl alcohol	166.7	U
111-91-1-----	Bis(2-chloroethoxy)methane	166.7	U
111-44-4-----	Bis(2-chloroethyl)ether	166.7	U
108-60-1-----	Bis(2-chloroisopropyl)ether	166.7	U
117-81-7-----	Bis(2-ethylhexyl)phthalate	81.92	J
101-55-3-----	4-Bromophenyl phenyl ether	166.7	U
85-68-7-----	Butyl benzyl phthalate	166.7	U
86-74-8-----	Carbazole	66.67	U
106-47-8-----	4-Chloroaniline	166.7	U
510-15-6-----	Chlorobenzilate	166.7	U
59-50-7-----	4-Chloro-3-methylphenol	166.7	U
91-58-7-----	2-Chloronaphthalene	66.67	U
95-57-8-----	2-Chlorophenol	166.7	U
7005-72-3-----	4-Chlorophenyl phenyl ether	166.7	U
218-01-9-----	Chrysene	66.67	U
53-70-3-----	Dibenz(a,h)anthracene	66.67	U
132-64-9-----	Dibenzofuran	166.7	U
84-74-2-----	Di-n-butyl phthalate	166.7	U
95-50-1-----	1,2-Dichlorobenzene	166.7	U
541-73-1-----	1,3-Dichlorobenzene	166.7	U
106-46-7-----	1,4-Dichlorobenzene	166.7	U

FORM I BNA-GCMS

000051

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

729 198

CLIENT SAMPLE NO.

S01099LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: S01099

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 3301033

Level: (low/med) LOW

Date Received: _____

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

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 12/16/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

91-94-1-----	3,3'-Dichlorobenzidine	333.3	U
120-83-2-----	2,4-Dichlorophenol	166.7	U
87-65-0-----	2,6-Dichlorophenol	166.7	U
84-66-2-----	Diethyl phthalate	166.7	U
119-93-7-----	3,3-Dimethylbenzidine	333.3	U
105-67-9-----	2,4-Dimethylphenol	166.7	U
131-11-3-----	Dimethyl phthalate	166.7	U
534-52-1-----	4,6-Dinitro-2-methylphenol	333.3	U
51-28-5-----	2,4-Dinitrophenol	666.7	U
121-14-2-----	2,4-Dinitrotoluene	166.7	U
606-20-2-----	2,6-Dinitrotoluene	166.7	U
122-39-4-----	N-NitrosodiphenylAm/Diphenylamin	166.7	U
117-84-0-----	Di-n-octyl phthalate	166.7	U
62-50-0-----	Ethyl methanesulfonate	166.7	U
206-44-0-----	Fluoranthene	66.67	U
86-73-7-----	Fluorene	66.67	U
118-74-1-----	Hexachlorobenzene	166.7	U
87-68-3-----	Hexachlorobutadiene	166.7	U
77-47-4-----	Hexachlorocyclopentadiene	166.7	U
67-72-1-----	Hexachloroethane	166.7	U
193-39-5-----	Indeno(1,2,3-cd)pyrene	66.67	U
78-59-1-----	Isophorone	166.7	U
66-27-3-----	Methyl methanesulfonate	166.7	U
91-57-6-----	2-Methylnaphthalene	66.67	U
95-48-7-----	2-Methylphenol	166.7	U
108-39-4-----	3&4-Methylphenol	166.7	U
91-20-3-----	Naphthalene	66.67	U
88-74-4-----	2-Nitroaniline	333.3	U
99-09-2-----	3-Nitroaniline	333.3	U
608-9-35-----	Pentachlorobenzene	166.7	U
100-01-6-----	4-Nitroaniline	333.3	U
98-95-3-----	Nitrobenzene	166.7	U
88-75-5-----	2-Nitrophenol	333.3	U

FORM I BNA-GCMS

000052

FORM 1
BNA-GCMS ORGANICS ANALYSIS DATA SHEET

729 199

CLIENT SAMPLE NO.

S01099LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: S01099

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 3301033

Level: (low/med) LOW

Date Received: _____

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

Date Extracted:

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 12/16/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

100-02-7-----	4-Nitrophenol	166.7	U
924-16-3-----	N-Nitrosodibutylamine	166.7	U
55-18-5-----	N-Nitrosodiethylamine	166.7	U
62-75-9-----	N-Nitrosodimethylamine	166.7	U
621-64-7-----	N-Nitrosodi-n-propylamine	166.7	U
82-68-8-----	Pentachloronitrobenzene	333.3	U
87-86-5-----	Pentachlorophenol	333.3	U
62-44-2-----	Phenacetin	166.7	U
85-01-8-----	Phenanthrene	66.67	U
108-95-2-----	Phenol	166.7	U
129-00-0-----	Pyrene	66.67	U
110-86-1-----	Pyridine	166.7	U
95-94-3-----	1,2,4,5-Tetrachlorobenzene	166.7	U
58-90-2-----	2,3,4,6-Tetrachlorophenol	166.7	U
120-82-1-----	1,2,4-Trichlorobenzene	166.7	U
95-95-4-----	2,4,5-Trichlorophenol	166.7	U
88-06-2-----	2,4,6-Trichlorophenol	166.7	U
103-33-3-----	1,2-Dphnylhydrzine/Azobenzen	166.7	U

FORM I BNA-GCMS

000053

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

729 200

CLIENT SAMPLE NO.

S01099LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Sample ID: LB

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: 3301033

Level: (low/med) LOW

Date Received: _____

% Moisture: _____ decanted: (Y/N) _____

Date Extracted: _____

Concentrated Extract Volume: 1 (mL)

Date Analyzed: 12/16/02

Injection Volume: 1.0 (uL)

Dilution Factor: 1.0

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

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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FORM I BNA-GCMS-TIC

900054

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: S01099LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	1667		1603	96	25-143
Acenaphthylene	1667		1611	97	27-136
Acetophenone	1667		1521	91	14-143
Aniline	1667		902.2	54	0-144
Anthracene	1667		1919	115	31-142
Benzidine	1667		156.6	9	0-165
Benz(a)Anthracene	1667		1799	108	36-127
Benzo(b)fluoranthene	1667		1706	102	42-142
Benzo(k)fluoranthene	1667		1633	98	36-149
Benzo(ghi)perylene	1667		1210	72	23-125
Benzo(a)pyrene	1667		1593	96	37-145
Benzoic acid	1667		1450	87	10-154
Benzyl alcohol	1667		901.6	54	20-129
Bis(2-chloroethoxy)meth	1667		1527	92	17-154
Bis(2-chloroethyl)ether	1667		1476	88	14-142
Bis(2-chloroisopropyl)e	1667		1527	92	18-134
Bis(2-ethylhexyl)phthal	1667		1702	102	25-154
4-Bromophenyl phenyl et	1667		1474	88	33-126
Butyl benzyl phthalate	1667		1763	106	34-155
Carbazole	1667		1490	89	32-167
4-Chloroaniline	1667		1163	70	18-165
Chlorobenzilate	1667		1485	89	24-143
4-Chloro-3-methylphenol	1667		1426	86	17-148
2-Chloronaphthalene	1667		1484	89	25-153
2-Chlorophenol	1667		1220	73	31-113
4-Chlorophenyl phenyl e	1667		1555	93	37-123
Chrysene	1667		1575	94	25-152
Dibenz(a,h)anthracene	1667		1286	77	24-126

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

729 202

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: S01099LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
Dibenzofuran	1667		1513	91	35-125
Di-n-butyl phthalate	1667		1969	118	11-176
1,2-Dichlorobenzene	1667		1342	80	14-137
1,3-Dichlorobenzene	1667		1282	77	14-134
1,4-Dichlorobenzene	1667		1413	85	10-141
3,3'-Dichlorobenzidine	1667		1325	79	6-165
2,4-Dichlorophenol	1667		1350	81	20-143
2,6-Dichlorophenol	1667		1315	79	17-142
Diethyl phthalate	1667		1634	98	36-148
3,3-Dimethylbenzidine	1667		531.3	32	8-190
2,4-Dimethyphenol	1667		1388	83	25-131
Dimethyl phthalate	1667		1633	98	35-137
4,6-Dinitro-2-methylphe	1667		1051	63	25-144
2,4-Dinitrophenol	1667		1306	78	20-158
2,4-Dinitrotoluene	1667		1555	93	17-163
2,6-Dinitrotoluene	1667		1713	103	30-138
N-NitrsdiphyAm/Dipheny	1667		1570	94	45-135
Di-n-octyl phthalate	1667		1701	102	26-137
Ethyl methanesulfonate	1667		1268	76	33-102
Fluoranthene	1667		1634	98	17-155
Fluorene	1667		1640	98	30-140
Hexachlorobenzene	1667		1457	87	23-141
Hexachlorobutadiene	1667		1384	83	33-151
Hexachlorocyclopentadie	1667		1002	60	21-115
Hexachloroethane	1667		1335	80	12-142
Indeno(1,2,3-cd)pyrene	1667		1338	80	40-155
Isophorone	1667		1596	96	17-146
Methyl methanesulfonate	1667		1246	75	21-133

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

729 203

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: S01099LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
2-Methylnaphthalene	1667		1440	86	17-146
2-Methylphenol	1667		1345	81	16-124
3&4-Methylphenol	1667		1454	87	22- 97
Naphthalene	1667		1522	91	37-148
2-Nitroaniline	1667		1523	91	33-130
3-Nitroaniline	1667		1531	92	16-152
4-Nitroaniline	1667		1442	86	28-132
Nitrobenzene	1667		1516	91	36-154
2-Nitrophenol	1667		1166	70	16-144
4-Nitrophenol	1667		1141	68	17-172
N-Nitrosodibutylamine	1667		1538	92	31-129
N-Nitrosodiethylamine	1667		1370	82	29-108
N-Nitrosodimethylamine	1667		1375	82	16-136
N-Nitrosodi-n-propylami	1667		1680	101	29-115
Pentachloronitrobenzene	1667		1466	88	34-135
Pentachlorophenol	1667		999.1	60	15-158
Phenacetin	1667		1502	90	29-141
Phenanthrene	1667		1709	102	31-139
Phenol	1667		1460	88	19-134
Pyrene	1667		1589	95	22-155
Pyridine	1667		836.4	50	13-126
1,2,4,5-Tetrachlorobenz	1667		1363	82	21-136
2,3,4,6-Tetrachlorophen	1667		1197	72	32-121
1,2,4-Trichlorobenzene	1667		1426	86	10-146
2,4,5-Trichlorophenol	1667		1378	83	23-129
2,4,6-Trichlorophenol	1667		1209	72	20-129
1,2-Dphnylhydrzine/Azob	1667		1551	93	38-122

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 83 outside limits

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021235001

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Acenaphthene	1623	13.02	1374	84	25-143
Acenaphthylene	1623	0.000	1404	86	27-136
Acetophenone	1623	0.000	1294	80	14-143
Aniline	1623	0.000	1124	69	0-144
Anthracene	1623	0.000	1558	96	31-142
Benzidine	1623	0.000	17.20	1	0-165
Benz(a)Anthracene	1623	0.000	1604	99	36-127
Benzo(b)fluoranthene	1623	0.000	1455	90	42-142
Benzo(k)fluoranthene	1623	0.000	1472	91	36-149
Benzo(ghi)perylene	1623	0.000	1125	69	23-125
Benzo(a)pyrene	1623	0.000	1420	87	37-145
Benzoic acid	1623	436.7	1223	48	10-154
Benzyl alcohol	1623	0.000	791.0	49	20-129
Bis(2-chloroethoxy)meth	1623	0.000	1294	80	17-154
Bis(2-chloroethyl)ether	1623	0.000	1272	78	14-142
Bis(2-chloroisopropyl)e	1623	0.000	1318	81	18-134
Bis(2-ethylhexyl)phthal	1623	82.20	1572	92	25-154
4-Bromophenyl phenyl et	1623	0.000	1315	81	33-126
Butyl benzyl phthalate	1623	0.000	1638	101	34-155
Carbazole	1623	0.000	1322	81	32-167
4-Chloroaniline	1623	0.000	1088	67	18-165
Chlorobenzilate	1623	0.000	1408	87	24-143
4-Chloro-3-methylphenol	1623	0.000	1229	76	17-148
2-Chloronaphthalene	1623	0.000	1289	79	25-153
2-Chlorophenol	1623	0.000	1055	65	31-113
4-Chlorophenyl phenyl e	1623	0.000	1342	83	37-123
Chrysene	1623	0.000	1415	87	25-152
Dibenz(a,h)anthracene	1623	0.000	1203	74	24-126

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

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021235001

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Dibenzofuran	1623	0.000	1313	81	35-125
Di-n-butyl phthalate	1623	77.09	1981	117	11-176
1,2-Dichlorobenzene	1623	0.000	1165	72	14-137
1,3-Dichlorobenzene	1623	0.000	1136	70	14-134
1,4-Dichlorobenzene	1623	0.000	1160	71	10-141
3,3'-Dichlorobenzidine	1623	0.000	1146	71	6-165
2,4-Dichlorophenol	1623	0.000	1150	71	20-143
2,6-Dichlorophenol	1623	0.000	1120	69	17-142
Diethyl phthalate	1623	0.000	1430	88	36-148
3,3-Dimethylbenzidine	1623	0.000	220.1	14	8-190
2,4-Dimethyphenol	1623	0.000	1188	73	25-131
Dimethyl phthalate	1623	0.000	1390	86	35-137
4,6-Dinitro-2-methylphe	1623	0.000	937.4	58	25-144
2,4-Dinitrophenol	1623	0.000	1062	65	20-158
2,4-Dinitrotoluene	1623	0.000	1341	83	17-163
2,6-Dinitrotoluene	1623	0.000	1497	92	30-138
N-NitrsdiphyAm/Dipheny	1623	0.000	1420	87	45-135
Di-n-octyl phthalate	1623	0.000	1592	98	26-137
Ethyl methanesulfonate	1623	0.000	1089	67	33-102
Fluoranthene	1623	0.000	1403	86	17-155
Fluorene	1623	13.38	1460	89	30-140
Hexachlorobenzene	1623	0.000	1317	81	23-141
Hexachlorobutadiene	1623	0.000	1158	71	33-151
Hexachlorocyclopentadie	1623	0.000	949.6	58	21-115
Hexachloroethane	1623	0.000	1103	68	12-142
Indeno(1,2,3-cd)pyrene	1623	0.000	1242	76	40-155
Isophorone	1623	0.000	1387	85	17-146
Methyl methanesulfonate	1623	0.000	1064	66	21-133

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

COMMENTS:

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

729 206

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021235001

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
2-Methylnaphthalene	1623	398.6	1219	50	17-146
2-Methylphenol	1623	0.000	1187	73	16-124
3&4-Methylphenol	1623	0.000	1253	77	22- 97
Naphthalene	1623	45.86	1312	78	37-148
2-Nitroaniline	1623	0.000	1317	81	33-130
3-Nitroaniline	1623	0.000	1306	80	16-152
4-Nitroaniline	1623	0.000	1190	73	28-132
Nitrobenzene	1623	0.000	1283	79	36-154
2-Nitrophenol	1623	0.000	1010	62	16-144
4-Nitrophenol	1623	0.000	958.0	59	17-172
N-Nitrosodibutylamine	1623	0.000	1372	84	31-129
N-Nitrosodiethylamine	1623	0.000	1191	73	29-108
N-Nitrosodimethylamine	1623	0.000	1181	73	16-136
N-Nitrosodi-n-propylami	1623	0.000	1426	88	29-115
Pentachloronitrobenzene	1623	0.000	1328	82	34-135
Pentachlorophenol	1623	0.000	844.9	52	15-158
Phenacetin	1623	0.000	1338	82	29-141
Phenanthrene	1623	11.31	1506	92	31-139
Phenol	1623	0.000	1281	79	19-134
Pyrene	1623	0.000	1341	83	22-155
Pyridine	1623	0.000	935.5	58	13-126
1,2,4,5-Tetrachlorobenz	1623	0.000	1170	72	21-136
2,3,4,6-Tetrachlorophen	1623	0.000	997.3	61	32-121
1,2,4-Trichlorobenzene	1623	0.000	1200	74	10-146
2,4,5-Trichlorophenol	1623	0.000	1203	74	23-129
2,4,6-Trichlorophenol	1623	0.000	1057	65	20-129
1,2-Dphnylhydrzine/Azob	1623	0.000	1428	88	38-122

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

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021235001

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
Acenaphthene	1656	1322	79	6	20	25-143
Acenaphthylene	1656	1330	80	7	20	27-136
Acetophenone	1656	1260	76	5	20	14-143
Aniline	1656	1053	64	8	20	0-144
Anthracene	1656	1449	88	9	20	31-142
Benzidine	1656	22.58	1	0	20	0-165
Benz(a)Anthracene	1656	1497	90	10	20	36-127
Benzo(b)fluoranthene	1656	1368	83	8	20	42-142
Benzo(k)fluoranthene	1656	1375	83	9	20	36-149
Benzo(ghi)perylene	1656	1116	67	3	20	23-125
Benzo(a)pyrene	1656	1361	82	6	20	37-145
Benzoic acid	1656	1241	48	0	20	10-154
Benzyl alcohol	1656	770.9	46	6	20	20-129
Bis(2-chloroethoxy)meth	1656	1273	77	4	20	17-154
Bis(2-chloroethyl)ether	1656	1226	74	5	20	14-142
Bis(2-chloroisopropyl)e	1656	1264	76	6	20	18-134
Bis(2-ethylhexyl)phthal	1656	1430	81	13	20	25-154
4-Bromophenyl phenyl et	1656	1242	75	8	20	33-126
Butyl benzyl phthalate	1656	1467	88	14	20	34-155
Carbazole	1656	1281	77	5	20	32-167
4-Chloroaniline	1656	1020	62	8	20	18-165
Chlorobenzilate	1656	1281	77	12	20	24-143
4-Chloro-3-methylphenol	1656	1185	72	5	20	17-148
2-Chloronaphthalene	1656	1256	76	4	20	25-153
2-Chlorophenol	1656	1022	62	5	20	31-113
4-Chlorophenyl phenyl e	1656	1288	78	6	20	37-123
Chrysene	1656	1338	81	7	20	25-152
Dibenz(a,h)anthracene	1656	1186	72	3	20	24-126

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

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021235001

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Dibenzofuran	1656	1272	77	5	20	35-125
Di-n-butyl phthalate	1656	1865	108	8	20	11-176
1,2-Dichlorobenzene	1656	1138	69	4	20	14-137
1,3-Dichlorobenzene	1656	1104	67	4	20	14-134
1,4-Dichlorobenzene	1656	1144	69	3	20	10-141
3,3'-Dichlorobenzidine	1656	1100	66	7	20	6-165
2,4-Dichlorophenol	1656	1112	67	6	20	20-143
2,6-Dichlorophenol	1656	1099	66	4	20	17-142
Diethyl phthalate	1656	1345	81	8	20	36-148
3,3-Dimethylbenzidine	1656	257.6	16	13	20	8-190
2,4-Dimethyphenol	1556	1168	70	4	20	25-131
Dimethyl phthalate	1656	1325	80	7	20	35-137
4,6-Dinitro-2-methylphe	1656	918.6	55	5	20	25-144
2,4-Dinitrophenol	1656	1047	63	3	20	20-158
2,4-Dinitrotoluene	1656	1290	78	6	20	17-163
2,6-Dinitrotoluene	1656	1415	85	8	20	30-138
N-NitrsdiphyAm/Dipheny	1656	1373	83	5	20	45-135
Di-n-octyl phthalate	1656	1512	91	7	20	26-137
Ethyl methanesulfonate	1656	1059	64	4	20	33-102
Fluoranthene	1656	1374	83	4	20	17-155
Fluorene	1656	1367	82	8	20	30-140
Hexachlorobenzene	1656	1257	76	6	20	23-141
Hexachlorobutadiene	1656	1156	70	1	20	33-151
Hexachlorocyclopentadie	1656	987.6	60	3	20	21-115
Hexachloroethane	1656	1110	67	1	20	12-142
Indeno (1,2,3-cd) pyrene	1656	1208	73	4	20	40-155
Isophorone	1656	1359	82	4	20	17-146
Methyl methanesulfonate	1656	1027	62	6	20	21-133

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

COMMENTS:

Lab Name: ETC, INC.

Lab Prep Batch: S01099

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021235001

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
2-Methylnaphthalene	1656	1203	48	4	20	17-146
2-Methylphenol	1656	1127	68	7	20	16-124
3&4-Methylphenol	1656	1203	73	5	20	22- 97
Naphthalene	1656	1279	74	5	20	37-148
2-Nitroaniline	1656	1266	76	6	20	33-130
3-Nitroaniline	1656	1267	76	5	20	16-152
4-Nitroaniline	1656	1190	72	1	20	28-132
Nitrobenzene	1656	1276	77	2	20	36-154
2-Nitrophenol	1656	1001	60	3	20	16-144
4-Nitrophenol	1656	973.1	59	0	20	17-172
N-Nitrosodibutylamine	1656	1306	79	6	20	31-129
N-Nitrosodiethylamine	1656	1150	69	6	20	29-108
N-Nitrosodimethylamine	1656	1159	70	4	20	16-136
N-Nitrosodi-n-propylami	1656	1398	84	5	20	29-115
Pentachloronitrobenzene	1656	1245	75	9	20	34-135
Pentachlorophenol	1656	849.5	51	2	20	15-158
Phenacetin	1656	1307	79	4	20	29-141
Phenanthrene	1656	1448	87	6	20	31-139
Phenol	1656	1233	74	6	20	19-134
Pyrene	1656	1292	78	6	20	22-155
Pyridine	1656	865.5	52	11	20	13-126
1,2,4,5-Tetrachlorobenz	1656	1142	69	4	20	21-136
2,3,4,6-Tetrachlorophen	1656	978.7	59	3	20	32-121
1,2,4-Trichlorobenzene	1656	1187	72	3	20	10-146
2,4,5-Trichlorophenol	1656	1160	70	6	20	23-129
2,4,6-Trichlorophenol	1656	1034	62	5	20	20-129
1,2-Dphnylhydrzine/Azob	1656	1320	80	10	20	38-122

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

* Values outside of QC limits

RPD: 0 out of 83 outside limits

Spike Recovery: 0 out of 166 outside limits

COMMENTS:

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
GC Pesticides**

CASE NARRATIVE
GC PESTICIDES - SOIL/AQUEOUS

Client Name Jacobs
Project Name Memphis Depot
Pistol Range

ETC Order # 0212-293

SAMPLE PRESERVATION

All soil samples maintained at 4 degrees C until extraction

HOLDING TIMES

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

METHOD

Preparation: SW-846 3550B
Cleanup SW-846 3620B - Florisil Cleanup
Analysis SW-846 8081A

QUALITY CONTROL

QC Batch Form 4 Summary
P08028LB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits

Method Blank FORM 4
P08028LB

Target analytes were not detected in the method blanks

Laboratory Control Sample FORM 3
P08028LCS

All target analyte acceptance criteria met, except as listed below

Multiple analytes were flagged for high recoveries in the LCS 4,4'-DDD and 4,4'-DDT were reported in the associated project sample Results for these analytes should be considered estimated values

Matrix Spike / Matrix Spike Dup FORM 3
Batch P08028

0212-293-01 RPD All analytes within QC limits
BG-1 Spike Recovery All analytes within QC limits

Multiple analytes were flagged for high recoveries in the MS/MSD Refer to Laboratory Control Sample(s) for system verification

CALIBRATION

Endrin/Breakdown All criteria met FORM 7
Initial Calibration All criteria met FORM 6
Calibration Verification % Differences/% Drift (%D) >15% FORM 7
Multiple analytes were flagged for high % Differences in the CV These analytes were not reported in the associated project samples The data was not affected

Samples in this sequence are listed on Form 4 (Method Blank Summary) The CV passed average RF evaluation criteria and is valid per SW-846 method 8000A/8081A

CASE NARRATIVE
GC PESTICIDES - SOIL/AQUEOUS

Client Name Jacobs
Project Name Memphis Depot
Pistol Range

ETC Order # 0212-293

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC
Dilutions Required Dilutions required, as indicated on the results sheets, to bring target analytes within calibration range
% Solids Adjustment Sample results and detection limits were adjusted for % solids


Project Manager

FORM 2
SOIL PESTICIDE SURROGATE RECOVERY

729 213

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Level: (low/med) LOW

	CLIENT SAMPLE NO.	S1 (DCB) #	S2 (TCX) #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	P08028LB	112	60							0
02	P08028LCS	126	75							0
03	021229301	121	79							0
04	021229301MS	118	57							0
05	021229301MSD	115	76							0
06										
07										
08										
09										
10										
11										
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23										
24										
25										
26										
27										
28										
29										
30										

QC LIMITS

S1 (DCB) = Decachlorobiphenyl (37-165)
S2 (TCX) = Tetrachloro-m-xylene (18-158)

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

729 214

CLIENT SAMPLE NO.

P08028LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID: P312181A-12R

Lab Prep Batch: P08028

Instrument ID: PEST3A

Lab Sample ID: P08028LB

Matrix: (soil/water) SOIL

Date Analyzed: 12/18/02

Level: (low/med) LOW

Time Analyzed: 1705

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P08028LCS	P08028LCS	P312181A-13R	12/18/02
02	021229301	021229301	P312181A-14R	12/18/02
03	021229301MS	021229301MS	P312181A-16P	12/18/02
04	021229301MSD	021229301MSD	P312181A-18R	12/18/02
05				
06				
07				
08				
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27				
28				
29				
30				

COMMENTS:

FORM 1
PESTICIDE ORGANICS ANALYSIS DATA SHEET

729 215 CLIENT SAMPLE NO.

P08028LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: P08028

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: P312181A-12R

Level: (low/med) LOW

Date Received: _____

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

Date Extracted:

Concentrated Extract Volume: 10 (mL)

Date Analyzed: 12/18/02

Injection Volume: 1.0 (uL)

Dilution Factor: 10.0

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

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

309-00-2-----	Aldrin	1.33	U
319-84-6-----	alpha-BHC	1.33	U
319-85-7-----	beta-BHC	1.33	U
319-86-8-----	delta-BHC	1.33	U
58-89-9-----	gamma-BHC (Lindane)	1.33	U
5103-71-9-----	alpha-chlordane	1.33	U
5103-74-2-----	gamma-chlordane	1.33	U
72-54-8-----	4,4'-DDD	1.33	U
72-55-9-----	4,4'-DDE	1.33	U
50-29-3-----	4,4'-DDT	1.33	U
60-57-1-----	Dieldrin	1.33	U
959-98-8-----	endosulfan I	1.33	U
1031-07-8-----	Endosulfan sulfate	1.33	U
72-20-8-----	Endrin	1.33	U
76-44-8-----	Heptachlor	1.33	U
33212-65-9-----	Endosulfan II	1.33	U
-----	Chlropyriphos	1.33	U
7421-93-4-----	Endrin aldehyde	1.33	U
53494-70-5-----	Endrin ketone	1.33	U
1024-57-3-----	Heptachlor epoxide	1.33	U
72-43-5-----	Methoxychlor	1.33	U

FORM I PESTICIDE

000069

FORM 3
SOIL PESTICIDE LAB CONTROL SAMPLE

729 216

Lab Name: ETC, INC.

Lab Prep Batch: P08028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: P08028LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Aldrin	33.33		30.68	92	34-105
alpha-BHC	33.33		32.39	97	41-102
beta-BHC	33.33		33.56	101	26-151
delta-BHC	33.33		38.56	116*	40-110
gamma-BHC (Lindane)	33.33		34.04	102	41-102
alpha-chlordane	33.33		33.19	100	48-117
gamma-chlordane	33.33		33.48	100	51-108
4,4'-DDD	33.33		38.45	115*	30-110
4,4'-DDE	33.33		33.74	101	41-111
4,4'-DDT	33.33		44.34	133*	39-123
Dieldrin	33.33		34.14	102	42-111
endosulfan I	33.33		31.98	96	41-111
Endosulfan sulfate	33.33		44.34	133*	46-111
Endrin	33.33		36.28	109	45-117
Heptachlor	33.33		33.42	100	40-110
Endosulfan II	33.33		37.52	112*	30-110
Endrin aldehyde	33.33		41.01	123	48-125
Endrin ketone	33.33		46.48	139*	51-112
Heptachlor epoxide	33.33		32.90	99	42-115
Methoxychlor	33.33		44.34	133	39-140

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 20 outside limits

COMMENTS:

FORM 3
SOIL PESTICIDE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

729 217

Lab Name: ETC, INC.

Lab Prep Batch: P08028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Aldrin	33.00	0.000	28.00	85	34-105
alpha-BHC	33.00	0.000	26.77	81	41-102
beta-BHC	33.00	0.000	33.23	101	26-151
delta-BHC	33.00	0.000	38.86	118*	40-110
gamma-BHC (Lindane)	33.00	0.000	30.71	93	41-102
alpha-chlordane	33.00	0.000	32.61	99	48-117
gamma-chlordane	33.00	0.000	33.77	102	51-108
4,4'-DDD	33.00	2.00	37.38	107	30-110
4,4'-DDE	33.00	25.41	60.42	106	41-111
4,4'-DDT	33.00	14.58	58.09	132*	39-123
Dieldrin	33.00	185.0	202.6	53	42-111
endosulfan I	33.00	0.000	30.95	94	41-111
Endosulfan sulfate	33.00	14.58	58.09	132*	46-111
Endrin	33.00	0.000	36.22	110	45-117
Heptachlor	33.00	0.000	30.15	91	40-110
Endosulfan II	33.00	0.000	36.03	109	30-110
Endrin aldehyde	33.00	0.000	38.08	115	48-125
Endrin ketone	33.00	0.000	44.54	135*	51-112
Heptachlor epoxide	33.00	0.000	32.10	97	42-115
Methoxychlor	33.00	0.000	41.98	127	39-140

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

729 218

Lab Name: ETC, INC.

Lab Prep Batch: P08028

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS	
					RPD	REC.
Aldrin	32.89	31.21	95	11	20	34-105
alpha-BHC	32.89	32.98	100	21*	20	41-102
beta-BHC	32.89	34.00	103	2	20	26-151
delta-BHC	32.89	39.60	120*	2	20	40-110
gamma-BHC (Lindane)	32.89	34.51	105*	12	20	41-102
alpha-chlordane	32.89	32.49	99	0	20	48-117
gamma-chlordane	32.89	33.47	102	0	20	51-108
4,4'-DDD	32.89	37.50	108	1	20	30-110
4,4'-DDE	32.89	50.00	75	34*	20	41-111
4,4'-DDT	32.89	52.56	115	14	20	39-123
Dieldrin	32.89	160.9	-73*	-1260	20	42-111
endosulfan I	32.89	32.14	98	4	20	41-111
Endosulfan sulfate	32.89	52.56	115*	14	20	46-111
Endrin	32.89	32.42	98	12	20	45-117
Heptachlor	32.89	35.59	108	17	20	40-110
Endosulfan II	32.89	35.80	109	0	20	30-110
Endrin aldehyde	32.89	37.05	113	2	20	48-125
Endrin ketone	32.89	46.29	141*	4	20	51-112
Heptachlor epoxide	32.89	32.71	99	2	20	42-115
Methoxychlor	32.89	41.29	126	1	20	39-140

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

* Values outside of QC limits

RPD: 2 out of 20 outside limits

Spike Recovery: 9 out of 40 outside limits

COMMENTS:

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
GC PCBs**

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
GC PCBS - SOIL

729 220

Client Name Jacobs
Project Name Memphis Depot
Pistol Range

ETC Order # 0212-293

SAMPLE PRESERVATION

All soil samples maintained at 4 degrees C until extraction

HOLDING TIMES

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

METHOD

Preparation SW-846 3550B
Analysis SW-846 8082

QUALITY CONTROL

QC Batch Form 4 Summary
QCBATCH QCBATCHLB

System Monitoring Compounds FORM 2
Surrogate recoveries within QC limits, except as listed below

Method Blank FORM 4
P10038LB
Target analytes were not detected in the method blanks

Laboratory Control Sample FORM 3
P10038LCS
All target analyte acceptance criteria met

Matrix Spike / Matrix Spike Dup FORM 3
Batch P10038
0212-293-01 RPD All analytes within QC limits
BG-1 Spike Recovery All analytes within QC limits
Refer to Laboratory Control Sample(s) for system verification

CALIBRATION

Initial Calibration All criteria met FORM 6
Calibration Verification % Differences/% Drift (%D) >15% FORM 7

Samples in this sequence are listed on Form 4 (Method Blank Summary) The CV passed average RF evaluation criteria and is valid per SW-846 method 8000A/8082

SAMPLE ANALYSIS

Instrumentation HP 5890 Series II GC
Dilutions Required No dilutions required
% Solids Adjustment Sample results and detection limits were adjusted for % solids


Project Manager

000074

FORM 2
SOIL PCB SURROGATE RECOVERY

729 221

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Level: (low/med) LOW

	EPA GC SAMPLE NO.	S1 (TCX) #	S2 (DCB) #	S3 #	S4 #	S5 #	S6 #	S7 #	S8 #	TOT OUT
01	P10038LB	49	94							0
02	P10038LCS	67	100							0
03	021229301	77	94							0
04	021229301MS	77	91							0
05	021229301MSD	76	95							0
06										
07										
08										
09										
10										
11										
12										
13										
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30										

QC LIMITS
S1 (TCX) = Tetrachloro-m-xylene (20-122)
S2 (DCB) = Decachlorobiphenyl (17-141)

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

FORM 4
PCB METHOD BLANK SUMMARY

729 222

EPA GC SAMPLE NO.

P10038LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID: P212171A-13R

Lab Prep Batch: P10038

Instrument ID: PEST2A

Lab Sample ID: P10038LB

Matrix: (soil/water) SOIL

Date Analyzed: 12/17/02

Level: (low/med) LOW

Time Analyzed: 2141

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

	CLIENT SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	P10038LCS	P10038LCS	P212171A-14R	12/17/02
02	021229301	021229301	P212171A-15R	12/17/02
03	021229301MS	021229301MS	P212171A-16R	12/17/02
04	021229301MSD	021229301MSD	P212171A-17R	12/17/02
05				
06				
07				
08				
09				
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COMMENTS:

FORM 1
PCB ORGANICS ANALYSIS DATA SHEET

729 223

EPA GC SAMPLE NO.

P10038LB

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix: (soil/water) SOIL

Lab Prep Batch: P10038

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: P212171A-13R

Level: (low/med) LOW

Date Received: _____

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

Date Extracted:

Concentrated Extract Volume: 10 (mL)

Date Analyzed: 12/17/02

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	16.67	U
11104-28-2-----Aroclor 1221	16.67	U
11141-16-5-----Aroclor 1232	16.67	U
53469-21-9-----Aroclor 1242	16.67	U
11097-69-1-----Aroclor 1254	16.67	U
11096-82-5-----Aroclor 1260	16.67	U
12672-29-6-----Aroclor 1248	16.67	U

FORM 3
SOIL PCB LAB CONTROL SAMPLE

729 224

Lab Name: ETC, INC.

Lab Prep Batch: P10038

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: P10038LCS

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Aroclor 1242	166.7		116.8	70	25-125
Aroclor 1260	166.7		149.8	90	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

000078

Lab Name: ETC, INC.

Lab Prep Batch: P10038

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Matrix Spike - Sample No.: 021229301

Level: (low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
=====	=====	=====	=====	=====	=====
Aroclor 1242	164.5	0.000	132.8	81	25-125
Aroclor 1260	164.5	0.000	142.4	86	25-125

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	REC.
=====	=====	=====	=====	=====	=====	=====
Aroclor 1242	162.9	136.9	84	4	20	25-125
Aroclor 1260	162.9	149.1	92	7	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: 0 out of 4 outside limits

COMMENTS:

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

ENVIRONMENTAL TESTING & CONSULTING, INC

ICP Metals Sequence Check List

Sequence ID : 121102 System ID : ICP1 Date: 12-11-02
ICP2 Time: 1057

Analyst : SM
Supervisor: JP

1. Instrument Profile Intensity Check (Arsenic / Manganese)

5430

2. Initial Calibration

- Initial Calibration Blank (STD1-Blank)
- Initial Calibration Standard 1 (C1) 3 Exposures at less than 3% RSD
- Initial Calibration Standard 2 (C2) 3 Exposures at less than 3% RSD
- Initial Calibration Standard 3 (C3) 3 Exposures at less than 3% RSD
- Initial Calibration Standard 4 (C4) 3 Exposures at less than 3% RSD
- Standardization Report

3. Initial Calibration Readback (+/- 5% Difference Check Table)

Failures

- | | | | |
|--|-------|---|-------|
| a. Initial Calibration Standard 1 (C1) | _____ | ✓ | _____ |
| b. Initial Calibration Standard 2 (C2) | _____ | ✓ | _____ |
| c. Initial Calibration Standard 3 (C3) | _____ | ✓ | _____ |
| d. Initial Calibration Standard 4 (C4) | _____ | ✓ | _____ |

4. Initial Calibration Verification

- | | | | |
|--|-------|---|---------------|
| e. Initial Calibration Blank (ICB) – All elements below 2 times MDL | _____ | ✓ | _____ |
| f. Low Level Check (LLC1) – (20%) | _____ | ✓ | <u>As, Se</u> |
| g. Low Level Check (LLC2) – (20%) | _____ | — | _____ |
| h. Initial Calibration Verification (ICV1) – (10%) | _____ | ✓ | _____ |
| i. Initial Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL | _____ | ✓ | <u>No</u> |
| j. Initial Interelement Correction Standard – (ICSAB) – (20%) | _____ | ✓ | _____ |
| k. Final Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL | _____ | ✓ | <u>B, Mo</u> |
| l. Final Interelement Correction Standard – (ICSAB) – (20%) | _____ | ✓ | _____ |

Comments

Applicable ETC Order Nos. for this sequence:

<u>U, 73035</u>	_____	_____	_____	_____
<u>36</u>	_____	_____	_____	_____
<u>212028</u>	_____	_____	_____	_____
<u>152</u>	_____	_____	_____	_____
<u>203</u>	_____	_____	_____	_____
<u>185</u>	_____	_____	_____	_____
<u>254</u>	_____	_____	_____	_____
<u>221</u>	_____	_____	_____	_____
<u>293</u>	_____	_____	_____	_____

Table Name: PLASMA1 Autosampler Type: TYPE TJA
 Sample Positions: 42/192 QC Positions: 19/19 # Sets: 1
 Release Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	121102	ICPT0613	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor
No Samples Prepared.				

Rack #1

Row	Col	Sample Name	Set #	#Used	Type
(1...19 Not Used)					

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	V17SO35 SB	1	-NA-	Sample
2	1	2	V17SO36 SB	1	-NA-	Sample
3	1	3	V17SO35 LC	1	-NA-	Sample
4	1	4	V17SO36 LC	1	-NA-	Sample
5	1	5	21202801	1	-NA-	Sample
6	1	6	21202802	1	-NA-	Sample
7	1	7	21202803	1	-NA-	Sample
8	1	8	21202804	1	-NA-	Sample
9	1	9	21202805	1	-NA-	Sample
10	1	10	21202806	1	-NA-	Sample
11	1	11	CCB1	1	-NA-	Sample
12	1	12	CCV1	1	-NA-	Sample
13	2	1	21202806 MS	1	-NA-	Sample
14	2	2	21202806 MSD	1	-NA-	Sample
15	2	3	21215201	1	-NA-	Sample
16	2	4	21215201 MS	1	-NA-	Sample
17	2	5	21215201 MSD	1	-NA-	Sample
	2	6	21220301	1	-NA-	Sample
	2	7	21218501	1	-NA-	Sample
20	2	8	21218502	1	-NA-	Sample
21	2	9	21218503	1	-NA-	Sample

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	21218504	1	-NA-	Sample
23	2	11	CCB2	1	-NA-	Sample
24	2	12	CCV2	1	-NA-	Sample
25	3	1	21218505	1	-NA-	Sample
26	3	2	21218506	1	-NA-	Sample
27	3	3	21218507	1	-NA-	Sample
28	3	4	21218508	1	-NA-	Sample
29	3	5	21218509	1	-NA-	Sample
30	3	6	21218510	1	-NA-	Sample
31	3	7	21218511	1	-NA-	Sample
32	3	8	21218512	1	-NA-	Sample
33	3	9	21225401	1	-NA-	Sample
34	3	10	21225402	1	-NA-	Sample
35	3	11	CCB3	1	-NA-	Sample
36	3	12	CCV3	1	-NA-	Sample
37	4	1	21225403	1	-NA-	Sample
38	4	2	21225404	1	-NA-	Sample
39	4	3	21225405	1	-NA-	Sample
40	4	4	21225406	1	-NA-	Sample
41	4	5	21225407	1	-NA-	Sample
42	4	6	21225408	1	-NA-	Sample
43	4	7	21225409	1	-NA-	Sample
44	4	8	21225410	1	-NA-	Sample
45	4	9	21225411	1	-NA-	Sample
46	4	10	21225412	1	-NA-	Sample
47	4	11	CCB4	1	-NA-	Sample
48	4	12	CCV4	1	-NA-	Sample

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	21222101	1	-NA-	Sample
2	1	2	21222102	1	-NA-	Sample
3	1	3	21222103	1	-NA-	Sample
4	1	4	21229301	1	-NA-	Sample
5	1	5	21229301 MS	1	-NA-	Sample
6	1	6	21229301 MSD	1	-NA-	Sample
7	1	7	CCB5	1	-NA-	Sample
8	1	8	CCV5	1	-NA-	Sample
9	1	9	ICSA	1	-NA-	Sample
10	1	10	ICSAB	1	-NA-	Sample
11	1	11	(empty)	1	-NA-	-NA-
12	1	12	(empty)	1	-NA-	-NA-
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
	2	6	(empty)	1	-NA-	-NA-
	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
ICP METALS

Lab Name Environmental Testing and Consulting, Inc Instrument ICPT

Date/Time of Sequence 12/11/02 1057

Initial Calibration Source C1 M6-88-08 C2 M6-85-05 C3 M6-86-01 C4 M6-85-01

Continuing Calibration Source ICV/CCV M6-89-19

Analyte	Initial Calibration Verification				Continuing CCV1				Continuing CCV4				Continuing CCV5			
	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag		
Silver	100	99.1	1	<5	100	101	1	<5	103	3	<5	103	3	<5		
Aluminum	1000	995	1	<5	1000	1020	2	<5	1040	4	<5	1050	5	<10		
Arsenic	500	515	3	<5	500	522	4	<5	535	7	<10	533	7	<10		
Barium	1000	962	4	<5	1000	973	3	<5	997	0	<5	998	0	<5		
Beryllium	100	100	0	<5	100	103	3	<5	105	5	<10	105	5	<10		
Calcium	2000	2060	3	<5	2000	2100	5	<10	2140	7	<5	2130	7	<10		
Cadmium	100	95.3	5	<10	100	97.7	3	<5	100	0	<5	100	0	<5		
Cobalt	500	494	1	<5	500	506	1	<5	521	4	<5	517	3	<5		
Chromium	200	198	1	<5	200	203	2	<5	209	5	<10	208	4	<5		
Copper	200	203	2	<5	200	206	3	<5	211	6	<10	212	6	<10		
Iron	1000	1010	1	<5	1000	1020	2	<10	1060	6	<10	1050	5	<10		
Potassium	2000	2070	4	<5	2000	2080	4	<10	2120	6	<10	2100	5	<10		
Magnesium	2000	1920	4	<5	2000	1950	3	<5	2000	0	<5	1990	1	<5		
Manganese	100	99.6	0	<5	100	101	1	<5	104	4	<5	103	3	<5		
Sodium	2000	1910	5	<10	2000	1890	6	<10	1930	4	<5	1940	3	<5		
Nickel	500	492	2	<5	500	503	1	<5	513	3	<5	512	2	<5		
Lead	500	502	0	<5	500	509	2	<5	516	3	<5	515	3	<5		
Antimony	500	490	2	<5	500	495	1	<5	507	1	<5	506	1	<5		
Selenium	500	487	3	<5	500	485	3	<5	497	1	<5	497	1	<5		
Thallium	500	495	1	<5	500	502	0	<5	509	2	<5	509	2	<5		
Vanadium	500	489	2	<5	500	500	0	<5	513	3	<5	512	2	<5		
Zinc	100	103	3	<5	100	106	6	<10	108	8	<5	107	7	<10		

(1) Percent difference from true value. ICP Method 6010B - 10% ICP Method 200.7 - 5%

729 230

000084

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc Date/Time of Sequence 12/11/02 1057 Instrument ICPT

Analyte	Initial Calibration Blank ug/L	CCB1	CCB4	CCB5	Continuing Calibration Blank ug/L				
Silver	ND	ND	ND	ND					
Aluminum	ND	ND	ND	ND					
Arsenic	ND	ND	ND	ND					
Barium	ND	ND	ND	ND					
Beryllium	ND	ND	ND	ND					
Calcium	ND	ND	ND	ND					
Cadmium	ND	ND	ND	ND					
Cobalt	ND	ND	ND	ND					
Chromium	ND	ND	ND	ND					
Copper	ND	ND	ND	ND					
Iron	ND	ND	ND	ND					
Potassium	ND	ND	ND	ND					
Magnesium	ND	ND	ND	ND					
Manganese	ND	ND	ND	ND					
Sodium	ND	ND	ND	ND					
Nickel	ND	ND	ND	ND					
Lead	ND	ND	ND	ND					
Antimony	ND	ND	ND	ND					
Selenium	ND	ND	ND	ND					
Thallium	ND	ND	ND	ND					
Vanadium	ND	ND	ND	ND					
Zinc	ND	ND	ND	ND					

000085

729 231

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/11/02 1057 Instrument ICPT 0

Concentration Units: ug/L

Analyte	True	Initial Found		Final Found	
	Sol A	Sol A	%REC	Sol A	%REC
Silver	0	ND	0		
Aluminum	100000	99100	99		
Arsenic	0	ND	0		
Barium	0	ND	0		
Beryllium	0	ND	0		
Calcium	100000	100000	100		
Cadmium	0	0	0		
Cobalt	0	ND	0		
Chromium	0	ND	0		
Copper	0	ND	0		
Iron	100000	100000	100		
Potassium	0	ND	0		
Magnesium	100000	100000	100		
Manganese	0	ND	0		
Sodium	0	ND	0		
Nickel	0	ND	0		
Lead	0	ND	0		
Antimony	0	ND	0		
Selenium	0	ND	0		
Vanadium	0	ND	0		
Zinc	0	ND	0		

%R - Recovery should be within 20%.

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/11/02 1057 Instrument ICPT

Concentration Units: ug/L

Analyte	True	Initial Found		Final Found	
	Sol AB	Sol AB	%REC	Sol AB	%REC
Silver	200	207	104		
Aluminum	250000	250000	100		
Arsenic	200	203	102		
Barium	200	204	102		
Beryllium	200	198	99		
Calcium	250000	238000	95		
Cadmium	200	190	95		
Cobalt	200	190	95		
Chromium	200	193	97		
Copper	200	208	104		
Iron	100000	98500	99		
Potassium	5000	5710	114		
Magnesium	250000	255000	102		
Manganese	200	200	100		
Sodium	5000	5340	107		
Nickel	200	190	95		
Lead	200	195	98		
Antimony	200	199	100		
Selenium	200	196	98		
Thallium	200	204	102		
Vanadium	500	482	96		
Zinc	250	239	96		

%R - Recovery should be within 20%.

Table Name: PLASMA1 Autosampler Type: TYPE TJA
 Sample Positions: 42/192 QC Positions: 19/19 # Sets: 1
 Rack Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	121702	ICPT0613	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor
No Samples Prepared.				

Rack #1

Row	Col	Sample Name	Set #	#Used	Type
(1...19 Not Used)					

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	V17SO39 SB	1	-NA-	Sample
2	1	2	V17SO36 SB	1	-NA-	Sample
3	1	3	V17SO38 SB	1	-NA-	Sample
4	1	4	V17SO39 LC	1	-NA-	Sample
5	1	5	V17SO38 LC	1	-NA-	Sample
6	1	6	21248001	1	-NA-	Sample
7	1	7	21202806 5	1	-NA-	Sample
8	1	8	21229301 5	1	-NA-	Sample
9	1	9	21229301 25	1	-NA-	Sample
10	1	10	21229301 MS 5	1	-NA-	Sample
11	1	11	CCB1	1	-NA-	Sample
12	1	12	CCV1	1	-NA-	Sample
13	2	1	21229301 MSD 5	1	-NA-	Sample
14	2	2	21215202 PDS	1	-NA-	Sample
15	2	3	21229301 PDS	1	-NA-	Sample
16	2	4	21235001	1	-NA-	Sample
17	2	5	21235002	1	-NA-	Sample
	2	6	21235003	1	-NA-	Sample
	2	7	21235004	1	-NA-	Sample
20	2	8	21235005	1	-NA-	Sample
21	2	9	21239501	1	-NA-	Sample

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	21239502	1	-NA-	Sample
23	2	11	CCB2	1	-NA-	Sample
24	2	12	CCV2	1	-NA-	Sample
25	3	1	21239502 MS	1	-NA-	Sample
26	3	2	21239502 MSD	1	-NA-	Sample
27	3	3	21225201	1	-NA-	Sample
28	3	4	21225202	1	-NA-	Sample
29	3	5	CCB3	1	-NA-	Sample
30	3	6	CCV3	1	-NA-	Sample
31	3	7	ICSA	1	-NA-	Sample
32	3	8	ICSAB	1	-NA-	Sample
33	3	9	(empty)	1	-NA-	-NA-
34	3	10	(empty)	1	-NA-	-NA-
35	3	11	(empty)	1	-NA-	-NA-
36	3	12	(empty)	1	-NA-	-NA-
37	4	1	(empty)	1	-NA-	-NA-
38	4	2	(empty)	1	-NA-	-NA-
39	4	3	(empty)	1	-NA-	-NA-
40	4	4	(empty)	1	-NA-	-NA-
41	4	5	(empty)	1	-NA-	-NA-
42	4	6	(empty)	1	-NA-	-NA-
43	4	7	(empty)	1	-NA-	-NA-
44	4	8	(empty)	1	-NA-	-NA-
45	4	9	(empty)	1	-NA-	-NA-
46	4	10	(empty)	1	-NA-	-NA-
47	4	11	(empty)	1	-NA-	-NA-
48	4	12	(empty)	1	-NA-	-NA-

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	(empty)	1	-NA-	-NA-
2	1	2	(empty)	1	-NA-	-NA-
3	1	3	(empty)	1	-NA-	-NA-
4	1	4	(empty)	1	-NA-	-NA-
5	1	5	(empty)	1	-NA-	-NA-
6	1	6	(empty)	1	-NA-	-NA-
7	1	7	(empty)	1	-NA-	-NA-
8	1	8	(empty)	1	-NA-	-NA-
9	1	9	(empty)	1	-NA-	-NA-
10	1	10	(empty)	1	-NA-	-NA-
11	1	11	(empty)	1	-NA-	-NA-
12	1	12	(empty)	1	-NA-	-NA-
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
18	2	6	(empty)	1	-NA-	-NA-
19	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
ICP METALS

Lab Name Environmental Testing and Consulting, Inc Instrument ICPT

Date/Time of Sequence 12/17/02 1349

Initial Calibration Source C1 M6-88-08 C2 M6-85-05 C3 M6-86-01 C4 M6-85-01

Continuing Calibration Source ICV/CCV M6-89-19

Analyte	Initial Calibration Verification				Continuing CCV1			Continuing CCV2			Continuing CCV3			
	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag
Aluminum	1000	1010	1	<5	1000	968	3	<5	988	1	<5	998	0	<5
Iron	1000	1020	2	<5	1000	1010	1	<10	1030	3	<5	1010	1	<5
Potassium	2000	2010	1	<5	2000	1970	2	<10	1970	2	<5	2020	1	<5

(1) Percent difference from true value. ICP Method 6010B - 10% ICP Method 200 7 - 5%

729 237

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FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc Instrument ICPT

Date/Time of Sequence 12/17/02 1349

Analyte	Initial Calibration Blank ug/L	CCB1	CCB2	CCB3	Continuing Calibration Blank ug/L									
Aluminum	ND	ND	ND	ND										
Iron	ND	ND	ND	ND										
Potassium	ND	ND	ND	ND										

000092

729 238

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/17/02 1349 Instrument ICPT

Concentration Units: ug/L

Analyte	True Sol	Initial Found		Final Found	
	AB	Sol AB	%REC	Sol AB	%REC
Aluminum	250000	250000	100		
Iron	100000	97300	97		
Potassium	5000	5400	108		
Magnesium	250000	253000	101		

Analyte	True Sol	Initial Found		Final Found	
	A	Sol A	%REC	Sol A	%REC
Aluminum	100000	251000	251		
Iron	100000	98900	99		
Potassium	0	ND	0		
Magnesium	100000	256000	256		

%R - Recovery should be within 20%.

ENVIRONMENTAL TESTING & CONSULTING, INC

Mercury Sequence Check List

Sequence ID : 02121305,06,08

Date/Time: 12/13/2 1445

Analyst : JF

Supervisor: [Signature]

Instrument ID: CETAC M-6000A

729 240

- | | |
|---|--------------|
| 1 General Maintenance Check | Action Taken |
| a Lamp Warm-up ☒ | _____ |
| b. Pump Winding ☒ | _____ |
| c. Check GLS ☒ | _____ |
| d Nafion Dryer ☒ | _____ |

2. Sequence Check List

Initial Calibration

- a. Initial Calibration Blank (STD1-Blank)
- b. Initial Calibration Standard 1 0.20 ug/L
- c. Initial Calibration Standard 2 1.0 ug/L
- d. Initial Calibration Standard 3 2.0 ug/L
- e. Initial Calibration Standard 4 5.0 ug/L
- f. Initial Calibration Standard 5 10.0 ug/L

☒
☒
☒
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3. Regression coefficient (minimum = 0.995)

☒

4. Initial Calibration Blank (ICB) – All elements below MQL

Water = 0.20 ug/L Soil = 0.02 mg/Kg

☒

5. Initial Calibration Verification (ICV) – 2nd Source SRN: m6-92-13

Concentration 5.0 ug/L +/- 10%

Found: 5.15 %Difference: 3

6. Continuing Calibration Blank (CCB) – All elements below MQL indicate by ✓

Metal	CCB1	CCB2	CCB3	CCB4	CCB5	CCB6	CCB7	CCB8	CCB9	CCB10	CCB11	CCB12	CCB13	CCB14	CCB15
Hg	✓	✓													

7. Continuing Calibration Verification (CCV) – Range: EPA 90-110% SW-846 80-120%

All elements within QC limits indicate by ✓ (Concentration same as ICV) SRN: m6-92-13

Metal	CCV1	CCV2	CCV3	CCV4	CCV5	CCV6	CCV7	CCV8	CCV9	CCV10	CCV11	CCV12	CCV13	CCV14	CCV15
Hg	✓	✓													

8 Method Blank (USACE) <1/2 MQL: _____

LCS % Recovery 80-120%: _____

Applicable ETC Order Nos. for this sequence:

<u>SB/LC V10A034</u>	<u>212262</u>	<u>212321</u>	<u>212229 TCLP</u>
<u>212292</u>	<u>212263</u>	<u>212341</u>	<u>212288</u>
<u>212243</u>	<u>212264</u>	<u>212399</u>	

Date/Time Digested

12/13/2 1130

JF

Supervisor

Pg#/Digestion Batch

Digestion	Aqueous	7470A
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
9	9	9
10	10	10
11	11	11
12	12	12
13	13	13
14	14	14
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93	93	93
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95	95	95
96	96	96
97	97	97
98	98	98
99	99	99
100	100	100

Analyst

Date Analyzed	12/13/2014
---------------	------------

Instrument CETAC M-6000A

Water Bath Temp. °C

95

Reagent Reference #

HNO3
1B-44-10

H2SO4 1B-43-17-

802S208
M6-258-14

06-88-16

SRN mis

SS-1 Cal M6-92-12

SS-21CV 176-92-13

SPK M6-92-06 2.10

WS-2

WS -3

WS -4

WS -5

5.00

DDV

000095

Page 1 of 1		Page 2 of 2		Page 3 of 3	
Page	Page	Page	Page	Page	Page
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
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493	494	495	496	497	498
499	500	501	502	503	504
505	506	507	508	509	510
511	512	513	514	515	516
517	518	519	520	521	522
523	524	525	526	527	528
529	530	531	532	533	534
535	536	537	538	539	540
541	542	543	544	545	546
547	548	549	550	551	552
553	554	555	556	557	558
559	560	561	562	563	564
565	566	567	568	569	570
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607	608	609	610	611	612
613	614	615	616	617	618
619	620	621	622	623	624
625	626	627	628	629	630
631	632	633	634	635	636
637	638	639	640	641	642
643	644	645	646	647	648
649	650	651	652	653	654
655	656	657	658	659	660
661	662	663	664	665	666
667	668	669	670	671	672
673	674	675	676	677	678
679	680	681	682	683	684
685	686	687	688	689	690
691	692	693	694	695	696
697	698	699	700	701	702
703	704	705	706	707	708
709	710	711	712	713	714
715	716	717	718	719	720
721	722	723	724	725	726
727	728	729	730	731	732
733	734	735	736	737	738
739	740	741	742	743	744
745	746	747	748	749	750
751	752	753	754	755	756
757	758	759	760	761	762
763	764	765	766	767	768
769	770	771	772	773	774
775	776	777	778	779	780
781	782	783	784	785	786
787	788	789	790	791	792
793	794	795	796	797	798
799	800	801	802	803	804
805	806	807	808	809	810
811	812	813	814	815	816
817	818	819	820	821	822
823	824	825	826	827	828
829	830	831	832	833	834
835	836	837	838	839	840
841	842	843	844	845	846
847	848	849	850	851	852
853	854	855	856	857	858
859	860	861	862	863	864
865	866	867	868	869	870
871	872	873	874	875	876
877	878	879	880	881	882
883	884	885	886	887	888
889	890	891	892	893	894
895	896	897	898	899	900
901	902	903	904	905	906
907	908	909	910	911	912
913	914	915	916	917	918
919	920	921	922	923	924
925	926	927	928	929	930
931	932	933	934	935	936
937	938	939	940	941	942
943	944	945	946	947	948
949	950	951	952	953	954
955	956	957	958	959	960
961	962	963	964	965	966
967	968	969	970	971	972
973	974	975	976	977	978
979	980	981	982	983	984
985	986	987	988	989	990
991	992	993	994	995	996
997	998	999	1000	1001	1002

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
MERCURY

Lab Name	Environmental Testing and Consulting, Inc									
Date/Time of Sequence	12/13/02 1130		Instrument		M6000					
Initial Calibration Source	C1		M6-92-12							
Continuing Calibration Source	ICV/CCV		M6-92-13							

Analyte	Initial Calibration Verification			Continuing CCV1			Continuing CCV2			Flag		
	True	Found	%Diff(1)	True	Found	%Diff(1)	Found	%Diff(1)	Found	%Diff(1)	Flag	
Mercury	5.00	5.15	3.0	5.00	5.17	3.4	5.09	1.8	5.09	1.8	<5	

(1) Percent difference from true value. $< = 10\%$

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 12/13/02 1130 Instrument M6000

Analyte	MDL ug/L	Initial Cal Blank (ICB) ug/L	Continuing Calibration Blank ug/L									
			CCB1	CCB2								
Mercury	0.06	ND	ND	ND								

000098

729 244

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Volatiles**

ENVIRONMENTAL TESTING & CONSULTING, INC
GC/MS VOC Method 8260B Sequence Check List (SW-846)

729 246

Sequence ID: 1412171 Matrix: Soil HBN: _____
 Date: 12-18-02 Analyst: [Signature]
 Applicable ETC Order Nos. for this sequence: 0212-448-1-4 0212-293-1
0212-350-1-5 Super: [Signature]
 Validated: _____

1. BFB Daily 12-Hour Tune Meets Criteria. No analyses begins until criteria are met. (SOP) ✓

2. Initial Calibration Verification Criteria - Method : ✓ 410251.8260M

- a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
- b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ✓
- c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ✓
- d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient ≥ 0.99 ✓

3. Calibration Verification - Each 12-Hour Shift

- a. SPCC - Mean RF ≥ 0.10 (≥ 0.30 for Chlorobenzene / 1122-Tetrachloroethene) ✓
- b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ✓
- c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ✓
- d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$
Acetone, Bromonethane, Ethyl Acetate
Vinyl Acetate ✓
- e. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ✓
- f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ✓

4. Method Blanks included in this sequence :

Analyze daily or for each analytical batch (20 samples): ✓

List compounds identified in Method Blank w/concentration.

Flag final result "B-Detected in Blank"

MeCl₂ 18.8 ppb
Heptane 2.17 ppb

5. Matrix Spike/Matrix Spike Duplicates included in this sequence :

Analyze daily or for each matrix (ms/msd per 20 samples of same matrix)

List MS/MSD(s) performed with any failures :

0212-293-1 ms, msd
* 25/88-PPD 15/176-Alcohols
outside limits * ✓

6. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

* 7/88 Acetone Furan
Allyl Chloride MeCl₂
Bromonethane Vinyl Acetate
Ethyl Acetate ✓

7. Surrogate Recoveries within QC Limits ✓

8. All positive compounds within calibration range ✓

Narrative/Notes :

FORM 5
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

729 247

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID: 0101003

BFB Injection Date: 12/17/02

Instrument ID: VOC4

BFB Injection Time: 1319

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	15.1
75	30.0 - 60.0% of mass 95	48.4
95	Base Peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.3
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	Greater than 50.0% of mass 95	105.3
175	5.0 - 9.0% of mass 174	7.5 (7.1)1
176	95.0 - 101.0% of mass 174	102.7 (97.6)1
177	5.0 - 9.0% of mass 176	6.8 (6.7)2

1-Value is % mass 174

2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	V4121711LCS	11LCS	0202005LCS	12/17/02	1412
02	DCS100PPB		0202005	12/17/02	1412
03	V4121711LB	11LB	0303008	12/17/02	1607
04	021229301	021229301	0801013	12/17/02	1845
05	021229301MS	MS	1501020	12/17/02	2225
06	021229301MSD	MSD	1601021	12/17/02	2256
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

729 248

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: VOC4

Calibration Date: 12/17/02 Time: 1412

Lab File ID: 0202005

Init. Calib. Date(s): 10/26/02 10/26/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1305 1817

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL200 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acetone	199.5	200.0	AVRG	0.2	30.0
Acetonitrile	2479	2000	AVRG	24.0	30.0
Acrolein	554.7	200.0	AVRG	177.4	30.0
Acrylonitrile	225.4	200.0	AVRG	12.7	30.0
Allyl chloride	245.8	200.0	AVRG	22.9	30.0
Benzene	228.5	200.0	AVRG	14.2	30.0
Bromobenzene	171.9	200.0	AVRG	14.0	30.0
Bromochloromethane	219.9	200.0	AVRG	10.0	30.0
Bromodichloromethane	166.4	200.0	AVRG	16.8	30.0
Bromoform	173.5	200.0	AVRG	13.2	30.0
2-Butanone	221.7	200.0	AVRG	10.8	30.0
Bromomethane	277.2	200.0	AVRG	38.6	30.0
n-Butylbenzene	254.6	200.0	AVRG	27.3	30.0
sec-Butylbenzene	164.4	200.0	AVRG	17.8	30.0
tert-Butylbenzene	185.7	200.0	AVRG	7.2	30.0
Carbon Disulfide	198.2	200.0	AVRG	0.9	30.0
Carbon Tetrachloride	195.4	200.0	AVRG	2.3	30.0
Chlorobenzene	194.6	200.0	AVRG	2.7	30.0
Chlorodibromomethane	172.6	200.0	AVRG	13.7	30.0
Chloroethane	241.6	200.0	AVRG	20.8	30.0
2-Chloroethyl vinyl ether	180.2	200.0	AVRG	9.9	30.0
Chloroform	190.9	200.0	AVRG	4.6	20.0
Chloromethane	165.6	200.0	LINR	17.2	30.0
Chloroprene	172.1	200.0	AVRG	14.0	30.0
2-Chlorotoluene	184.8	200.0	AVRG	7.6	30.0
4-Chlorotoluene	215.7	200.0	LINR	7.8	30.0
1,2-Dibromo-3-chloropropane	207.4	200.0	AVRG	3.7	30.0
1,2-Dibromoethane	187.0	200.0	AVRG	6.5	30.0
Dibromomethane	177.1	200.0	AVRG	11.4	30.0
1,2-Dichlorobenzene	225.5	200.0	AVRG	12.8	30.0
1,3-Dichlorobenzene	223.5	200.0	AVRG	11.8	30.0
1,4-Dichlorobenzene	225.3	200.0	AVRG	12.6	30.0
cis-1,4-Dichloro-2-butene	172.6	200.0	AVRG	13.7	30.0
trans-1,4-Dichloro-2-butene	196.2	200.0	AVRG	1.9	30.0
Dichlorodifluoromethane	176.0	200.0	AVRG	12.0	30.0
1,1-Dichloroethane	222.4	200.0	AVRG	11.2	30.0
1,2-Dichloroethane	154.8	200.0	AVRG	22.6	30.0

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

729 249

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: VOC4

Calibration Date: 12/17/02 Time: 1412

Lab File ID: 0202005

Init. Calib. Date(s): 10/26/02 10/26/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1305 1817

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL200 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
1,1-Dichloroethene	222.8	200.0	AVRG	11.4	20.0
cis-1,2-Dichloroethene	210.8	200.0	AVRG	5.4	30.0
trans-1,2-Dichloroethene	229.1	200.0	AVRG	14.6	30.0
1,2-Dichloropropane	184.5	200.0	AVRG	7.8	20.0
1,3-Dichloropropane	173.9	200.0	AVRG	13.0	30.0
2,2-Dichloropropane	181.8	200.0	AVRG	9.1	30.0
1,1-Dichloropropene	186.1	200.0	AVRG	7.0	30.0
cis-1,3-Dichloropropene	191.2	200.0	AVRG	4.4	30.0
trans-1,3-Dichloropropene	186.0	200.0	AVRG	7.0	30.0
Di isopropyl ether	194.8	200.0	AVRG	2.6	30.0
1,4-Dioxane	3653	4000	AVRG	8.7	30.0
Ethyl Acetate	314.4	200.0	LINR	57.2	30.0
Ethylbenzene	183.8	200.0	AVRG	8.1	20.0
Ethyl methacrylate	174.2	200.0	AVRG	12.9	30.0
Furan	315.6	306.0	AVRG	3.1	30.0
Hexachlorobutadiene	208.4	200.0	AVRG	4.2	30.0
Hexane	190.1	200.0	AVRG	5.0	30.0
2-Hexanone	174.9	200.0	AVRG	12.6	30.0
Iodomethane	257.7	200.0	LINR	28.8	30.0
Isobutyl Alcohol	4479	4000	AVRG	12.0	30.0
Isopropylbenzene	188.1	200.0	AVRG	6.0	30.0
4-Isopropyltoluene	189.4	200.0	LINR	5.3	30.0
Methacrylonitrile	1606	2000	AVRG	19.7	30.0
Methylene Chloride	256.3	200.0	LINR	28.2	30.0
Methyl methacrylate	362.4	400.0	AVRG	9.4	30.0
4-Methyl-2-Pentanone	175.6	200.0	AVRG	12.2	30.0
Methyl-tertbutyl-Ether	191.4	200.0	AVRG	4.3	30.0
Naphthalene	220.0	200.0	AVRG	10.0	30.0
Propionitrile	2203	2000	AVRG	10.2	30.0
n-Propyl Acetate	339.2	302.0	AVRG	12.3	30.0
n-Propylbenzene	198.8	200.0	AVRG	0.6	30.0
Styrene	196.0	200.0	AVRG	2.0	30.0
1,1,1,2-Tetrachloroethane	172.6	200.0	AVRG	13.7	30.0
1,1,2,2-Tetrachloroethane	223.4	200.0	AVRG	11.7	30.0
Tetrachloroethene	191.1	200.0	AVRG	4.4	30.0
Tetrahydrofuran	153.6	200.0	AVRG	23.2	30.0
1,2,3-Trichlorobenzene	226.3	200.0	AVRG	13.2	30.0

<-

FORM 7
VOA-GCMS CONTINUING CALIBRATION CHECK

729 250

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: VOC4

Calibration Date: 12/17/02 Time: 1412

Lab File ID: 0202005

Init. Calib. Date(s): 10/26/02 10/26/02

Heated Purge: (Y/N) Y

Init. Calib. Times: 1305 1817

GC Column:

ID: 2.00 (mm)

COMPOUND	SAMPLE AMOUNT	CAL200 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Toluene	182.6	200.0	AVRG	8.7	20.0
1,1,1-Trichloroethane	159.8	200.0	AVRG	20.1	30.0
1,1,2-Trichloroethane	192.8	200.0	AVRG	3.6	30.0
1,1,2-trichloro-1,2,2-triflu	209.5	200.0	AVRG	4.8	30.0
Trichloroethene	182.3	200.0	AVRG	8.8	30.0
Trichlorofluoromethane	227.6	200.0	AVRG	13.8	30.0
1,2,3-Trichloropropane	164.0	200.0	AVRG	18.0	30.0
1,2,4-Trimethylbenzene	213.6	200.0	LINR	6.8	30.0
1,2,4-Trichlorobenzene	249.4	200.0	AVRG	24.7	30.0
1,3,5-Trimethylbenzene	188.1	200.0	AVRG	6.0	30.0
Vinyl Acetate	345.7	200.0	AVRG	72.8	30.0
Vinyl Chloride	185.6	200.0	AVRG	7.2	20.0
Xylene-mp	382.6	400.0	AVRG	4.4	30.0
Xylene-o	188.6	200.0	AVRG	5.7	30.0
=====	=====	=====	=====	=====	=====
Dibromofluoromethane	46.67	50.00	AVRG	6.7	30.0
Toluene-d8	46.84	50.00	AVRG	6.3	30.0
Bromofluorobenzene	49.20	50.00	AVRG	1.6	30.0
1,2-Dichloroethane-d4	35.75	50.00	AVRG	28.5	30.0

<-

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 251

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID (Standard): 0202005

Date Analyzed: 12/17/02

Instrument ID: VOC4

Time Analyzed: 1412

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS1 AREA #	RT #	IS2 (DFB) AREA #	RT #	IS3 (CBZ) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	794215	6.15	949447	6.73	892423	8.96
UPPER LIMIT	1588430	6.65	1898894	7.23	1784846	9.46
LOWER LIMIT	397108	5.65	474724	6.23	446212	8.46
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V4121711LB	686152	6.15	740663	6.73	651187	8.95
02 021229301	610698	6.15	586873	6.73	526664	8.95
03 021229301MS	547650	6.15	506139	6.73	539084	8.95
04 021229301MSD	592458	6.15	602459	6.73	578473	8.96
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 = Pentafluorobenzene
IS2 (DFB) = 1,4-Difluorobenzene
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.50 minutes of internal standard RT
RT LOWER LIMIT = - 0.50 minutes of internal standard RT

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

FORM 8
VOA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 252

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID (Standard): 0202005

Date Analyzed: 12/17/02

Instrument ID: VOC4

Time Analyzed: 1412

GC Column:

ID: 2.00 (mm)

Heated Purge: (Y/N) Y

	IS4 (DCB)					
	AREA #	RT #	AREA #	RT #	AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	474316	10.75				
UPPER LIMIT	948632	11.25				
LOWER LIMIT	237158	10.25				
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 V4121711LB	408787	10.75				
02 021229301	300381	10.75				
03 021229301MS	355942	10.75				
04 021229301MSD	358095	10.75				
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (DCB) = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC/MS Semi-Volatiles**

ENVIRONMENTAL TESTING & CONSULTING, INC

GC/MS BNA Sequence Check List (SW-846)

Sequence ID B1121601.BSystem ID BNA1Date 12/16/02Analyst EM

Applicable ETC Order Nos. for this sequence:

02122210212199021220212122880212185021224302122030212264

Validated

1. DFTPP Daily 12-Hour Tune Meets Criteria. No analysis begins until criteria are met. (SOP) ☒2. Degradation/Peak Tailing Check (may be combined with DFTPP Tune): ☒a. DDT to DDE/DDD $\leq 20\%$ Benzidine/PCP - Normal Response with no visible peak tailing. ☒2. Initial Calibration Verification Criteria - Method : B1121201.M ☒a. SPCC - Mean RF ≥ 0.050 ☒b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ☒c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ☒d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient ≥ 0.99 ☒

3. Calibration Verification - Each 12-Hour Shift

a. SPCC - RF ≥ 0.050 ☒b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ☒c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ☒d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$ ☒Benzyl Alcohole. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ☒f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ☒

3. Method Blanks included in this sequence :

Analyze for each analytical batch (20 samples): ☒

List compounds identified in Method Blank w/concentration.

Flag final result "B-Detected in Blank"

SD109918 $\rightarrow$ Bis(2-ethylhexyl) phth @ 81.95.

4. Matrix Spike/Matrix Spike Duplicates included in this sequence :

Analyze for each analytical batch (20 samples). List MS/MSD(s) performed with any failures : ☒0212185 10 MS/D $\rightarrow$ 0/17 RDS 0/34 recoveries out1212288 14 MS/D $\rightarrow$ 2/12 RDS 2/24 recoveries out0212350 01 MS/D $\rightarrow$ 0/83 RDS 0/166 recoveries out

5. Laboratory Control Samples included in this sequence :

Must contain all Target Analytes.

SD109918 $\rightarrow$ 0/83 recoveries out6. Surrogate Recoveries within QC Limits ☒

If positive compounds within calibration range

Narrative/Notes :

* QC ran in previous sequences

DFTPP Ion Abundance/Ratio Criteria Chart

Ion	Abundance Criteria	Base Peak	Other	Test
198	Base Peak, 100% relative abundance	100.00		PASS
51	30 - 60% of mass 198	43.33		PASS
68	Less than 2% of mass 69	0.00	(0.00)	PASS
69	Mass 69 relative abundance	55.21		PASS
70	Less than 2% of mass 69	0.00	(0.00)	PASS
127	40 - 60% of mass 198	54.81		PASS
197	0 - 1% of mass 198	0.00		PASS
199	5 - 9% of mass 198	7.11		PASS
275	10 - 30% of mass 198	27.20		PASS
365	Greater than 1% of mass 198	4.48		PASS
441	Present, but less than mass 443	8.52	(81.09)	PASS
442	Greater than 40% of mass 198	53.66		PASS
443	17 - 23% of mass 442	10.51	(19.59)	PASS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.4940375	5.000	PASS
Benzidine	1.3634538	3.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	618480			N/A
4,4-DDE	0	0.0	15.0	PASS
4,4-DDD	21167	3.3	15.0	PASS
4,4-DDD + DDE	21167	3.3	15.0	PASS

Tuning Sample, //ETCBDC/DD/chem/bna1.i/B1121601.B/0101001.D/0101001.D, *** PASSED **

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

729 256

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID: 0101001

DFTPP Injection Date: 12/16/02

Instrument ID: BNA1

DFTPP Injection Time: 0835

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	43.3
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	55.2
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	54.8
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.1
275	10.0 - 30.0% of mass 198	27.2
365	Greater than 1.0% of mass 198	4.48
441	Present, but less than mass 443	8.5
442	Greater than 40.0% of mass 198	53.7
443	17.0 - 23.0% of mass 442	10.5 (19.6)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DCS 50		0201002	12/16/02	0849
02	S01099LB	LB	3301033	12/16/02	1830
03	S01099LCS	LCS	3401034	12/16/02	1849
04	021235001	021235001	3501035	12/16/02	1907
05	021235001MS	MS	3601036	12/16/02	1926
06	021235001MSD	MSD	3701037	12/16/02	1945
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

729 257

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: BNA1

Calibration Date: 12/16/02 Time: 0849

Lab File ID: 0201002

Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

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

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acenaphthene	54.14	50.00	AVRG	8.3	20.0
Acenaphthylene	52.28	50.00	AVRG	4.6	30.0
Acetophenone	50.60	50.00	AVRG	1.2	30.0
Aniline	51.49	50.00	AVRG	3.0	30.0
Anthracene	54.69	50.00	AVRG	9.4	30.0
Benzidine	57.75	50.00	2ORDR	15.5	35.0
Benz(a)Anthracene	54.75	50.00	AVRG	9.5	30.0
Benzo(b)fluoranthene	57.18	50.00	2ORDR	14.4	30.0
Benzo(k)fluoranthene	48.10	50.00	2ORDR	3.8	30.0
Benzo(ghi)perylene	51.17	50.00	AVRG	2.3	30.0
Benzo(a)pyrene	51.79	50.00	2ORDR	3.6	20.0
Benzoic acid	48.48	50.00	LINR	3.0	35.0
Benzyl alcohol	32.22	50.00	2ORDR	35.6	30.0
Bis(2-chloroethoxy)methane	49.07	50.00	AVRG	1.9	30.0
Bis(2-chloroethyl)ether	51.30	50.00	AVRG	2.6	30.0
Bis(2-chloroisopropyl)ether	51.75	50.00	AVRG	3.5	30.0
Bis(2-ethylhexyl)phthalate	46.77	50.00	2ORDR	6.5	30.0
4-Bromophenyl phenyl ether	47.98	50.00	AVRG	4.0	30.0
Butyl benzyl phthalate	56.18	50.00	AVRG	12.4	30.0
Carbazole	50.07	50.00	AVRG	0.1	30.0
4-Chloroaniline	52.15	50.00	AVRG	4.3	30.0
Chlorobenzilate	51.92	50.00	2ORDR	3.8	35.0
4-Chloro-3-methylphenol	54.39	50.00	AVRG	8.8	20.0
2-Chloronaphthalene	49.88	50.00	AVRG	0.2	30.0
2-Chlorophenol	48.91	50.00	AVRG	2.2	30.0
4-Chlorophenyl phenyl ether	52.62	50.00	AVRG	5.2	30.0
Chrysene	50.37	50.00	AVRG	0.7	30.0
Dibenz(a,h)anthracene	51.98	50.00	2ORDR	4.0	30.0
Dibenzofuran	55.60	50.00	AVRG	11.2	30.0
Di-n-butyl phthalate	54.34	50.00	AVRG	8.7	30.0
1,2-Dichlorobenzene	48.31	50.00	AVRG	3.4	30.0
1,3-Dichlorobenzene	47.18	50.00	AVRG	5.6	30.0
1,4-Dichlorobenzene	49.24	50.00	AVRG	1.5	20.0
3,3'-Dichlorobenzidine	48.47	50.00	2ORDR	3.1	30.0
2,4-Dichlorophenol	50.26	50.00	AVRG	0.5	20.0
2,6-Dichlorophenol	51.33	50.00	AVRG	2.7	30.0
Diethyl phthalate	53.52	50.00	AVRG	7.0	30.0

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

729 258

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: BNA1

Calibration Date: 12/16/02 Time: 0849

Lab File ID: 0201002

Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

GC Column: DB-5MS

ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
3,3-Dimethylbenzidine	47.21	50.00	2ORDR	5.6	35.0
2,4-Dimethyphenol	53.21	50.00	AVRG	6.4	30.0
Dimethyl phthalate	51.15	50.00	AVRG	2.3	30.0
4,6-Dinitro-2-methylphenol	45.61	50.00	2ORDR	8.8	30.0
2,4-Dinitrophenol	52.26	50.00	AVRG	4.5	30.0
2,4-Dinitrotoluene	49.88	50.00	AVRG	0.2	30.0
2,6-Dinitrotoluene	57.76	50.00	AVRG	15.5	30.0
N-Nitrosodiphenylamine/Diphenylamine	50.23	50.00	AVRG	0.4	20.0
Di-n-octyl phthalate	43.38	50.00	LINR	13.2	20.0
Ethyl methanesulfonate	48.38	50.00	AVRG	3.2	30.0
Fluoranthene	54.11	50.00	AVRG	8.2	20.0
Fluorene	53.42	50.00	AVRG	6.8	30.0
Hexachlorobenzene	49.18	50.00	AVRG	1.6	30.0
Hexachlorobutadiene	51.70	50.00	AVRG	3.4	20.0
Hexachlorocyclopentadiene	55.16	50.00	2ORDR	10.3	30.0
Hexachloroethane	49.74	50.00	AVRG	0.5	30.0
Indeno(1,2,3-cd)pyrene	52.81	50.00	2ORDR	5.6	30.0
Isophorone	52.34	50.00	AVRG	4.7	30.0
Methyl methanesulfonate	50.47	50.00	AVRG	0.9	30.0
2-Methylnaphthalene	53.15	50.00	AVRG	6.3	30.0
2-Methylphenol	53.09	50.00	AVRG	6.2	30.0
3&4-Methylphenol	54.40	50.00	AVRG	8.8	30.0
Naphthalene	52.38	50.00	AVRG	4.8	30.0
2-Nitroaniline	53.02	50.00	AVRG	6.0	30.0
3-Nitroaniline	57.50	50.00	AVRG	15.0	30.0
Pentachlorobenzene	54.20	50.00	AVRG	8.4	30.0
4-Nitroaniline	49.19	50.00	2ORDR	1.6	30.0
Nitrobenzene	50.44	50.00	AVRG	0.9	30.0
2-Nitrophenol	45.72	50.00	2ORDR	8.6	20.0
4-Nitrophenol	43.99	50.00	LINR	12.0	30.0
N-Nitrosodibutylamine	51.48	50.00	AVRG	3.0	30.0
N-Nitrosodiethylamine	46.72	50.00	AVRG	6.6	30.0
N-Nitrosodimethylamine	40.07	50.00	AVRG	19.9	30.0
N-Nitrosodi-n-propylamine	53.27	50.00	AVRG	6.5	30.0
Pentachloronitrobenzene	49.89	50.00	AVRG	0.2	30.0
Pentachlorophenol	43.55	50.00	2ORDR	12.9	20.0
Phenacetin	47.24	50.00	2ORDR	5.5	35.0

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

729 253

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: BNA1

Calibration Date: 12/16/02 Time: 0849

Lab File ID: 0201002

Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

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

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
Phenanthrene	55.46	50.00	AVRG	10.9	30.0
Phenol	57.12	50.00	AVRG	14.2	20.0
Pyrene	52.08	50.00	AVRG	4.2	30.0
Pyridine	49.81	50.00	AVRG	0.4	30.0
1,2,4,5-Tetrachlorobenzene	48.12	50.00	AVRG	3.8	30.0
2,3,4,6-Tetrachlorophenol	47.84	50.00	2ORDR	4.3	30.0
1,2,4-Trichlorobenzene	49.54	50.00	AVRG	0.9	30.0
2,4,5-Trichlorophenol	50.79	50.00	2ORDR	1.6	30.0
2,4,6-Trichlorophenol	46.27	50.00	LINR	7.5	20.0
1,2-Dphnylhydrazine/Azobenzen	49.65	50.00	AVRG	0.7	30.0
Nitrobenzene-d5	45.90	50.00	AVRG	8.2	30.0
2-Fluorobiphenyl	48.32	50.00	AVRG	3.4	30.0
Terphenyl-d14	53.79	50.00	AVRG	7.6	30.0
Phenol-d6	50.76	50.00	AVRG	1.5	30.0
2,4,6-Tribromophenol	42.82	50.00	2ORDR	14.4	30.0
2-Fluorophenol	47.73	50.00	AVRG	4.5	30.0

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 260

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID (Standard): 0201002

Date Analyzed: 12/16/02

Instrument ID: BNA1

Time Analyzed: 0849

	IS1 (DCB)	RT #	IS2 (NPT)	RT #	IS3 (ANT)	RT #
	AREA #		AREA #		AREA #	
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	278868	4.21	1108538	4.90	710037	5.81
UPPER LIMIT	557736	4.71	2217076	5.40	1420074	6.31
LOWER LIMIT	139434	3.71	554269	4.40	355019	5.31
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 S01099LB	277764	4.21	1076153	4.89	652893	5.80
02 S01099LCS	248757	4.21	960529	4.90	600562	5.80
03 021235001	302789	4.21	1158808	4.89	736285	5.60
04 021235001MS	263486	4.21	1034508	4.90	640419	5.80
05 021235001MSD	322114	4.21	1241114	4.90	776343	5.80
06						
07						
08						
09						
10						
11						
12						
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14						
15						
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17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 261

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID (Standard): 0201002

Date Analyzed: 12/16/02

Instrument ID: BNA1

Time Analyzed: 0849

	IS4 (PHN) AREA #	RT #	IS5 (CRY) AREA #	RT #	IS6 (PRY) AREA #	RT #
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1397030	6.56	903271	8.01	435597	9.12
UPPER LIMIT	2794060	7.06	1806542	8.51	871194	9.62
LOWER LIMIT	698515	6.06	451636	7.51	217799	8.62
=====	=====	=====	=====	=====	=====	=====
CLIENT SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 S01099LB	1153852	6.56	678987	8.00	363249	9.12
02 S01099LCS	1138887	6.56	736583	8.00	365080	9.12
03 021235001	1235184	6.55	678192	8.00	344512	9.11
04 021235001MS	1144479	6.56	663544	8.00	349551	9.12
05 021235001MSD	1399885	6.56	902294	8.00	495720	9.12
06						
07						
08						
09						
10						
11						
12						
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17						
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20						
21						
22						

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

ENVIRONMENTAL TESTING & CONSULTING, INC

GC/MS BNA Sequence Check List (SW-846)

Sequence ID B1121701.BSystem ID BNA 1Date 12/17/02Analyst ESM

Applicable ETC Order Nos. for this sequence:

0212199 0212314 0212357 0212396
0212350 0212395 0212380 0212390

Validated

1. DFTPP Daily 12-Hour Tune Meets Criteria. No analysis begins until criteria are met. (SOP) ☒
2. Degradation/Peak Tailing Check (may be combined with DFTPP Tune): ☒
- a. DDT to DDE/DDD $\leq 20\%$ Benidine/PCP - Normal Response with no visible peak tailing. ☒

2. Initial Calibration Verification Criteria - Method: B1121201.m
- a. SPCC - Mean RF ≥ 0.050 ☒
- b. CCC - RSD of RF for CCCs and Target Analytes MUST BE $\leq 30\%$ ☒
- c. RSD of analytes $\leq 15\%$ may use Average RF for quantitation ☒
- d. Analytes w/RSD $> 15\%$ use Linear Regression - correlation coefficient ≥ 0.99 ☒

3. Calibration Verification - Each 12-Hour Shift

- a. SPCC - RF ≥ 0.050 ☒
- b. CCC - % Difference for Average RF Calibration - $\leq 20\%$ ☒
- c. CCC - % Drift for Linear Regression Calibration - $\leq 20\%$ ☒
- d. % Difference/% Drift for all other Target Analytes - $\leq 30\%$ ☒

Benzyl Alcohol

- e. Internal Standards - Retention Times within ± 30 seconds from Mid-Point ICAL STD ☒
- f. Internal Standards - Areas within (-50% to +100%) from Mid-Point ICAL STD ☒

3. Method Blanks included in this sequence:

Analyze for each analytical batch (20 samples): ☒

List compounds identified in Method Blank w/concentration.

Flag final result "B-Detected in Blank"

PO90321B $\rightarrow$ bis(2-ethylhexyl) phthalate 2.43J

4. Matrix Spike/Matrix Spike Duplicates included in this sequence:

Analyze for each analytical batch (20 samples). List MS/MSD(s) performed with any failures: NA

5. Laboratory Control Samples included in this sequence:

Must contain all Target Analytes

PO90321ES/D $\rightarrow$ 4/03 RPS 4/11do recoveries

6. Surrogate Recoveries within QC Limits

7. All positive compounds within calibration range

Narrative/Notes:

DFTPP Ion Abundance/Ratio Criteria Chart

Ion		Abundance Criteria	Base Peak	Other	Test
198		Base Peak, 100% relative abundance	100.00		PASS
51		30 - 60% of mass 198	38.68		PASS
68		Less than 2% of mass 69	0.00	(0.00)	PASS
69		Mass 69 relative abundance	49.87		PASS
70		Less than 2% of mass 69	0.00	(0.00)	PASS
127		40 - 60% of mass 198	50.56		PASS
197		0 - 1% of mass 198	0.00		PASS
199		5 - 9% of mass 198	6.98		PASS
275		10 - 30% of mass 198	29.08		PASS
365		Greater than 1% of mass 198	4.82		PASS
441		Present, but less than mass 443	12.37	(80.17)	PASS
442		Greater than 40% of mass 198	79.25		PASS
443		17 - 23% of mass 442	15.43	(19.47)	PASS

TAILING ANALYSIS SUMMARY

Compound	Tail Factor	Max Allowed	Test
Pentachlorophenol	1.6095890	5.000	PASS
Benzidine	1.6410256	3.000	PASS

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

Compound	Response	%Breakdown	Max Allowed	Test
4,4-DDT	572324			N/A
4,4-DDE	0	0.0	15.0	PASS
4,4-DDD	9920	1.7	15.0	PASS
4,4-DDD + DDE	9920	1.7	15.0	PASS

Tuning Sample, //ETCBDC/DD/chem/bna1.i/B1121701.B/0101001.D/0101001.D, *** PASSED **

FORM 5
SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

729 264

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID: 0101001

DFTPP Injection Date: 12/17/02

Instrument ID: BNA1

DFTPP Injection Time: 1252

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0% of mass 198	38.7
68	Less than 2.0% of mass 69	0.0 (0.0)1
69	Mass 69 relative abundance	49.9
70	Less than 2.0% of mass 69	0.0 (0.0)1
127	40.0 - 60.0% of mass 198	50.6
197	Less than 1.0% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.0
199	5.0 to 9.0% of mass 198	7.0
275	10.0 - 30.0% of mass 198	29.1
365	Greater than 1.0% of mass 198	4.82
441	Present, but less than mass 443	12.4
442	Greater than 40.0% of mass 198	79.3
443	17.0 - 23.0% of mass 442	15.4 (19.5)2

1-Value is % mass 69

2-Value is % mass 442

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	DCS 50		0201002	12/17/02	1306
02	021229301	021229301	0601006	12/17/02	1431
03					
04					
05					
06					
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

729 265

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: BNA1

Calibration Date: 12/17/02 Time: 1306

Lab File ID: 0201002

Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

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

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Acenaphthene	52.18	50.00	AVRG	4.4	20.0
Acenaphthylene	50.94	50.00	AVRG	1.9	30.0
Acetophenone	49.89	50.00	AVRG	0.2	30.0
Aniline	50.38	50.00	AVRG	0.8	30.0
Anthracene	52.52	50.00	AVRG	5.0	30.0
Benzidine	43.38	50.00	2ORDR	13.2	35.0
Benz(a)Anthracene	56.12	50.00	AVRG	12.2	30.0
Benzo(b)fluoranthene	57.82	50.00	2ORDR	15.6	30.0
Benzo(k)fluoranthene	51.93	50.00	2ORDR	3.9	30.0
Benzo(ghi)perylene	43.73	50.00	AVRG	12.5	30.0
Benzo(a)pyrene	52.15	50.00	2ORDR	4.3	20.0
Benzoic acid	51.03	50.00	LINR	2.1	35.0
Benzyl alcohol	34.19	50.00	2ORDR	31.6	30.0
Bis(2-chloroethoxy)methane	50.28	50.00	AVRG	0.6	30.0
Bis(2-chloroethyl)ether	49.96	50.00	AVRG	0.1	30.0
Bis(2-chloroisopropyl)ether	54.52	50.00	AVRG	9.0	30.0
Bis(2-ethylhexyl)phthalate	53.55	50.00	2ORDR	7.1	30.0
4-Bromophenyl phenyl ether	50.02	50.00	AVRG	0.0	30.0
Butyl benzyl phthalate	57.07	50.00	AVRG	14.1	30.0
Carbazole	47.46	50.00	AVRG	5.1	30.0
4-Chloroaniline	49.88	50.00	AVRG	0.2	30.0
Chlorobenzilate	55.88	50.00	2ORDR	11.8	35.0
4-Chloro-3-methylphenol	55.11	50.00	AVRG	10.2	20.0
2-Chloronaphthalene	50.02	50.00	AVRG	0.0	30.0
2-Chlorophenol	49.95	50.00	AVRG	0.1	30.0
4-Chlorophenyl phenyl ether	52.29	50.00	AVRG	4.6	30.0
Chrysene	50.83	50.00	AVRG	1.7	30.0
Dibenz(a,h)anthracene	45.48	50.00	2ORDR	9.0	30.0
Dibenzofuran	53.28	50.00	AVRG	6.6	30.0
Di-n-butyl phthalate	53.04	50.00	AVRG	6.1	30.0
1,2-Dichlorobenzene	49.65	50.00	AVRG	0.7	30.0
1,3-Dichlorobenzene	48.21	50.00	AVRG	3.6	30.0
1,4-Dichlorobenzene	48.94	50.00	AVRG	2.1	20.0
3,3'-Dichlorobenzidine	44.24	50.00	2ORDR	11.5	30.0
2,4-Dichlorophenol	52.99	50.00	AVRG	6.0	20.0
2,6-Dichlorophenol	52.38	50.00	AVRG	4.8	30.0
Diethyl phthalate	51.72	50.00	AVRG	3.4	30.0

<-

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

729 266

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: BNA1

Calibration Date: 12/17/02 Time: 1306

Lab File ID: 0201002

Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

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

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
3,3-Dimethylbenzidine	36.65	50.00	2ORDR	26.7	35.0
2,4-Dimethyphenol	52.40	50.00	AVRG	4.8	30.0
Dimethyl phthalate	50.62	50.00	AVRG	1.2	30.0
4,6-Dinitro-2-methylphenol	47.87	50.00	2ORDR	4.3	30.0
2,4-Dinitrophenol	51.82	50.00	AVRG	3.6	30.0
2,4-Dinitrotoluene	50.66	50.00	AVRG	1.3	30.0
2,6-Dinitrotoluene	55.31	50.00	AVRG	10.6	30.0
N-NitrsdiphylAm/Diphenylamin	52.02	50.00	AVRG	4.0	20.0
Di-n-octyl phthalate	48.93	50.00	LINR	2.1	20.0
Ethyl methanesulfonate	49.22	50.00	AVRG	1.6	30.0
Fluoranthene	52.00	50.00	AVRG	4.0	20.0
Fluorene	51.78	50.00	AVRG	3.6	30.0
Hexachlorobenzene	50.67	50.00	AVRG	1.3	30.0
Hexachlorobutadiene	51.61	50.00	AVRG	3.2	20.0
Hexachlorocyclopentadiene	52.32	50.00	2ORDR	4.6	30.0
Hexachloroethane	49.85	50.00	AVRG	0.3	30.0
Indeno(1,2,3-cd)pyrene	45.78	50.00	2ORDR	8.4	30.0
Isophorone	51.78	50.00	AVRG	3.6	30.0
Methyl methanesulfonate	50.88	50.00	AVRG	1.8	30.0
2-Methylnaphthalene	52.79	50.00	AVRG	5.6	30.0
2-Methylphenol	53.83	50.00	AVRG	7.7	30.0
3&4-Methylphenol	53.75	50.00	AVRG	7.5	30.0
Naphthalene	50.89	50.00	AVRG	1.8	30.0
2-Nitroaniline	53.57	50.00	AVRG	7.1	30.0
3-Nitroaniline	52.26	50.00	AVRG	4.5	30.0
Pentachlorobenzene	51.54	50.00	AVRG	3.1	30.0
4-Nitroaniline	51.84	50.00	2ORDR	3.7	30.0
Nitrobenzene	51.79	50.00	AVRG	3.6	30.0
2-Nitrophenol	46.98	50.00	2ORDR	6.0	20.0
4-Nitrophenol	46.51	50.00	LINR	7.0	30.0
N-Nitrosodibutylamine	52.54	50.00	AVRG	5.1	30.0
N-Nitrosodiethylamine	47.37	50.00	AVRG	5.3	30.0
N-Nitrosodimethylamine	50.73	50.00	AVRG	1.5	30.0
N-Nitrosodi-n-propylamine	52.16	50.00	AVRG	4.3	30.0
Pentachloronitrobenzene	49.34	50.00	AVRG	1.3	30.0
Pentachlorophenol	46.26	50.00	2ORDR	7.5	20.0
Phenacetin	47.93	50.00	2ORDR	4.1	35.0

FORM 7
BNA-GCMS CONTINUING CALIBRATION CHECK

729 267

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: BNA1

Calibration Date: 12/17/02 Time: 1306

Lab File ID: 0201002

Init. Calib. Date(s): 12/12/02 12/12/02

Init. Calib. Times: 1621 1850

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

COMPOUND	SAMPLE AMOUNT	CAL50 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Phenanthrene	54.97	50.00	AVRG	9.9	30.0
Phenol	55.03	50.00	AVRG	10.1	20.0
Pyrene	50.44	50.00	AVRG	0.9	30.0
Pyridine	52.19	50.00	AVRG	4.4	30.0
1,2,4,5-Tetrachlorobenzene	48.26	50.00	AVRG	3.5	30.0
2,3,4,6-Tetrachlorophenol	48.16	50.00	2ORDR	3.7	30.0
1,2,4-Trichlorobenzene	49.39	50.00	AVRG	1.2	30.0
2,4,5-Trichlorophenol	50.90	50.00	2ORDR	1.8	30.0
2,4,6-Trichlorophenol	47.48	50.00	LINR	5.0	20.0
1,2-Dphnylhydrazine/Azobenzen	51.02	50.00	AVRG	2.0	30.0
=====	=====	=====	=====	=====	=====
Nitrobenzene-d5	45.90	50.00	AVRG	8.2	30.0
2-Fluorobiphenyl	46.95	50.00	AVRG	6.1	30.0
Terphenyl-d14	55.15	50.00	AVRG	10.3	30.0
Phenol-d6	51.05	50.00	AVRG	2.1	30.0
2,4,6-Tribromophenol	45.07	50.00	2ORDR	9.9	30.0
2-Fluorophenol	49.64	50.00	AVRG	0.7	30.0

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 268

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID (Standard): 0201002

Date Analyzed: 12/17/02

Instrument ID: BNA1

Time Analyzed: 1306

	IS1 (DCB)	RT #	IS2 (NPT)	RT #	IS3 (ANT)	RT #
	AREA #		AREA #		AREA #	
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	363158	4.20	1421562	4.89	892654	5.80
UPPER LIMIT	726316	4.70	2843124	5.39	1785308	6.30
LOWER LIMIT	181579	3.70	710781	4.39	446327	5.30
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 021229301	264684	4.20	1028625	4.88	629065	5.79
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS1 (DCB) = 1,4-Dichlorobenzene-d4

IS2 (NPT) = Naphthalene-d8

IS3 (ANT) = Acenaphthene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

FORM 8
BNA-GCMS INTERNAL STANDARD AREA AND RT SUMMARY

729 269

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Lab File ID (Standard): 0201002

Date Analyzed: 12/17/02

Instrument ID: BNA1

Time Analyzed: 1306

	IS4 (PHN)	RT #	IS5 (CRY)	RT #	IS6 (PRY)	RT #
	AREA #		AREA #		AREA #	
=====	=====	=====	=====	=====	=====	=====
12 HOUR STD	1682605	6.55	1053259	8.00	472848	9.10
UPPER LIMIT	3365210	7.05	2106518	8.50	945696	9.60
LOWER LIMIT	841303	6.05	526630	7.50	236424	8.60
=====	=====	=====	=====	=====	=====	=====
CLIENT						
SAMPLE NO.						
=====	=====	=====	=====	=====	=====	=====
01 021229301	1097175	6.55	650932	7.99	356707	9.10
02						
03						
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						

IS4 (PHN) = Phenanthrene-d10

IS5 (CRY) = Chrysene-d12

IS6 (PRY) = Perylene-d12

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = - 50% of internal standard area

RT UPPER LIMIT = + 0.50 minutes of internal standard RT

RT LOWER LIMIT = - 0.50 minutes of internal standard RT

Column used to flag internal standard area values with an asterisk.

* Values outside of QC limits.

Report Date : 13-Dec-2002 11:00

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Calibration File Names:

Level 1: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0201002.D
 Level 2: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0301003.D
 Level 3: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0401004.D
 Level 4: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0501005.D
 Level 5: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0601006.D
 Level 6: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0701007.D
 Level 7: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0801008.D
 Level 8: \\ETCBDC\DD\chem\bnal.i\B1121201.B\0901009.D
 Level 9: \\ETCBDC\DD\chem\bnal.i\B1121201.B\1001010.D

Compound	2 0000		5 0000		10 0000		20 0000		50 0000		80 0000		Coefficients		b	Curve		or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12	m1	m2				
1 N-Nitrosodimethylamine	0.86973	0.73548	0.84942	0.89344	0.90502	0.88148												
	0.91047	0.94034	0.88314			AVRG							0.87428					6.64745

000124

E.S. Morley 12/13/02
 Page 1

ICAL
 SAN: 01-13-91-01
 12-13-02

ICV
 SAN: 01-13-91-11

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m2	SRSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			m1		or R^2
100 0000	120 0000	160 0000									
Level 7	Level 8	Level 9									
2 Pyridine	1 09051	1 13443	1 32762	1 48863	1 52960	1 44922	AVRG		1 41708		13 58445
	1 52530	1 63015	1 57829								
3 Methyl methanesulfonate	0 91375	0 78356	0 89784	0 90825	0 94655	1 02664	AVRG		0 92013		7 13437
	0 89587	0 96367	0 94500								
5 N-Nitrosodiethylamine	0 52426	0 43712	0 54761	0 55671	0 52621	0 58524	AVRG		0 54764		8 91331
	0 57598	0 60033	0 57533								
6 Ethyl methanesulfonate	1 10286	0 91627	1 04585	1 07386	1 07757	1 16846	AVRG		1 06243		6 41500
	1 02079	1 08362	1 07260								
8 Phenol	1 53370	1 31990	1 52509	1 51571	1 55665	1 68399	AVRG		1 54673		6 87949
CCC	1 59151	1 67293	1 52108								

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m1	m2	MSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
9 Aniline	0 73691	0 65052	0 74289	0 73825	0 70680	0 67667	AVRG			0 71368		5 76851
10 Bis(2-chloroethyl)ether	0 96143	0 79298	0 86895	0 84788	0 81019	0 76637	AVRG			0 82654		7 27760
11 2-Chlorophenol	1 22153	2 03784	1 21047	1 22432	1 24727	1 37990	AVRG			1 24954		8 04919
12 1,3-Dichlorobenzene	1 57732	1 28092	1 35500	1 35015	1 33842	1 30663	AVRG			1 35944		6 47924
14 1,4-Dichlorobenzene	1 57732	1 28092	1 35560	1 35015	1 33842	1 30663	AVRG			1 35944		6 47924
CCC	1 35833	1 37773	1 29047									

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients m1	m2	%SD or R ²
15 Benzyl alcohol	13034 850387	31422 1011675	79849 1387661	150662	411760	745331	QUAD	0 01650	0 85875	0 00288	0 99787
16 2-Methylphenol	0 91265 0 95649	0 78682 1 03356	0 87538 1 00496	0 90355	0 94378	1 06158	AVRG		0 94209		9 01629
17 1,2-Dichlorobenzene	1 40158 1 23773	1 09670 1 28276	1 22229 1 18997	1 21499	1 73263	1 19740	AVRG		1 21066		6 61453
18 Bis(2-chloroisopropyl) ether	1 38383 1 05852	1 11543 1 09107	1 16324 1 00896	1 13616	1 08135	1 04084	AVRG		1 11993		9 80504
19 3,4-Methylphenol	1 06119 1 15138	0 90997 1 21826	1 03112 1 16762	1 09648	1 15445	1 28354	AVRG		1 11933		9 83034

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients m1	m2	1/SD or R ²
20 N-Nitrosodi-n-propylamine SRC	0 24044 0 20488	0 20056 0 21261	0 23471 0 19743	0 22871	0 21760	0 20285	AVRG		0 21553		7 33780
21 Acetophenone	0 46384 0 40786	0 37061 0 42492	0 44102 0 37748	0 43331	0 39711	0 42079	AVRG		0 41522		7 26438
22 Hexachloroethane	0 15522 0 14061	0 12681 0 14745	0 15019 0 13718	0 14115	0 14254	0 13724	AVRG		0 14204		5 84315
24 Nitrobenzene	0 38129 0 31713	0 31850 0 33214	0 36113 0 31425	0 35279	0 33673	0 32102	AVRG		0 33722		6 89596
25 Isophorone	0 51631 0 56016	0 45783 0 56862	0 56469 0 53969	0 57185	0 55689	0 53817	AVRG		0 54158		6 66690

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	Level 1	5 0000	Level 2	10 0000	Level 3	20 0000	Level 4	50 0000	Level 5	80 0000	Level 6	Curve	b	Coefficients m1	m2	RSD or R ²
26 2,4-Dimethoxyphenol	0 31659	0 27142	0 32369	0 32369	0 32369	0 32369	0 32369	0 32369	0 32369	0 32369	0 32369	0 32369	AVRG	0 31817	0 31817	6 70365	
27 Benzoic acid	++++	5376	24243	66184	285883	563366	563366	563366	563366	563366	563366	563366	AVRG	0 25534	0 26758	0 99112	
28 2-Nitrophenol CCC	6845	19055	48554	100085	279960	509889	509889	509889	509889	509889	509889	509889	QUAD	0 04374	4 68342	0 17395	0 99810
29 Bis(2-chloroethoxy)methane	0 37540	0 32256	0 36304	0 34905	0 33846	0 32879	0 32879	0 32879	0 32879	0 32879	0 32879	0 32879	AVRG	0 34195	0 34195	5 59498	
30 2,4-Dichlorophenol CCC	0 23306	0 20642	0 25230	0 25133	0 27758	0 30136	0 30136	0 30136	0 30136	0 30136	0 30136	0 30136	AVRG	0 26462	0 26462	11 93281	

*1%RSD = 15.3

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCBDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000		5 0000		10 0000		20 0000		50 0000		80 0000		Curve	b	Coefficients		m2	RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level 10	Level 11	Level 12			m1			
31 1, 2, 4-Trichlorobenzene	0 32976	0 26559	0 30069	0 30181	0 29951	0 29212							AVRG		0 29960		5 75803	
33 Naphthalene	0 99387	0 77481	0 88368	0 88151	0 84465	0 77931							AVRG		0 81831		11 55573	
34 4-Chloroaniline	0 30619	0 28623	0 34599	0 33999	0 34569	0 34936							AVRG		0 34217		8 52064	
35 2, 6-Dichlorophenol	0 24127	0 21037	0 24789	0 24973	0 26917	0 29774							AVRG		0 26038		10 13489	
36 Hexachlorobutadiene	0 20807	0 16399	0 18542	0 18589	0 19530	0 19798							AVRG		0 19462		7 47258	
CCC	0 20629	0 21048	0 19815															

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	Coefficients	or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		b	m1
	100 0000	120 0000	160 0000						
	Level 7	Level 8	Level 9						
37 N-Nitrosodibutylamine	0.18074	0.17591	0.21319	0.22422	0.21386	0.23367	AVRG	0.21506	10 52323
38 4-Chloro-3-methylphenol	0.23480	0.20780	0.26036	0.26886	0.28609	0.31627	AVRG	0.27327	12 62402
39 2-Methylnaphthalene	0.66311	0.54218	0.62712	0.62577	0.63376	0.58603	AVRG	0.60377	6 77741
40 Hexachlorocyclopentadiene	5085	15174	40251	83304	267762	451142	QUAD	0.06522	3 21141
SPC	57877	689671	871870					-0.04458	0 99691
41 1,2,4,5-Tetrachlorobenzene	0.57485	0.45347	0.52192	0.51056	0.51661	0.55852	AVRG	0.53326	7 45387
	0.55339	0.58357	0.52641						

*₁ RF = 0.26

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients ml	m2	WRS or R ²
42 2,4,6-Trichlorophenol	7535 694433	21675 821828	55937 1143463	112032	328653	610139	LINR	0 06780	0 39907		0 99772
43 2,4,5-Trichlorophenol CC	++++ 747569	22587 876971	59163 1195645	114654	337490	639983	QUAD	0.05921	2 50411	-0 09205	0 99870 *1
45 2-Chloronaphthalene	0.95641 0 84578	0 15476 0 85299	0 85033 0 80255	0 83295	0 86111	0 80152	AVRG		0 83982		6 59009
46 2-Nitroaniline	++++ 0 30027	0 22397 0 32572	0 27886 0 32499	0 28792	0 30549	0 28234	AVRG		0 29120		11 15150
47 4-Nitrophenol SAC	2278 399319	9717 497650	25671 724713	54777	182436	339161	LINR	0 15727	0 25061		0 99114 *2

*1 WRS = 15.4

*2 RF = 0.18

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients m1	m2	MSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
48 Dimethyl phthalate	1 14153	0.98065	1 14554	1 12716	1 13694	1 06120	AVRG		1 09427		5 09493
	1 09437	1 11741	1 04365								
49 2,4-Dinitrotoluene	0 20154	0.20487	0 24300	0 24864	0 26269	0 25772	AVRG		0 25236		12 73866
	0 27458	0 28908	0 28910								
50 Acenaphthylene	1 39846	1.18874	1 37275	1 33785	1 34461	1 20915	AVRG		1 27692		7 26115
	1 25165	1.26889	1 12221								
51 3-Nitroaniline	0 19133	0 19846	0 25042	0 25470	0 24239	0 23308	AVRG		0 23468		12 31149
	0.27041	++++	++++								
53 2,4-Dinitrophenol	0 15661	0 17342	0 21170	0 21545	0 19986	0 18506	AVRG		0 18290		11 67717
	0 16719	0.17153	0 16527								
SPEC											

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m1	m2	WRSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
54 Acenaphthene CC	0 99415	0 80794	0 90149	0 90421	0 94513	0 87837	AVRG			0 89101		6 72732
	0 89176	0 89347	0 80256									
55 2,6-Dinitrotoluene	0 21820	0 19675	0 23665	0 23864	0 23482	0 20904	AVRG			0 21875		1 30830
	0 20657	0 20936	++++									
56 Pentachlorobenzene	0 69383	0 56442	0 64304	0 68670	0 72530	0 87096	AVRG			0 74034		14 06378
	0 83335	0 85239	0 79303									
57 Dibenzofuran	1 43840	1 17927	1 36702	1 36424	1 40947	1 29096	AVRG			1 32135		6 71627
	1 30667	1 34091	1 19523									
58 Diethyl phthalate	1 04503	0 92653	1 06896	1 06316	1 08231	0 97727	AVRG			1 01573		5 69742
	1 01273	1 03175	0 93379									

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	ml	m2	WSTD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					or R ²
59 2,3,4,6-Tetrachlorophenol	5171	16556	44851	95449	298484	586136					
	665374	815118	1104669				QUAD	0 06884	2 81633	-0 18812	C 99747
60 4-Chlorophenyl phenyl ether	0 58729	0 48796	0 55867	0 56422	0 61062	0 58278					
	0 61686	0 62334	0 55782				AVRG		0 57662		7 20280
61 4-Nitroaniline	3231	12323	32817	66546	183849	306847					
	408423	513366	****				QUAD	-0 00971	5 84844	-2 32137	0 99861
62 4,6-Dinitro-2-methylphenol	2166	8717	27180	60555	215077	426170					
	493526	617695	835424				QUAD	0 09670	7 12363	-1 27300	0 99662
63 Fluorene	1 09033	0 94994	1 07693	1 07433	1 09368	1 01600					
	1 02583	1 03001	0 94497				AVRG		1 03358		5 47572

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m2	MSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
	100 0000	120 0000	160 0000								
	Level 7	Level 8	Level 9								
64 N-Nitrosodiphenylamine	0 41573	0 33898	0 37731	0 37605	0 38074	0 37199					
	0 38784	0 39859	0 35385				AVRG		0 37790		5 9890*
65 1,2-Diphenylhydrazine/Azobenzene	0 08560	0 07569	0 08721	0 08733	0 08818	0 08717					
	0 09021	0 09578	0 09160				AVRG		0 08764		6 20031
67 Phenacetin	5620	19054	64377	150909	445225	820418					
	1007695	1222378	1545914				QJAD	0 07905	3 35764	0 04230	0 99640
68 4-Bromophenyl phenyl ether	0 20666	0 16523	0 19448	0 13258	0 20976	0 20745					
	0 22344	0 22975	0 21837				AVRG		0 20530		9 44543
69 Hexachlorobenzene	0 24822	0 19129	0 21773	0 22051	0 24329	0 24847					
	0 26921	0 27702	*****				AVRG		0 23947		11 83201

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.1\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	ml	ml	RSR or R ²
70 Pentachlorophenol cc	630963	13842 77462	32559 1082074	75035	263543	541078	QUAD	0.12221	5.61664	-0.91546	0.99693
71 Pentachloronitrobenzene	0.08030 0.10143	0.07607 0.10754	0.09588 0.10007	0.09602	0.09500	0.10380	AVRG		0.09512		11.0351
73 Phenanthrene	0.79909 0.72028	0.65800 0.72193	0.77969 0.53174	0.80780	0.82139	0.76807	AVRG		0.74533		8.99756
74 Anthracene	0.76957 0.72157	0.66542 0.72359	0.78750 0.63361	0.80977	0.82723	0.77284	AVRG		0.74568		8.72813
75 Carbazole	0.58912 0.56757	0.53963 0.60514	0.63322 0.54430	0.63240	0.56291	0.57583	AVRG		0.58335		5.92606

*1, %RSD = 27.9

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000 Level 1	5 0000 Level 2	10 0000 Level 3	20 0000 Level 4	50 0000 Level 5	80 0000 Level 6	Curve	b	Coefficients m1	m2	SRSD or R ²
76 Di-n-butyl phthalate	0 76940 0 81806	0 77650 0 80438	0 96174 ++++	0 98332	0 97436	0 86143	AVRG		0 86865		10 48579
77 Fluoranthene CAC	0 88266 0 84445	0 79498 0 83297	0 92777 0 72127	0 95345	0 97943	0 88295	AVRG		0 86888		9 31130
78 Benzidine	6462 840503	22538 1075203	65044 ++++	125661	360596	676970	QUAD	0 00706	4 29827	-1 42846	0 99778
79 Pyrene	0 90414 0 81089	0 78981 0 81124	0 90028 0 69819	0 90489	0 94126	0 84325	AVRG		0 84488		9 00525
81 Chlorobenzilate	++++ 1199802	30116 1391211	86958 ++++	186158	546151	990952	QUAD	0 02711	2 69688	-0 42944	0 99745

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients	m2	1RSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
82 Butyl benzyi phthalate	100 0000	120 0000	160 0000								
	Level 7	Level 8	Level 9								
	++++	0 32276	0 47112	0 52659	0 52633	0 51132					
	0 51359	0 53713	0 49000				AVRG		0 48736		14 33369
83 3,3-Dimethylbenzidine	8642	31940	89640	182601	487990	903876		0 05083	2 53527	-0 15133	0 99653
	1147228	1289454	1565936				QUAD				
84 Bis(2-ethylhexyl)phthalate	10963	47637	149528	323347	967558	1471742					
	1836318	1990394	2306527				QUAD	0 05263	1 32333	0 09070	0 99769
85 3,3'-Dichlorobenzidine	6236	26950	67616	144006	423646	724165					
	906317	965407	1228281				QUAD	0 04174	3 14817	-0 14139	0 99952
86 Benz(a)Anthracene	0 97642	0 76223	0 85436	0 85944	0 86915	0 83833					
	0 85850	0 89568	0 81432				AVRG		0 85871		6 77102

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients m1	m2	RSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6					
88 Chrysene	0 97642	0 76223	0 85436	0 85944	0 86915	0 83833	AVRG		0 85871		6 77102
89 Di-n-octyl phthalate	++++	52082	175426	400862	1273203	1957459	LINR	0 04343	0 91095		0 99698 *1
90 Benzo(b)fluoranthene	24847	98895	203406	396661	1061740	1508412	QUAD	-0 00510	0 93400	-0 06621	0 99812
91 Benzo(k)fluoranthene	2260635	2253200	++++								
	28339	99552	239431	455176	1253944	1894420	QUAD	0 02501	0 69747	-0 01888	0 99967
92 Benzo(a)pyrene	15888	65671	163771	318146	866515	1384765	QUAD	0 01902	1 06820	-0 07262	0 99940 *2
	1787335	1705190	++++								

*1 %RSD = 22.4

*2 %RSD = 23.8

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETC\BDC\DD\chem\bnal.i\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10 0000	20 0000	50 0000	80 0000	Curve	b	Coefficients		MSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6			m1	m2	or R^2
	100 0000	120 0000	160 0000								
	Level 7	Level 8	Level 9								
94 Indeno(1,2,3-cd)pyrene	15571	65528	150039	305898	713736	1114442	QUAD	0 00729	1 23191	-0 09274	0 99887
	1591535	1432466	++++								
95 Dibenzo(a,h)anthracene	12637	53089	122541	252874	611918	974850	QUAD	0 01914	1 41398	-0.12320	0 99916
	1379361	1244477	++++								
96 Benzo(ghi)perylene	0 55090	0 53938	0 65016	0 69137	0 63162	0 65862	AVRG		0 66395		12 27821
	0 74718	0 75370	0.75266								
97 4 2-Fluorophenol	1 06228	0 91825	1 12413	1 18191	1 18106	1 25992	AVRG		1 16070		9 94415
	1 19234	1 30818	1 21823								
98 7 Phenol-d6	1 31933	1 18478	1 38909	1 39653	1 44737	1 53991	AVRG		1 41201		8 01733
	1 45822	1 55962	1 41326								

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
 End Cal Date : 12-DEC-2002 18:50
 Quant Method : ISTD
 Target Version : 4.00
 Integrator : HP RTE
 Method file : \\ETCDBC\DD\chem\bna1.1\B1121201.B\B1121201.M
 Cal Date : 13-Dec-2002 10:33 erica

Compound	2 0000	5 0000	10.0000	20.0000	50 0000	80 0000	Curve	b	Coefficients	m1	m2	SRSD or R^2
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
	100 0000	170 0000	180 0000									
	Level 7	Level 8	Level 9									
\$ 23 Nitrobenzene-d5	0 39611	0 34249	0 38913	0 37660	0 33789	0 35636	AVRG			0 36855		6 16833
	0 36035	0 39049	++++									
\$ 44 2-Fluorobiphenyl	1 32972	1 08648	1 20714	1 20106	1 09181	1 08990	AVRG			1 15687		7 36527
	1 10591	1 14297	++++									
\$ 66 2,4,6-Tribromophenol	3523	10722	29510	62866	208298	429523	QUAD	0 09739	7 09130	-2 70598		0 99644
	545162	684682	946656									
\$ 80 Terphenyl-d14	0 88685	0 68458	0 84681	0 91471	0 84624	0 93086	AVRG			0 87241		10 41189
	0 87143	0 99779	++++									

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 12-DEC-2002 16:21
End Cal Date : 12-DEC-2002 18:50
Quant Method : ISTD
Target Version : 4.00
Integrator : HP RTE
Method file : \\ETCBDC\DD\chem\bnal.i\B1121201.B\B1121201.M
Cal Date : 13-Dec-2002 10:33 erica

Curve	Formula	Units
Averaged	Ant = Rsp/ml	Response
Linear	Ant = b + Rsp/ml	Response
Quad	Ant = a + m1*Rsp + m2*Rsp^2	Response

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC Pesticides**

ENVIRONMENTAL TESTING & CONSULTING, INC

GC Pesticides Method 8081A Sequence Check List (SW-846)

Sequence ID : P3121801A.B System ID : Post 3A Date : 12/18/02 Analyst : MW

Column ID : Primary Confirmation Column Description : Z85 Supervisor : _____

Applicable ETC Order Nos. for this sequence:

0212-293

- 1 Initial Calibration P3121801A.M SRN 01-13-92-14
 RSD of analytes $\leq 20\%$ may use average RF.
 RSD of analytes $> 20\%$ or analyst discretion, use linear regression ($r^2 \geq 0.99$)
- Initial Calibration Verification SRN 01-13-94-01
- 2 Endrin/DDT Breakdown - Breakdown for each must not exceed 15% Endrin 7.5 DDT 8.3
- 3 Calibration Verification - Beginning/Every 20th Sample / Ending Note only those %D that affect data.
 %Difference $< 15\%$ or Average %Difference of All Analytes $< 15\%$
 Max Allowable % Difference $\leq 30\%$ for individual analytes
 SRN 01-13-94-01

CV w/File #	Aldrin	Alpha-BHC	Beta-BHC	Delta-BHC	Gamma-BHC	Alpha-chlor	Gamma-chlor	Chlorpyrifos	4,4'-DDD	4,4'-DDE	4,4'-DDT	Dieldrin	Endosulfan I	Endosulfan II	Endosulfan Sul	Endrin	Endrin Ald	Endrin Ket	Heptachlor	Hept Epoxide	Methoxychlor	DCB	TMX	Average
19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
2A	✓	17.0	✓	19.5	15.5	✓	✓	✓	17.0	✓	19.0	✓	✓	✓	19.0	18.5	26.0	27.5	16.0	✓	✓	18.5	✓	14.6
2B																								
3A																								
3B																								

- 4 Method Blanks - Note results for positive results. Flag final results as B - Detected in Blank.
 1 per 20 samples per matrix

Method Blank	Soil	Aqueous	Notes:
P09028LB	<MDL		FLORISIL
P09046LB		<MDL	FLORISIL

- 5 Laboratory Control Samples - Note failures only. 1 per 20 samples per matrix Duplicate LCS when no MS/MSD available

LCS/LCSD	% Recovery	%RPD	Notes:
P09028LCS	6/20	NA	FLORISIL - HIGH RECOVERY
P09046LCS/LCSD	15/40	13/20	FLORISIL - HIGH RECOVERY

- 6 Matrix Spike/Matrix Spike Duplicate - 1 per 20 samples per matrix
 0212-293-1 MS/MSD 9/40, 2/20 FLORISIL FVID
- 7 Notes
 0212-293-1 MS/MSD 15/40, 1/20 FLORISIL FVID, 1:10

Environmental Testing & Consulting, Inc.
Pesticide Evaluation Standard (PEM)
DDT/Endrin Breakdown

Data File P312181A-01R.D
Injection Date 12/18/02
Column ZB-5

Primary

DDT / Endrin Breakdown Calculation

Analyte	Area
DDE	9249
DDD	40099
DDT	544293
Endrin	757601
Endrin Aldehyde	335963
Endrin Ketone	25571

% DDT Breakdown 8.31% OK
% Endrin Breakdown 7.51% OK

Breakdown for each must be less than 15%.

$$\% \text{ breakdown of DDT} = \frac{\text{sum of degradation peak areas (DDD + DDE)}}{\text{sum of all peak areas (DDT + DDE + DDD)}} \times 100$$

$$\% \text{ breakdown of Endrin} = \frac{\text{sum of degradation peak areas (aldehyde + ketone)}}{\text{sum of all peak areas (Endrin + aldehyde + ketone)}} \times 100$$

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

729 293

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: PEST3A

Calibration Date: 12/18/02 Time: 1430

Lab File ID: P312181A-09R

Init. Calib. Date(s): 12/18/02 12/18/02

Init. Calib. Times: 1003 1352

GC Column: RTX-CLP2 ID: 0.18 (mm)

COMPOUND	SAMPLE AMOUNT	0.02 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Aldrin	0.0221	0.0200	2ORDR	10.5	15.0
alpha-BHC	0.0222	0.0200	2ORDR	11.0	15.0
beta-BHC	0.0203	0.0200	AVRG	1.5	15.0
delta-BHC	0.0218	0.0200	2ORDR	9.0	15.0
gamma-BHC (Lindane)	0.0220	0.0200	2ORDR	10.0	15.0
alpha-chlordane	0.0213	0.0200	AVRG	6.5	15.0
gamma-chlordane	0.0213	0.0200	AVRG	6.5	15.0
4,4'-DDD	0.0217	0.0200	AVRG	8.5	15.0
4,4'-DDE	0.0218	0.0200	AVRG	9.0	15.0
4,4'-DDT	0.0218	0.0200	2ORDR	9.0	15.0
Dieldrin	0.0218	0.0200	AVRG	9.0	15.0
endosulfan I	0.0216	0.0200	AVRG	8.0	15.0
Endosulfan sulfate	0.0218	0.0200	2ORDR	9.0	15.0
Endrin	0.0179	0.0200	AVRG	10.5	15.0
Heptachlor	0.0219	0.0200	2ORDR	9.5	15.0
Endosulfan II	0.0210	0.0200	AVRG	5.0	15.0
Chlropyriphos	0.0197	0.0200	AVRG	1.5	15.0
Endrin aldehyde	0.0225	0.0200	AVRG	12.5	15.0
Endrin ketone	0.0222	0.0200	2ORDR	11.0	15.0
Heptachlor epoxide	0.0212	0.0200	AVRG	6.0	15.0
Methoxychlor	0.0209	0.0200	AVRG	4.5	15.0
=====	=====	=====	=====	=====	=====
Decachlorobiphenyl	0.0228	0.0200	AVRG	14.0	15.0
Tetrachloro-m-xylene	0.0199	0.0200	AVRG	0.5	15.0

FORM VII PESTICIDE

000147

FORM 7
PESTICIDE CONTINUING CALIBRATION CHECK

729 294

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: PEST3A

Calibration Date: 12/18/02

Time: 2210

Lab File ID: P312181A-20R

Init. Calib. Date(s): 12/18/02

12/18/02

Init. Calib. Times: 1003

1352

GC Column: RTX-CLP2 ID: 0.18 (mm)

COMPOUND	SAMPLE AMOUNT	0.02 AMOUNT	CURVE	%D	MAX %d	
=====	=====	=====	=====	=====	=====	
Aldrin	0.0227	0.0200	2ORDR	13.5	15.0	
alpha-BHC	0.0234	0.0200	2ORDR	17.0	15.0	<-
beta-BHC	0.0214	0.0200	AVRG	7.0	15.0	
delta-BHC	0.0239	0.0200	2ORDR	19.5	15.0	<-
gamma-BHC (Lindane)	0.0231	0.0200	2ORDR	15.5	15.0	<-
alpha-chlordane	0.0223	0.0200	AVRG	11.5	15.0	
gamma-chlordane	0.0225	0.0200	AVRG	12.5	15.0	
4,4'-DDD	0.0234	0.0200	AVRG	17.0	15.0	<-
4,4'-DDE	0.0221	0.0200	AVRG	10.5	15.0	
4,4'-DDT	0.0238	0.0200	2ORDR	19.0	15.0	<-
Dieldrin	0.0225	0.0200	AVRG	12.5	15.0	
endosulfan I	0.0222	0.0200	AVRG	11.0	15.0	
Endosulfan sulfate	0.0238	0.0200	2ORDR	19.0	15.0	<-
Endrin	0.0163	0.0200	AVRG	18.5	15.0	<-
Heptachlor	0.0232	0.0200	2ORDR	16.0	15.0	<-
Endosulfan II	0.0226	0.0200	AVRG	13.0	15.0	
Chlropyriphos	0.0215	0.0200	AVRG	7.5	15.0	
Endrin aldehyde	0.0252	0.0200	AVRG	26.0	15.0	<-
Endrin ketone	0.0255	0.0200	2ORDR	27.5	15.0	<-
Heptachlor epoxide	0.0223	0.0200	AVRG	11.5	15.0	
Methoxychlor	0.0218	0.0200	AVRG	9.0	15.0	
=====	=====	=====	=====	=====	=====	
Decachlorobiphenyl	0.0237	0.0200	AVRG	18.5	15.0	<-
Tetrachloro-m-xylene	0.0208	0.0200	AVRG	4.0	15.0	

FORM VII PESTICIDE

J00148

Report Date : 19-Dec-2002 09:28

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-DEC-2002 10:03
 End Cal Date : 18-DEC-2002 13:52
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p3121801a.m
 Cal Date : 19-Dec-2002 07:57 mike

SRN: 01-13-92-14
 CV: 01-13-94-01

Calibration File Names:

Level 1: \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p312181A-02R.d
 Level 2: \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p312181A-03R.d
 Level 3: \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p312181A-04R.d
 Level 4: \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p312181A-05R.d
 Level 5: \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p312181A-06R.d
 Level 6: \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p312181A-07R.d
 Level 7: \\ETCBDC\CHEM\pest3a.i\p3121801a.b\p312181A-08R.d

ICAL METHOD 0001/600

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	Coef. Cents	m1	m2	MSD or R ²
2 alpha-BHC	3468	33731	96307	210278	319124	494431	QUAD	0.00005	1.105e-007	-5.938e-01		0.99908
3 beta-BHC	4767500	4390500	4567000	4492300	4314833	5079425	VRG			4637142		5.89180

12/19/02
 12/19/02
 12/19/02

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-DEC-2002 10:03
 End Cal Date : 18-DEC-2002 13:52
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETC\BDC\CHEM\pest3a.i\p3121801a.b\p3121801a.m
 Cal Date : 19-Dec-2002 07:57 mike

Compound	0 0004000	0 0043000	0 0100000	0 0200000	0 0400000	0 0300000	Curve	b	Coefficients	m1	m2	SRSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						
	0 0600000											
	Level 7											
4 gamma-BHC (Lindane)	3417	33561	93671	204669	304978	484986	QUAD	-0 00008	1 163e-007	-6 849e-01		0 99845
5 delta-BHC	3077	29747	80944	180832	279023	449442	QUAD	1 000e-007	1 312e-007	-9 317e-01		0 99922
6 Heptachlor	12285	40734	110373	218758	326074	512830	QUAD	-0 00102	1 126e-007	-6 262e-01		0 99827
7 Aldrin	4454	44197	114505	242392	363400	572500	QUAD	-0 00031	9 827e-008	-4 795e-01		0 99868
8 Chlropyr-phos	5512500	5156250	4772900	4705550	4600233	5182900	AVRG		4953360			6 74291

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-DEC-2002 10:03
 End Cal Date : 18-DEC-2002 13:52
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETC\BDC\CHEM\pest3a.i\p3121801a.b\p3121801a.m
 Cal Date : 19-Dec-2002 07:57 mike

Compound	0 0004000	0 0040000	0 0040000	0 0100000	0 0200000	0 0400000	0 0300000	Curve	b	Coefficients	m1	m2	MSD or R ²
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7						
9 Heptachlor epoxide	11032500	10968000	11262500	11519700	11408067	12799260		AVRG		11645581			6 23706
	12529100												
10 gamma-chlordane	10965000	10881500	11290500	11699050	11491467	13410550		AVRG		11847564			8 73749
	13194883												
11 endosulfan I	10292500	10308750	10493000	10646900	10730533	12222725		AVRG		10940537			7 17187
	11889350												
12 alpha-chlordane	12052500	11431750	11521200	11783750	11884100	13539425		AVRG		12196220			6 74712
	13160817												
13 4,4'-DDP	10357500	10474750	10861800	11176400	11197233	12857975		AVRG		11346385			8 54270
	12499033												

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-DEC-2002 10:03
 End Cal Date : 18-DEC-2002 13:52
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETC\BDC\CHEM\pest3a.i\p3121801a.b\p3121801a.m
 Cal Date : 19-Dec-2002 07:57 mike

Compound	0 004000	0 004000	0 004000	0 010000	0 020000	0 040000	0 030000	Curve	b	Coefficients	m1	m2	RSR
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7						or R ²
14 Dieldrin	11012500	10852500	11454500	11889600	11819500	13534700		AVRG		11994336			8 99784
15 Endrin	8975000	8574500	8538600	9300650	8633700	9996875		AVRG		9078742			6 12016
16 Endosulfan II	10287500	8945750	9060500	9210950	9406567	10706500		AVRG		9753081			7 88822
17 4,4'-DDO	8262500	8120750	8526100	8893600	8777100	10267150		AVRG		8977138			9 30898
18 Endrin aldehyde	6975000	7227000	7328300	7601250	7579200	8936125		AVRG		7607813			9 08556

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-DEC-2002 10:03
 End Cal Date : 18-DEC-2002 13:52
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETC\BDC\CHEM\pest3a.i\p3121801a.b\p3121801a.m
 Cal Date : 19-Dec-2002 07:57 mike

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	ml	m2	%RSD or R ²
19 Endosulfan sulfate	4091 ++++	43840	111719	243487	377843	592069	QUAD	-0.00013	9.640e-008	-4.795e-01	0.99951
20 4,4'-DDT	4091 ++++	43840	111719	243487	377843	592069	QUAD	-0.00013	9.640e-008	-4.795e-01	0.99951
21 Endrin ketone	2884 ++++	31828	80432	167888	263503	407929	QUAD	-0.00025	1.385e-007	-9.674e-01	0.99962
22 Methoxychlor	340000 4052400	3614500	3531400	3615050	3615367	4218575	AVRG		3721042		7.98818
5 1 Tetrachloro-m-xylene	7070000 7298567	6023250	6499000	6721050	6426767	7181750	AVRG		6774340		7.36792

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 18-DEC-2002 10:03
 End Cal Date : 18-DEC-2002 13:52
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETC\BDC\CHEM\pest3a.i\p3121801a.b\p3121801a.m
 Cal Date : 19-Dec-2002 07:57 mike

Compound	0 0004000		0 0040000		0 0100000		0 0200000		0 0400000		0 0300000		Coefficients		RSD	
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	m1	m2	or R^2					
	0 0600000															
	Level 7															
\$ 23 Decachlorobiphenyl	6885000	6696500	6111100	5957400	5735933	6306375	AVRG		6243746		6 63/15					
	6013917															

Curve	Formula	Units
Averaged	Amt = Rsp/ml	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
GC PCBs**

ENVIRONMENTAL TESTING & CONSULTING, INC

GC PCB Method 8082 Sequence Check List (SW-846)

HBN: _____
 Sequence ID: P2121701A.B System ID: PEST 2A Date: 12/17/02 Analyst: ML
 Column ID: Primary / Confirmation Column Description: ZB5 Supervisor: _____

Applicable ETC Order Nos. for this sequence:

0212-293

0212-445

- Initial Calibration PCB2121701A.M
 RSD of analytes $\leq 20\%$ may use average RF
 RSD of analytes $\geq 20\%$ or analyst discretion, use linear regression ($r^2 \geq 0.99$)
- Calibration Verification – Beginning/Every 20th Sample / Ending Note only those %D that affect data
 %Difference $< 15\%$ or Average %Difference of All Analytes $< 15\%$

CV w/File #	PCB-1242	PCB-1260	DCB	TMX	Average
1A <u>7</u>	✓	✓	✓	✓	NA
1B <u>—</u>					
2A <u>10</u>	✓	✓	25.2	18.4	12.6
2B <u>—</u>					
3A <u>25</u>	✓	57.0	10.8	✓	(F)
3B					

*Reanalysis for failing ending
check with P2121601A.B*

- Method Blanks – Note results for positive results. Flag final results as B – Detected in Blank.
 1 per 20 samples per matrix.

Method Blank				
<u>P10038LB</u>	<u><</u>	<u>SUPP</u>		
<u>P10039LB</u>	<u><</u>	<u>✓</u>		

- Laboratory Control Samples – Note failures only 1 per 20 samples per matrix. Duplicate LCS when no MS/MSD available

LCS/LCSD				
<u>P10038LCS</u>	<u>NO REL</u>	<u>SUPP</u>		
<u>P10039LCS</u>	<u>✓</u>	<u>✓</u>		

Matrix Spike/Matrix Spike Duplicate – 1 per 20 samples per matrix.

0212-293-1 MS/MSD 0/4, 0/2
0212-445-2 MS/MSD 0/4, 0/2

6. Notes

FORM 7
PCB CONTINUING CALIBRATION CHECK

729 303

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: PEST2A

Calibration Date: 12/17/02

Time: 1916

Lab File ID: P212171A-07R

Init. Calib. Date(s): 12/17/02 12/17/02

Init. Calib. Times: 1650

1851

GC Column: ZB-35

ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL0.5 AMOUNT	CURVE	%D	MAX %d
=====	=====	=====	=====	=====	=====
Aroclor 1242	0.525	0.500	2ORDR	5.0	15.0
(2)	0.525	0.500	2ORDR	5.0	15.0
(3)	0.525	0.500	2ORDR	5.0	15.0
(4)	0.525	0.500	2ORDR	5.0	15.0
(5)	0.525	0.500	2ORDR	5.0	15.0
Aroclor 1260	0.504	0.500	2ORDR	0.8	15.0
(2)	0.504	0.500	2ORDR	0.8	15.0
(3)	0.504	0.500	2ORDR	0.8	15.0
(4)	0.504	0.500	2ORDR	0.8	15.0
(5)	0.504	0.500	2ORDR	0.8	15.0
=====	=====	=====	=====	=====	=====
Tetrachloro-m-xylene	0.0434	0.0500	LINR	13.2	15.0
Decachlorobiphenyl	0.0433	0.0500	LINR	13.4	15.0

FORM VII PCB

900157

FORM 7
PCB CONTINUING CALIBRATION CHECK

729 304

Lab Name: ETC, INC.

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.: 0212293

Instrument ID: PEST2A

Calibration Date: 12/17/02 Time: 2341

Lab File ID: P212171A-18R

Init. Calib. Date(s): 12/17/02 12/17/02

Init. Calib. Times: 1650

1851

GC Column: ZB-35

ID: 0.25 (mm)

COMPOUND	SAMPLE AMOUNT	CAL0.5 AMOUNT	CURVE	%D	MAX %d	
=====	=====	=====	=====	=====	=====	
Aroclor 1242	0.522	0.500	2ORDR	4.4	15.0	
(2)	0.522	0.500	2ORDR	4.4	15.0	
(3)	0.522	0.500	2ORDR	4.4	15.0	
(4)	0.522	0.500	2ORDR	4.4	15.0	
(5)	0.522	0.500	2ORDR	4.4	15.0	
Aroclor 1260	0.487	0.500	2ORDR	2.6	15.0	
(2)	0.487	0.500	2ORDR	2.6	15.0	
(3)	0.487	0.500	2ORDR	2.6	15.0	
(4)	0.487	0.500	2ORDR	2.6	15.0	
(5)	0.487	0.500	2ORDR	2.6	15.0	
=====	=====	=====	=====	=====	=====	
Tetrachloro-m-xylene	0.0408	0.0500	LINR	18.4	15.0	<-
Decachlorobiphenyl	0.0374	0.0500	LINR	25.2	15.0	<-

FORM VII PCB

000158

Report Date : 18-Dec-2002 10:39

Page 1

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2002 16:50
 End Cal Date : 17-DEC-2002 21:16
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETCBDC\CHEM\pest2a.i\p2121701A.B\PCB2121701A.M
 Cal Date : 18-Dec-2002 10:32 mike

Calibration File Names:

Level 1: \\ETCBDC\CHEM\pest2a.i\p2121701A.B\p212171A-01R.d\p212171A.01R
 Level 2: \\ETCBDC\CHEM\pest2a.i\p2121701A.B\p212171A-02R.d\p212171A.02R
 Level 3: \\ETCBDC\CHEM\pest2a.i\p2121701A.B\p212171A-03R.d\p212171A.03R
 Level 4: \\ETCBDC\CHEM\pest2a.i\p2121701A.B\p212171A-12R.d
 Level 5: \\ETCBDC\CHEM\pest2a.i\p2121701A.B\p212171A-05R.d
 Level 6: \\ETCBDC\CHEM\pest2a.i\p2121701A.B\p212171A-06R.d\p212171A.06R

Compound	Level						Coefficients		m2	or R ²
	0 0200000	0 1000000	0 2500000	0 5000000	0 7500000	1 0000	Curv	b	m1	
3 Aroclor 1016 (1) (2) (3) (4) (5)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		423766	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		836794	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		462088	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		403202	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		406458	0 000e+000
4 Aroclor 1221 (1) (2) (3) (4) (5)	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		209130	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		144466	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		411008	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		88924	0 000e+000
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	AVRG		55736	0 000e+000

000159

Spa Savage
 12-18-02
 12/18/02

SNW:
 01-13-88-11

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2002 16:50
 End Cal Date : 17-DEC-2002 21:16
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETC\BDC\CHEM\pest2a.i\p2121701A.B\PCB2121701A.M
 Cal Date : 18-Dec-2002 10:32 mike

Compound	0 0200000	0 1000000	0 2500000	0 5000000	0 7500000	1 0000	Curve	b	Coefficients	m1	m2	TRSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6						or R ²
5 Aroclor 1237 (1)	++++	++++	++++	254570	++++	++++	AVRG		254570			0 000e+000
(2)	++++	++++	++++	388846	++++	++++	AVRG		388846			0 000e+000
(3)	++++	++++	++++	209370	++++	++++	AVRG		209370			0 000e+000
(4)	++++	++++	++++	177954	++++	++++	AVRG		177954			0 000e+000
(5)	++++	++++	++++	181366	++++	++++	AVRG		181366			0 000e+000
6 Aroclor 1242 (1)	4790	23202	52652	104674	133343	169252	QUAD	0 00841	3 557e-006	1 374e-011		0 99754
(2)	8689	40359	85053	166088	209675	269860	QUAD	-0 00062	2 368e-006	5 072e-012		0 99695
(3)	16009	76848	173240	347468	440323	573656	QUAD	0 00277	1 191e-006	9 780e-013		0 99662
(4)	8113	41617	93583	187909	241564	309810	QUAD	0 00627	2 111e-006	3 591e-012		0 99767
(5)	37130	52477	69843	122178	159506	203492	QUAD	-0 15748	5 281e-006	2 070e-012		0 99730
7 Aroclor 1248 (1)	++++	++++	++++	473966	++++	++++	AVRG		473966			0 000e+000
(2)	++++	++++	++++	522828	++++	++++	AVRG		522828			0 000e+000
(3)	++++	++++	++++	591966	++++	++++	AVRG		591966			0 000e+000
(4)	++++	++++	++++	635630	++++	++++	AVRG		635630			0 000e+000
(5)	++++	++++	++++	477162	++++	++++	AVRG		477162			0 000e+000
8 Aroclor 1254 (1)	++++	++++	++++	854078	++++	++++	AVRG		854078			0 000e+000
(2)	++++	++++	++++	1125744	++++	++++	AVRG		1125744			0 000e+000
(3)	++++	++++	++++	1261444	++++	++++	AVRG		1261444			0 000e+000
(4)	++++	++++	++++	1125908	++++	++++	AVRG		1125908			0 000e+000
(5)	++++	++++	++++	1227676	++++	++++	AVRG		1227676			0 000e+000

Environmental Testing and Consulting, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 17-DEC-2002 16:50
 End Cal Date : 17-DEC-2002 21:16
 Quant Method : ESTD
 Target Version : 4.00
 Integrator : HP Genie
 Method file : \\ETCDBC\CHEM\pest2a.1\PCB2121701A.B\PCB2121701A.M
 Cal Date : 18-Dec-2002 10:32 mike

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Curve	b	m1	m2	SRSD or R^2
9 Aroclor 1260(1)	26460	110172	234143	438246	551022	723324	QUAD	-0.01039	9.608e-007	6.265e-013	0.99622
(2)	28239	125713	273224	510455	647360	850923	QUAD	-0.00861	8.302e-007	4.343e-013	0.99660
(3)	26192	123890	278092	524435	670834	892422	QUAD	-0.00802	8.471e-007	3.325e-013	0.99651
(4)	17759	83792	188813	346097	447185	595178	QUAD	-0.01071	1.288e-006	7.273e-013	0.99683
(5)	15713	72399	166707	314674	404554	542852	QUAD	-0.00891	1.457e-006	7.834e-013	0.99640
\$ 1 Tetrachloro-m-xylene	2517650	9722922	22747604	47079826	61172519	78779349	LINK	-0.00329	788072377		0.99208
\$ 2 Decachlorobiphenyl	1824871	6491063	14202439	30037947	39439078	53100935	LINK	-0.00261	522537577		0.99585

Curve	Formula	Units
Averaged	Amt * Rsp/ml	Response
Linear	Amt = b + Rsp/ml	Response
Quad	Amt = b + m1*Rsp + m2*Rsp^2	Response

CONFIRMATION ANALYSIS REPORT



ENVIRONMENTAL TESTING & CONSULTING, INC.

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

Founded 1972

February 12, 2003

First Excavation

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0302205
Project Description Dunn Field Pistol Range
Project Number C5X51112

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

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

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

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

Sincerely,

Randall H. Thomas
Vice-President/General Manager

rt
Attachment

JACOBS_DDMT2

Certifications

Tennessee #02027
Arkansas
Kentucky #90047
Alabama #40750
Illinois #000537

Mississippi
Oklahoma #9311
Virginia #00106
Louisiana DEQ #04015
USACE_HTRW

USDA #S-46279
EPA #TN00012
NELAP #04015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

729 310

Client Name **Jacobs**Site ID **Dunn Field Pistol Range****C5X51112**

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Sample Date</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
030220501	PR-A1	02/10/03	SOIL	6010B	Lead
030220502	PR-A2	02/10/03	SOIL	6010B	Lead
030220503	PR-A3	02/10/03	SOIL	6010B	Lead
030220504	PR-A4	02/10/03	SOIL	6010B	Lead
030220505	PR-A5	02/10/03	SOIL	6010B	Lead
030220506	PR-A6	02/10/03	SOIL	6010B	Lead
030220507	PR-A7	02/10/03	SOIL	6010B	Lead
030220508	PR-A8	02/10/03	SOIL	6010B	Lead
030220509	PR-A9	02/10/03	SOIL	6010B	Lead
030220510	PR-B1	02/10/03	SOIL	6010B	Lead
030220511	PR-B1D	02/10/03	SOIL	6010B	Lead
030220512	PR-B2	02/10/03	SOIL	6010B	Lead
030220513	PR-B3	02/10/03	SOIL	6010B	Lead
030220514	PR-B4	02/10/03	SOIL	6010B	Lead
030220515	PR-B5	02/10/03	SOIL	6010B	Lead
030220516	PR-B6	02/10/03	SOIL	6010B	Lead
030220517	PR-B7	02/10/03	SOIL	6010B	Lead
030220518	PR-B8	02/10/03	SOIL	6010B	Lead
030220519	PR-C1	02/10/03	SOIL	6010B	Lead
030220520	PR-C4	02/10/03	SOIL	6010B	Lead
030220521	PR-C5	02/10/03	SOIL	6010B	Lead
030220522	PR-C6	02/10/03	SOIL	6010B	Lead
030220523	PR-C7	02/10/03	SOIL	6010B	Lead
030220524	PR-C8	02/10/03	SOIL	6010B	Lead
030220525	PR-C9	02/10/03	SOIL	6010B	Lead
030220526	PR-C10	02/10/03	SOIL	6010B	Lead
030220527	PR-C11	02/10/03	SOIL	6010B	Lead

ENVIRONMENTAL TESTING & CONSULTING, INC.2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750
ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

729 311

Client Name **Jacobs**
Site ID **Dunn Field Pistol Range**

C5X51112

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Sample Date</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
030220528	PR-C12	02/10/03	SOIL	6010B	Lead
030220529	PR-C13	02/10/03	SOIL	6010B	Lead
030220530	PR-C13D	02/10/03	SOIL	6010B	Lead
030220531	PR-C14	02/10/03	SOIL	6010B	Lead
030220532	PR-D1	02/10/03	SOIL	6010B	Lead
030220533	PR-D2	02/10/03	SOIL	6010B	Lead
030220534	PR-D3	02/10/03	SOIL	6010B	Lead
030220535	PR-D4	02/10/03	SOIL	6010B	Lead
030220536	PR-E1	02/10/03	SOIL	6010B	Lead
030220537	PR-E2	02/10/03	SOIL	6010B	Lead
030220538	PR-E3	02/10/03	SOIL	6010B	Lead
030220539	PR-E4	02/10/03	SOIL	6010B	Lead
030220540	PR-F1	02/10/03	SOIL	6010B	Lead
030220541	PR-F1D	02/10/03	SOIL	6010B	Lead
030220542	PR-F2	02/10/03	SOIL	6010B	Lead
030220543	PR-F3	02/10/03	SOIL	6010B	Lead
030220544	PR-F4	02/10/03	SOIL	6010B	Lead
030220545	PR-G1	02/10/03	SOIL	6010B	Lead
030220546	PR-G2	02/10/03	SOIL	6010B	Lead
030220547	PR-G3	02/10/03	SOIL	6010B	Lead
030220548	PR-G4	02/10/03	SOIL	6010B	Lead
030220549	PR-G4D	02/10/03	SOIL	6010B	Lead
030220550	PR-C16	02/10/03	SOIL	6010B	Lead
030220551	PR-C16D	02/10/03	SOIL	6010B	Lead
030220552	PR-C17	02/10/03	SOIL	6010B	Lead

2/12/03
CS

Environmental Testing & Consulting, Inc.

**Login
Chain-of-Custody**



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

ETC Work Order : 0302205

Company Name JACOBS		Phone # : 931 393 6448		Fax Results X		Analysis Requested													
Project/Site Dunn Field Pistol Range		Fax # : 931 393 6211		RUSH		(Note special detection limits or methods)													
Project # CSXS1112		FID # :		Ice															
Project Manager/Contact KRAIG SMITH		PO # :																	
Matrix		Sample Date		Sample Time		Matrix		Type											
1 Wastewater		2/10/03		1200		Soil		Grab/Comp											
2 Aqueous				1202															
3 Soil/Sediment				1204															
4 Sludge				1206															
5 Oil/Solvent				1208															
6 Other				1210															
				1212															
				1214															
				1216															
				1216															
Blank/Cooler Temp		Remarks																	
Method of Shipment Hand Delivered		DATE 2/10/03		TIME 1610		RECEIVED BY (sign) [Signature]		DATE 2/10/03		TIME 1610		Sample Delivery Group ID							
RELINQUISHED BY (sign) [Signature]		DATE 2/10/03		TIME 1610		RECEIVED BY (sign) [Signature]		DATE 2/10/03		TIME 1610		Sample Delivery Group ID							
RELINQUISHED BY (sign) [Signature]		DATE 2/10/03		TIME 1610		RECEIVED BY (sign) [Signature]		DATE 2/10/03		TIME 1610		Sample Delivery Group ID							
RELINQUISHED BY (sign) [Signature]		DATE 2/10/03		TIME 1610		RECEIVED BY (sign) [Signature]		DATE 2/10/03		TIME 1610		Sample Delivery Group ID							

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew.
Original copy returned with results. Yellow copy for ETC, Inc files.



ETC Work Order :

000000

Company Name		Project/Site		Phone #		Fax #		Analysis Requested	
JACOBS		Dunn Field Pictorial Range		731 343 6448		931 393 6211		(Note special detection limits or methods)	
Project #		FID #		PO #		RUSH			
C5X51112									
Project Manager/Contact		Matrix		1 Wastewater		4 Sludge			
KRALL SMITH				2 Aqueous		5 Oil/Solvent			
				3 Soil/Sediment		6 Other			
# of cont.	Sample ID/Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp	Comments		
1	PR-B2		2/10/03	1217	SM	grab	Total Pb		
1	PR-B3			1218			X		
1	PR-B4			1220			X		
1	PR-B5			1222			X		
1	PR-B6			1224			X		
1	PR-B7			1226			X		
1	PR-B8			1228			X		
1	PR-C1			1230			X		
1	PR-C4			1232			X		
1	PR-C5			1234			X		
1	PR-C6			1236			X		
Sampled By		Method of Shipment		Blank/Cooler Temp		Remarks			
K Smith		Hand Deliver						3 DAY TAT / EDD	
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE	
Kerry Smith		2/10/03		1610					
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE	
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY LAB (print/sign)		DATE	
						K. Smith		2/10/03 1010	

Original and Yellow accompany samples to the laboratory Pink copy
Original copy returned with results. Yellow copy for EIC, Inc files.



CHAIN OF CUSTODY RECORD

Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order : 0302205

Company Name JACOBS		Phone # : 931 393 6743		Fax Results RUSH		Analysis Requested (Note special detection limits or methods)															
Project/Site MEMPHIS DEPOT DUNKIN FIELD		Fax # : 931 393 6743		Ice																	
Project # C5X51112		FID # :																			
Project Manager/Contact KRATZ SMITH		Matrix		1 Wastewater		4 Sludge		5 Oil/Solvent		6 Other											
# of cont.	Sample ID/ Number	Depth	Sample Date	Sample Time	Matrix	Type	Grab/Comp														
1	PR-C7		7/10/03	1238	Soil	Grab															
1	PR-C8			1240																	
1	PR-C9			1242																	
1	PR-C10			1244																	
1	PR-C11			1246																	
1	PR-C12			1248																	
1	PR-C13			1250																	
1	PR-C13D			1250																	
1	PR-C14			1254																	
1	PR-D1			1256																	
1	PR-D2			1258																	
Sampled By K. Smith		Method of Shipment Hunt Beliver		Blank/Cooler Temp		Remarks 3 DAY TAT / EDD															
RELINQUISHED BY (sign) <i>[Signature]</i>		DATE 7/10/03		TIME 1610		RECEIVED BY (sign)		DATE		TIME		Sample Delivery Group ID									
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME											
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY LAB (print/sign) PRATZ		DATE 7/10/03		TIME 1610											

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew.
Original copy returned with results. Yellow copy for ETC, Inc files.



CHAIN OF CUSTODY RECORD

Environmental Testing & Consulting, Inc.

2924 Walnut Grove Rd.

Memphis, TN 38111

(901)327-2750 FAX (901)327-6334

ETC Work Order :

0302205

Company Name TAC085		Phone # : 931 343 6448		Fax Results		Analysis Requested										
Project/Site Duck Field P-51 Range		Fax # : 931 343 6448		RUSH		(Note special detection limits or methods)										
Project # CSX51112		FID # :		Ice												
Project Manager/Contact KRATIG SMITH		PO # :														
		Matrix														
		1 Wastewater		4 Sludge												
		2 Aqueous		5 Oil/Solvent												
		3 Soil/Sediment		6 Other												
# of cont	Sample ID/Number	Depth	Sample Date	Sample Time	Matrix	Type Grab/Comp										
1	PR-D3		2/1/03	1300	Soil	Grab										
1	PR-D4			1302												
1	PR-E1			1304												
1	PR-E2			1306												
1	PR-E3			1308												
1	PR-E4			1310												
1	PR-F1			1312												
1	PR-F1D			1312												
1	PR-F2			1314												
1	PR-F3			1316												
1	PR-F4			1318												
Sampled By K. Smith		Method of Shipment Hand Deliver		Blank/Cooler Temp		Remarks 3 DAY TAT / EDDS										
RELINQUISHED BY (sign) K. Smith		DATE 2/1/03		TIME 1610		RECEIVED BY (sign)		DATE		TIME		Sample Delivery Group ID				
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY (sign)		DATE		TIME						
RELINQUISHED BY (sign)		DATE		TIME		RECEIVED BY LAB (print/sign) 2/1/03 1610		DATE		TIME						

Distribution :

Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew.

Original copy returned with results Yellow copy for ETC, Inc. files



CHAIN OF CUSTODY RECORD

Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

ETC Work Order : 0302205

Company Name <u>JACOBS</u>		Phone # : <u>931 343 6448</u> Fax Results		Analysis Requested														
Project/Site <u>Duck Field Pistol Range</u>		Fax # : <u>931 343 6211</u> RUSH		(Note special detection limits or methods)														
Project # <u>CSX51112</u>		FID #																
Project Manager/Contact <u>KARLA SWINTH</u>		PO #																
Matrix		Matrix																
1 Wastewater		4 Sludge																
2 Aqueous		5 Oil/Solvent																
3 Soil/Sediment		6 Other																
# of cont.	Sample ID/Number	Depth	Sample Date	Sample Time	Matrix	Type	Comments											
1	PR-61		2/10/03	1720	Soil	Grab	9-1-02											
1	PR-62			1722			X											
1	PR-63			1324			X											
1	PR-64			1326			X											
1	PR-64D			1328			X											
1	PR-616			1330			X											
1	PR-616D			1330			X											
1	PR-617			1334			X											
Sampled By <u>K Swinth</u>							Blank/Cooler Temp							Remarks				
Method of Shipment <u>Hand Delivered</u>														3 DAY TAT/EDDS				
RELINQUISHED BY (sign) <u>K Swinth</u>							RECEIVED BY (sign)							Sample Delivery Group ID				
DATE <u>2/10/03</u>							TIME <u>1610</u>							DATE				
RELINQUISHED BY (sign)							RECEIVED BY (sign)							TIME				
DATE							TIME							DATE				
RELINQUISHED BY (sign)							RECEIVED BY (sign)							TIME				
DATE							TIME							DATE				

Distribution : Original and Yellow accompany samples to the laboratory. Pink copy for Field Crew.
Original copy returned with results Yellow copy for ETC, Inc. files

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date/Time Received 2/10/03-16:10
 Date/Time Checked In 2/10/03-16:10
 Carrier/Bill# Client Hand-Delivered

LIMS# 0302-205
 Project Dunn Field
Pistol Range
 By Rebekah Barger

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

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

729 320

Memphis, TN
PERCENT SOLIDSClient Name **Jacobs**
Project Name **Dunn Field Pistol Range**Date Sample Received **02/10/03**
Contract Laboratory Order Number **0302-205**

<u>ETC, Inc.</u> <u>Sample No</u>	<u>Field</u> <u>ID</u>	<u>Date</u> <u>Sampled</u>	<u>Result</u> <u>Units : (%)</u>	<u>Date</u> <u>Analyzed</u>	<u>Method</u>	<u>By</u>
0302-205-01	PR-A1	02/10/03	76	02/11/03	160 3	GD
0302-205-02	PR-A2	02/10/03	83	02/11/03	160.3	GD
0302-205-03	PR-A3	02/10/03	78	02/11/03	160 3	GD
0302-205-04	PR-A4	02/10/03	79	02/11/03	160 3	GD
0302-205-05	PR-A5	02/10/03	82	02/11/03	160.3	GD
0302-205-06	PR-A6	02/10/03	80	02/11/03	160.3	GD
0302-205-07	PR-A7	02/10/03	73	02/11/03	160.3	GD
0302-205-08	PR-A8	02/10/03	78	02/11/03	160 3	GD
0302-205-09	PR-A9	02/10/03	74	02/11/03	160 3	GD
0302-205-10	PR-B1	02/10/03	76	02/11/03	160.3	GD
0302-205-11	PR-B1D	02/10/03	79	02/11/03	160.3	GD
0302-205-12	PR-B2	02/10/03	76	02/11/03	160.3	GD
0302-205-13	PR-B3	02/10/03	75	02/11/03	160.3	GD
0302-205-14	PR-B4	02/10/03	74	02/11/03	160.3	GD
0302-205-15	PR-B5	02/10/03	73	02/11/03	160.3	GD
0302-205-16	PR-B6	02/10/03	74	02/11/03	160.3	GD
0302-205-17	PR-B7	02/10/03	78	02/11/03	160.3	GD
0302-205-18	PR-B8	02/10/03	75	02/11/03	160 3	GD
0302-205-19	PR-C1	02/10/03	75	02/11/03	160.3	GD
0302-205-20	PR-C4	02/10/03	76	02/11/03	160.3	GD
0302-205-21	PR-C5	02/10/03	75	02/11/03	160.3	GD
0302-205-22	PR-C6	02/10/03	76	02/11/03	160 3	GD
0302-205-23	PR-C7	02/10/03	80	02/11/03	160.3	GD
0302-205-24	PR-C8	02/10/03	76	02/11/03	160.3	GD
0302-205-25	PR-C9	02/10/03	79	02/11/03	160.3	GD
0302-205-26	PR-C10	02/10/03	77	02/11/03	160.3	GD
0302-205-27	PR-C11	02/10/03	78	02/11/03	160.3	GD
0302-205-28	PR-C12	02/10/03	80	02/11/03	160.3	GD
0302-205-29	PR-C13	02/10/03	82	02/11/03	160.3	GD
0302-205-30	PR-C13D	02/10/03	82	02/11/03	160.3	GD
0302-205-31	PR-C14	02/10/03	80	02/11/03	160.3	GD
0302-205-32	PR-D1	02/10/03	77	02/11/03	160 3	GD
0302-205-33	PR-D2	02/10/03	77	02/11/03	160.3	GD
0302-205-34	PR-D3	02/10/03	78	02/11/03	160.3	GD
0302-205-35	PR-D4	02/10/03	78	02/11/03	160.3	GD
0302-205-36	PR-E1	02/10/03	78	02/11/03	160.3	GD
0302-205-37	PR-E2	02/10/03	77	02/11/03	160.3	GD
0302-205-38	PR-E3	02/10/03	78	02/11/03	160.3	GD
0302-205-39	PR-E4	02/10/03	79	02/11/03	160.3	GD

EB

Data Validator

000011

ENVIRONMENTAL TESTING & CONSULTING, INC.

729 321

Memphis, TN
PERCENT SOLIDSClient Name **Jacobs**
Project Name **Dunn Field Pistol Range**Date Sample Received **02/10/03**
Contract Laboratory Order Number **0302-205**

<u>ETC, Inc.</u> <u>Sample No</u>	<u>Field</u> <u>ID</u>	<u>Date</u> <u>Sampled</u>	<u>Result</u> <u>Units : (%)</u>	<u>Date</u> <u>Analyzed</u>	<u>Method</u>	<u>By</u>
0302-205-40	PR-F1	02/10/03	81	02/11/03	160.3	GD
0302-205-41	PR-F1D	02/10/03	81	02/11/03	160.3	GD
0302-205-42	PR-F2	02/10/03	79	02/11/03	160.3	GD
0302-205-43	PR-F3	02/10/03	75	02/11/03	160.3	GD
0302-205-44	PR-F4	02/10/03	78	02/11/03	160.3	GD
0302-205-45	PR-G1	02/10/03	76	02/11/03	160.3	GD
0302-205-46	PR-G2	02/10/03	74	02/11/03	160.3	GD
0302-205-47	PR-G3	02/10/03	73	02/11/03	160.3	GD
0302-205-48	PR-G4	02/10/03	80	02/11/03	160.3	GD
0302-205-49	PR-G4D	02/10/03	72	02/11/03	160.3	GD
0302-205-50	PR-C16	02/10/03	77	02/11/03	160.3	GD
0302-205-51	PR-C16D	02/10/03	77	02/11/03	160.3	GD
-205-52	PR-C17	02/10/03	79	02/11/03	160.3	GD


Data Validator

000012

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 322

Client Name **Jacobs**
 Memphis Defense Depot
 600 William Northern Blvd.
 Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-01**
Field ID **PR-A1**

Matrix **SOIL**
Sample Date : **02/10/03 12:00:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	28.4	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000013

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 323

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-02**
Field ID : **PR-A2**

Matrix **SOIL**
Sample Date : **02/10/03 12:02:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	9 80	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000014

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 324

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-03**
Field ID **PR-A3**

Matrix : **SOIL**
Sample Date . **02/10/03 12:04:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	27.3	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

300015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 325

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-04**
Field ID : **PR-A4**

Matrix : **SOIL**
Sample Date : **02/10/03 12:06:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	18.5	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000016

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 326

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-05

Field ID PR-A5

Matrix : SOIL

Sample Date . 02/10/03 12:06:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	26.1	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000017

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 327

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-06**Field ID **PR-A6**Matrix : **SOIL**Sample Date : **02/10/03 12:08:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	12.7	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000018

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 328

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-07

Field ID : PR-A7

Matrix : SOIL

Sample Date : 02/10/03 12:10:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	26.0	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000019

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 329

Client Name **Jacobs**
 Memphis Defense Depot
 600 William Northern Blvd.
 Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-08**
Field ID : **PR-A8**

Matrix : SOIL
Sample Date **02/10/03 12:12:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	26.0	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000020

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 330

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID **0302205-09**
Field ID **PR-A9**

Matrix : **SOIL**
Sample Date : **02/10/03 12:14:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	12.6	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000021

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 331

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID **0302205-10**
Field ID **PR-B1**

Matrix : **SOIL**
Sample Date : **02/10/03 12:16:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	17 4	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000022

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 332

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-11**
Field ID : **PR-B1D**

Matrix : **SOIL**
Sample Date : **02/10/03 12:16:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	13.8	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000023

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 333

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-12**Field ID : **PR-B2**Matrix : **SOIL**Sample Date **02/10/03 12:17:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	16.5	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000024

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 334

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-13**Field ID : **PR-B3**Matrix : **SOIL**Sample Date : **02/10/03 12:18:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	14.4	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000025

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 335

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID **0302205-14**
Field ID **PR-B4**

Matrix **SOIL**
Sample Date : **02/10/03 12:20:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	26.6	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000026

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 336

Client Name

JacobsSite ID **Dunn Field Pistol Range****Memphis Defense Depot****600 William Northern Blvd.****Tullahoma, TN 37388**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-15**Matrix **SOIL**Field ID : **PR-B5**Sample Date : **02/10/03 12:22:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	2,110	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

600027

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 337

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID **0302205-16**
Field ID : **PR-B6**

Matrix : **SOIL**
Sample Date : **02/10/03 12:24:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	66.2	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000028

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 338

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-17**Field ID : **PR-B7**Matrix : **SOIL**Sample Date : **02/10/03 12:26:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	37.8	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000029

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 339

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-18**Field ID **PR-B8**Matrix : **SOIL**Sample Date : **02/10/03 12:28:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	208	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000030

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 340

Client Name

**Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388**Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID · **0302205-19**Field ID · **PR-C1**Matrix : **SOIL**Sample Date : **02/10/03 12:30:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	111	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000031

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 341

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID **0302205-20**
Field ID **PR-C4**

Matrix : **SOIL**
Sample Date : **02/10/03 12:32:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-59				02/11/03	JF	3051
Lead	53.5	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000032

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 342

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-21**Field ID : **PR-C5**Matrix : **SOIL**Sample Date : **02/10/03 12:34:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	42.1	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000033

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 343

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-22**
Field ID : **PR-C6**

Matrix : **SOIL**
Sample Date : **02/10/03 12:36:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	30.7	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000034

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 344

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID 0302205-23

Field ID : PR-C7

Matrix : SOIL

Sample Date 02/10/03 12:38:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	23 2	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000035

ENVIRONMENTAL TESTING & CONSULTING, INC.

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729 345

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-24

Field ID : PR-C8

Matrix : SOIL

Sample Date : 02/10/03 12:40:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	32.0	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000036

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 346

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-25**Field ID **PR-C9**Matrix : **SOIL**Sample Date : **02/10/03 12:42:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	29.5	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

900037

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 347

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-26

Field ID : PR-C10

Matrix : SOIL

Sample Date : 02/10/03 12:44:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	15.2	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000038

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 348

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID **0302205-27**Field ID **PR-C11**Matrix **SOIL**Sample Date : **02/10/03 12:46:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	46.0	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000039

ENVIRONMENTAL TESTING & CONSULTING, INC. 729 349
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-28

Field ID : PR-C12

Matrix : SOIL

Sample Date : 02/10/03 12:48:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	35.2	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000040

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 350

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-29

Field ID : PR-C13

Matrix : SOIL

Sample Date 02/10/03 12:50:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	9.91	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000041

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 351

Client Name **Jacobs**
 Memphis Defense Depot
 600 William Northern Blvd.
 Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-30**
Field ID **PR-C13D**

Matrix : **SOIL**
Sample Date : **02/10/03 12:50:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	8.87	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000042

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 352

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID 0302205-31

Field ID PR-C14

Matrix : SOIL

Sample Date : 02/10/03 12:54:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	18.0	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000043

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 353

Client Name

**Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388**Site ID **Dunn Field Pistol Range**

Date Arrived

02/10/03

ETC Order Number

0302205

ETC Lab ID

0302205-32

Field ID

: PR-D1Matrix : **SOIL**Sample Date : **02/10/03 12:56:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	24 9	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000044

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 354

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID **0302205-33**Field ID : **PR-D2**Matrix : **SOIL**Sample Date **02/10/03 12:58:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	43.0	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000045

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 355

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-34

Field ID : PR-D3

Matrix : SOIL

Sample Date : 02/10/03 13:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	33 0	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000046

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 356

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-35

Field ID : PR-D4

Matrix : SOIL

Sample Date : 02/10/03 13:02:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	63.2	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000047

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 357

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-36

Field ID : PR-E1

Matrix : SOIL

Sample Date 02/10/03 13:04:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	72.6	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000048

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 358

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-37

Field ID : PR-E2

Matrix : SOIL

Sample Date 02/10/03 13:06:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	105	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000049

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 359

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-38

Field ID : PR-E3

Matrix SOIL

Sample Date : 02/10/03 13:08:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	58.9	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B

Data Validator

ND - Not Detected

000050

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 360

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID 0302205-39

Field ID PR-E4

Matrix : SOIL

Sample Date : 02/10/03 13:10:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	44.6	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000051

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 361

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID 0302205-40

Field ID PR-F1

Matrix SOIL

Sample Date : 02/10/03 13:12:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-60				02/11/03	JF	3051
Lead	10.1	mg/Kg	0 400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

990052

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 362

Client Name

**Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388**Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-41**Field ID : **PR-F1D**Matrix : **SOIL**Sample Date : **02/10/03 13:12:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	11.6	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000053

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 363

Client Name

JacobsSite ID **Dunn Field Pistol Range****Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-42**Matrix : **SOIL**Field ID : **PR-F2**Sample Date : **02/10/03 13:14:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	13.1	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000054

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 364

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID **0302205-43**
Field ID **PR-F3**

Matrix : **SOIL**
Sample Date : **02/10/03 13:16:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	129	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000055

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 365

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-44

Field ID : PR-F4

Matrix : SOIL

Sample Date : 02/10/03 13:18:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	227	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

300056

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 366

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-45**Field ID **PR-G1**Matrix : **SOIL**Sample Date : **02/10/03 13:20:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	261	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000057

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 367

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID : **0302205-46**
Field ID **PR-G2**

Matrix : **SOIL**
Sample Date : **02/10/03 13:22:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	43.0	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000058

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 368

Client Name


Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-47**Field ID : **PR-G3**Matrix : **SOIL**Sample Date : **02/10/03 13:24:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	49.5	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000059

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 369

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-48**Field ID : **PR-G4**Matrix : **SOIL**Sample Date : **02/10/03 13:26:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	16.8	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000060

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 370

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-49

Field ID : PR-G4D

Matrix : SOIL

Sample Date : 02/10/03 13:26:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	12.0	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000061

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 371

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/10/03

ETC Order Number 0302205

ETC Lab ID : 0302205-50

Field ID PR-C16

Matrix : SOIL

Sample Date : 02/10/03 13:30:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	893	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000062

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 372

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/10/03**ETC Order Number **0302205**ETC Lab ID : **0302205-51**Field ID : **PR-C16D**Matrix : **SOIL**Sample Date : **02/10/03 13:30:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	53.9	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000063

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 373

Client Name **Jacobs**
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/10/03**
ETC Order Number **0302205**

ETC Lab ID **0302205-52**
Field ID **PR-C17**

Matrix : **SOIL**
Sample Date : **02/10/03 13:34:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-61				02/11/03	JF	3051
Lead	14.5	mg/Kg	0.400	02/11/03	02/11/03	SH	6010B


Data Validator

ND - Not Detected

000064

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
Metals (ICP/GFAA/CV)**

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS -SOIL

729 375

Client Name Jacobs
Project Name Dunn Field Pistol Range

ETC Order # 0302-205

PRESERVATION

No preservation required

HOLDING TIMES

QC Batch(s) for this order	ICP Metals	V17-SO-59
	ICP Metals	V17-SO-60
	ICP Metals	V17-SO-61
Sample Preparation/Analysis	All samples digested/ analyzed within holding time	

METHOD

Preparation	SW-846 3051
Analysis	SW-846 6010B

CALIBRATION

Initial Calibration	All criteria met
Continuing Calibration	All criteria met.

SAMPLE ANALYSIS

Instrumentation	Thermo Jarrell Ash Enviro-I ICP
Dilutions Required	No dilutions required

QUALITY CONTROL

Method Blank

V17-SO-59BLK	ICP Metals
V17-SO-60BLK	ICP Metals
V17-SO-61BLK	ICP Metals

No target analytes detected in the method blank

Laboratory Control Sample(s)

V17-SO-59LCS	ICP Metals
V17-SO-60LCS	ICP Metals
V17-SO-61LCS	ICP Metals

All acceptance criteria met

Matrix Spike / Matrix Spike Dup - ICP Metals

Batch V17-SO-59

0302-205-20	RPD	All analytes within QC limits
PR-C4	Spike Recovery	All analytes within QC limits.

Refer to Form 9 Serial Dilutions All acceptance criteria met. Refer to Laboratory Control Sample(s) for system verification

Matrix Spike / Matrix Spike Dup - ICP Metals

Batch V17-SO-60

0302-205-40	RPD	All analytes within QC limits
PR-F1	Spike Recovery	All analytes within QC limits.

All acceptance criteria met Refer to Laboratory Control Sample(s) for system verification

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS - SOIL

729 376

Client Name Jacobs
Project Name Dunn Field Pistol Range

ETC Order # 0302-205

Matrix Spike / Matrix Spike Dup - ICP Metals

Batch V17-SO-61

0302-205-52 RPD All analytes within QC limits.

PR-C17 Spike Recovery All analytes within QC limits.

Refer to Form 9 Serial Dilutions All acceptance criteria met Refer to Laboratory Control Sample(s) for system verification

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


Project Manager

000067

FORM 3A
SOLID METHOD BLANK
METALS

729 377

Lab Name. Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals V17-SO-59 BLK QC Batch
V17-SO-59

Date Sample Prepared 2/11/03 ICP/GFAA Metals

Metals	Concentration mg/Kg	Detection Limit mg/Kg	Date Analyzed	Method
Lead	ND	0.400	2/11/03	6010B

ND - Not Detected

Reviewed by 

0302-205 mqc BLANK

000068

FORM 7
SOLID LABORATORY CONTROL SAMPLE
METALS

729 378

Lab Name: Environmental Testing and Consulting, Inc

Laboratory Control ID

ICP/GFAA Metals V17-SO-59 LCS

QC Batch
V17-SO-59

Date Prepared

ICP/GFAA Metals 2/11/03

Metals	Spike Added mg/Kg	Found mg/Kg	% R	#	QC Limits	
Lead	8.00	7.86	98		80	120

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0302-205 mqc LCS

000069

FORM 6
SOLID MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

729 379

Lab Name: Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals 0302-205-20 QC Batch V17-SO-59

Date Sample Prepared 2/11/03 ICP/GFAA Metals

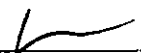
Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MS Conc mg/Kg	RPD <20% #	MS % Rec #	QC Limits	
Lead	10.3	53.5	38.8	13	-143 *	75	125

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MSD Conc mg/Kg		MSD % Rec #	QC Limits	
Lead	10.1	53.5	44.3		-91 *	75	125

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0302-205 mqc MSMSD

000070

FORM 9
SERIAL DILUTIONS
METALS

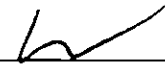
Lab Name Environmental Testing and Consulting, Inc.

QC Batch ICP/GFAA Metals V17-SO-59Date Prepared 2/11/03 ICP/GFAA Metals

Analyte	Initial Sample Result	Serial Dilution Result	Serial Dilution	% Difference
Lead	53.5	54.6	1.5	2

ND - Not Detected

% Difference should be within 10% of the undiluted/lowest dilution result

Reviewed by 

Serial Dil 0302-205 mqc

FORM 3A
SOLID METHOD BLANK
METALS

729 381

Lab Name: Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals V17-SO-60 BLK QC Batch
V17-SO-60

Date Sample Prepared 2/11/03 ICP/GFAA Metals

Metals	Concentration mg/Kg	Detection Limit mg/Kg	Date Analyzed	Method
Lead	ND	0.400	2/11/03	6010B

ND - Not Detected

Reviewed by 

0302-205 mqc1 BLANK

000072

FORM 7
SOLID LABORATORY CONTROL SAMPLE
METALS

729 382

Lab Name Environmental Testing and Consulting, Inc

Laboratory Control ID

ICP/GFAA Metals V17-SO-60 LCS

QC Batch

V17-SO-60

Date Prepared

ICP/GFAA Metals 2/11/03

Metals	Spike Added mg/Kg	Found mg/Kg	% R	#	QC Limits	
Lead	8.00	7.61	95		80	120

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0302-205 mqc1 LCS

000073

FORM 6
SOLID MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals 0302-205-40 QC Batch V17-SO-60

Date Sample Prepared 02/11/03 ICP/GFAA Metals

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MS Conc mg/Kg	RPD <20% #	MS % Rec #	QC Limits	
Lead	9.27	10.1	17.4	9	79	75	125

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MSD Conc mg/Kg		MSD % Rec #	QC Limits	
Lead	9.01	10.1	19.0		99	75	125

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0302-205.mqc1 MSMSD

FORM 3A
SOLID METHOD BLANK
METALS

729 384

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals V17-SO-61 BLK QC Batch
V17-SO-61

Date Sample Prepared 2/11/03 ICP/GFAA Metals

Metals	Concentration mg/Kg	Detection Limit mg/Kg	Date Analyzed	Method
Lead	ND	0.400	2/11/03	6010B

ND - Not Detected

Reviewed by 

0302-205.mqc2 BLANK

000075

FORM 7
SOLID LABORATORY CONTROL SAMPLE
METALS

Lab Name: Environmental Testing and Consulting, Inc

Laboratory Control ID

ICP/GFAA Metals V17-SO-61 LCSQC Batch
V17-SO-61

Date Prepared

ICP/GFAA Metals 2/11/03

Metals	Spike Added mg/Kg	Found mg/Kg	% R	#	QC Limits	
Lead	8 00	7 95	99		80	120

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0302-205 mqc2 LCS

FORM 6
SOLID MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals 0302-205-52 QC Batch V17-SO-61

Date Sample Prepared 02/11/03 ICP/GFAA Metals

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MS Conc mg/Kg	RPD <20% #	MS % Rec #	QC Limits	
Lead	9.41	14.5	21.1	1	70 *	75	125

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MSD Conc mg/Kg		MSD % Rec #	QC Limits	
Lead	9.70	14.5	20.9		66 *	75	125

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by LM

0302-205.mqc2 MSMSD

000077

FORM 9
SERIAL DILUTIONS
METALS

729 387

Lab Name: Environmental Testing and Consulting, Inc

QC Batch ICP/GFAA Metals V17-SO-61

Date Prepared 2/11/03 ICP/GFAA Metals

Analyte	Initial Sample Result	Serial Dilution Result	Serial Dilution	% Difference
Lead	14.5	14.3	1.5	1

ND - Not Detected

% Difference should be within 10% of the undiluted/lowest dilution result

Reviewed by 

Serial Dil 0302-205 mqc2

000078

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

ENVIRONMENTAL TESTING & CONSULTING, INC **ICP Metals Sequence Check List**

Sequence ID : 21103 System ID : ICP1 Date: 2-11-03
 ICP2 Time: 1345

Analyst : JF
 Supervisor: SH

1. Instrument Profile Intensity Check (Arsenic / Manganese)

5400

2. Initial Calibration

- a. Initial Calibration Blank (STD1-Blank)
- b. Initial Calibration Standard 1 (C1) 3 Exposures at less than 3% RSD
- c. Initial Calibration Standard 2 (C2) 3 Exposures at less than 3% RSD
- d. Initial Calibration Standard 3 (C3) 3 Exposures at less than 3% RSD
- e. Initial Calibration Standard 4 (C4) 3 Exposures at less than 3% RSD
- f. Standardization Report

3. Initial Calibration Readback (+/- 5% Difference Check Table)

Failures

- | | | | |
|--|-------|---|-------|
| a. Initial Calibration Standard 1 (C1) | _____ | ✓ | _____ |
| b. Initial Calibration Standard 2 (C2) | _____ | ✓ | _____ |
| c. Initial Calibration Standard 3 (C3) | _____ | ✓ | _____ |
| d. Initial Calibration Standard 4 (C4) | _____ | ✓ | _____ |

4. Initial Calibration Verification

- | | | | |
|--|-------|---|-----------|
| e. Initial Calibration Blank (ICB) -- All elements below ¹ / ₂ times MDL | _____ | ✓ | _____ |
| f. Low Level Check (LLC1) -- (20%) | _____ | ✓ | _____ |
| g. Low Level Check (LLC2) -- (20%) | _____ | ✓ | _____ |
| h. Initial Calibration Verification (ICV1) -- (10%) | _____ | ✓ | _____ |
| i. Initial Interference Check Standard, ICS-A (Interferents at 20%) all others ¹ / ₂ X MDL | _____ | ✓ | _____ |
| j. Initial Interelement Correction Standard -- (ICSAB) -- (20%) | _____ | ✓ | _____ |
| k. Final Interference Check Standard, ICS-A (Interferents at 20%) all others ¹ / ₂ X MDL | _____ | ✓ | <u>NA</u> |
| l. Final Interelement Correction Standard -- (ICSAB) -- (20%) | _____ | ✓ | <u>NA</u> |

Comments

Pb ONLY

Applicable ETC Order Nos. for this sequence:

<u>30173059</u>	<u>302069</u>	_____	_____	_____
<u>60</u>	<u>207</u>	_____	_____	_____
<u>61</u>	_____	_____	_____	_____
<u>62</u>	_____	_____	_____	_____
<u>301721</u>	_____	_____	_____	_____
<u>302022</u>	_____	_____	_____	_____
<u>302205</u>	_____	_____	_____	_____
<u>116</u>	_____	_____	_____	_____
<u>153</u>	_____	_____	_____	_____
<u>210</u>	_____	_____	_____	_____

AutoSampler Report Table: PLASMA1

02/14/03 08:57:13 AM

page 1

Table Name: PLASMA1

Autosampler Type: TYPE TJA

Sample Positions: 42/192

QC Positions: 19/19

Sets: 1

The Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	21103	ICPT0613	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor
------	--------	----------	-------	------------

No Samples Prepared.

Rack #1

Row	Col	Sample Name	Set #	#Used	Type
(1...19	Not	Used)			

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	V17SO59 SB	1	-NA-	Sample
2	1	2	V17SO60 SB	1	-NA-	Sample
3	1	3	V17SO61 SB	1	-NA-	Sample
4	1	4	V17SO62 SB	1	-NA-	Sample
5	1	5	V17SO59 LC	1	-NA-	Sample
6	1	6	V17SO60 LC	1	-NA-	Sample
7	1	7	V17SO61 LC	1	-NA-	Sample
8	1	8	V17SO62 LC	1	-NA-	Sample
9	1	9	30172101	1	-NA-	Sample
10	1	10	30202203	1	-NA-	Sample
11	1	11	CCB1	1	-NA-	Sample
12	1	12	CCV1	1	-NA-	Sample
13	2	1	30202205	1	-NA-	Sample
14	2	2	30202206	1	-NA-	Sample
15	2	3	30202206 MS	1	-NA-	Sample
16	2	4	30202206 MSD	1	-NA-	Sample
17	2	5	30220501	1	-NA-	Sample
	2	6	30220502	1	-NA-	Sample
	2	7	30220503	1	-NA-	Sample
20	2	8	30220504	1	-NA-	Sample
21	2	9	30220505	1	-NA-	Sample

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	30220506	1	-NA-	Sample
23	2	11	CCB2	1	-NA-	Sample
24	2	12	CCV2	1	-NA-	Sample
25	3	1	30220507	1	-NA-	Sample
26	3	2	30220508	1	-NA-	Sample
27	3	3	30220509	1	-NA-	Sample
28	3	4	30220510	1	-NA-	Sample
29	3	5	30220511	1	-NA-	Sample
30	3	6	30220512	1	-NA-	Sample
31	3	7	30220513	1	-NA-	Sample
32	3	8	30220514	1	-NA-	Sample
33	3	9	30220515	1	-NA-	Sample
34	3	10	30220516	1	-NA-	Sample
35	3	11	CCB3	1	-NA-	Sample
36	3	12	CCV3	1	-NA-	Sample
37	4	1	30220517	1	-NA-	Sample
38	4	2	30220518	1	-NA-	Sample
39	4	3	30220519	1	-NA-	Sample
40	4	4	30220520	1	-NA-	Sample
41	4	5	30220520 MS	1	-NA-	Sample
42	4	6	30220520 MSD	1	-NA-	Sample
43	4	7	30220521	1	-NA-	Sample
44	4	8	30220522	1	-NA-	Sample
45	4	9	30220523	1	-NA-	Sample
46	4	10	30220524	1	-NA-	Sample
47	4	11	CCB4	1	-NA-	Sample
48	4	12	CCV4	1	-NA-	Sample

Rack #3

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	30220525	1	-NA-	Sample
2	1	2	30220526	1	-NA-	Sample
3	1	3	30220527	1	-NA-	Sample
4	1	4	30220528	1	-NA-	Sample
5	1	5	30220529	1	-NA-	Sample
6	1	6	30220530	1	-NA-	Sample
7	1	7	30220531	1	-NA-	Sample
8	1	8	30220532	1	-NA-	Sample
9	1	9	30220533	1	-NA-	Sample
10	1	10	30220534	1	-NA-	Sample
11	1	11	CCB5	1	-NA-	Sample
12	1	12	CCV5	1	-NA-	Sample
13	2	1	30220535	1	-NA-	Sample
14	2	2	30220536	1	-NA-	Sample
15	2	3	30220537	1	-NA-	Sample
16	2	4	30220538	1	-NA-	Sample
17	2	5	30220539	1	-NA-	Sample
	2	6	30220540	1	-NA-	Sample
	2	7	30220540 MS	1	-NA-	Sample
20	2	8	30220540 MSD	1	-NA-	Sample
21	2	9	30220541	1	-NA-	Sample

Rack #3

P	Row	Col	Sample Name	Set #	#Used	Type
22	2	10	30220542	1	-NA-	Sample
23	2	11	CCB6	1	-NA-	Sample
24	2	12	CCV6	1	-NA-	Sample
25	3	1	30220543	1	-NA-	Sample
26	3	2	30220544	1	-NA-	Sample
27	3	3	30220545	1	-NA-	Sample
28	3	4	30220546	1	-NA-	Sample
29	3	5	30220547	1	-NA-	Sample
30	3	6	30220548	1	-NA-	Sample
31	3	7	30220549	1	-NA-	Sample
32	3	8	30220550	1	-NA-	Sample
33	3	9	30220551	1	-NA-	Sample
34	3	10	30220552	1	-NA-	Sample
35	3	11	CCB7	1	-NA-	Sample
36	3	12	CCV7	1	-NA-	Sample
37	4	1	30220552 MS	1	-NA-	Sample
38	4	2	30220552 MSD	1	-NA-	Sample
39	4	3	30211601	1	-NA-	Sample
40	4	4	30215301	1	-NA-	Sample
41	4	5	30215302	1	-NA-	Sample
42	4	6	30215303	1	-NA-	Sample
43	4	7	30215304	1	-NA-	Sample
44	4	8	30221001	1	-NA-	Sample
45	4	9	30221002	1	-NA-	Sample
46	4	10	30206901	1	-NA-	Sample
47	4	11	CCB8	1	-NA-	Sample
48	4	12	CCV8	1	-NA-	Sample

Rack #4

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	30220701	1	-NA-	Sample
2	1	2	30220702	1	-NA-	Sample
3	1	3	CCB9	1	-NA-	Sample
4	1	4	CCV9	1	-NA-	Sample
5	1	5	ICSA	1	-NA-	Sample
6	1	6	ICSAB	1	-NA-	Sample
7	1	7	(empty)	1	-NA-	-NA-
8	1	8	(empty)	1	-NA-	-NA-
9	1	9	(empty)	1	-NA-	-NA-
10	1	10	(empty)	1	-NA-	-NA-
11	1	11	(empty)	1	-NA-	-NA-
12	1	12	(empty)	1	-NA-	-NA-
13	2	1	(empty)	1	-NA-	-NA-
14	2	2	(empty)	1	-NA-	-NA-
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
	2	6	(empty)	1	-NA-	-NA-
	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

FORM 2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
ICP METALS

Lab Name Environmental Testing and Consulting, Inc
Date/Time of Sequence 02/11/03 1345 Instrument ICPT
Initial Calibration Source C1 M6-81-13 C2 M6-98-01 C3 M7-2-14 C4 M6-79-08
Continuing Calibration Source ICV/CCV M6-98-19

Analyte	Initial Calibration Verification			Continuing CCV1			Continuing CCV2			Continuing CCV3		
	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found
Lead	500	508	2	<5	500	507	1	<5	507	1	<5	507

Analyte	Continuing CCV4			Continuing CCV5			Continuing CCV6			Continuing CCV7		
	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found
Lead	500	512	2	<5	500	516	3	<5	519	4	<5	519

Analyte	Continuing CCV8											
	True	Found	%Diff(1)	Flag	True	Found	%Diff(1)	Flag	Found	%Diff(1)	Flag	Found
Lead	500	512	2	<5								

(1) Percent difference from true value. ICP Method 6010B - 10% ICP Method 200.7 - 5%

729 393

000084

FORM 3
 INITIAL AND CONTINUING CALIBRATION BLANKS
 ICP METALS

Lab Name Environmental Testing and Consulting, Inc Date/Time of Sequence 02/11/03 1345 Instrument ICPT

Analyte	Initial Calibration	Continuing Calibration Blank ug/L							
	Blank ug/L	CCB1	CCB2	CCB3	CCB4	CCB5	CCB6	CCB7	CCB8
Lead	ND	ND	ND	ND	ND	ND	ND	ND	ND

729 394

000085

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 02/11/03 1345 Instrument ICPT

Concentration Units: ug/L

Analyte	True Sol	Initial Found		Final Found	
	AB	Sol AB	%REC	Sol AB	%REC
Aluminum	250000	247000	99		
Calcium	250000	238000	95		
Iron	100000	99000	99		
Magnesium	250000	255000	102		
Lead	200	199	100		

%R - Recovery should be within 20%.

Analyte	True Sol	Initial Found		Final Found	
	A	Sol A	%REC	Sol A	%REC
Aluminum	250000	246000	98		
Calcium	250000	236000	94		
Iron	100000	98400	98		
Magnesium	250000	255000	102		
Lead	0	ND	0		

%R - Recovery should be within 20%.



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

Founded 1972

729 396

February 19, 2003

2nd Excavation

Mr. Kraig Smith
Jacobs
600 William Northern Blvd.
Tullahoma, TN 37388

Ref: Analytical Testing
ETC Order # 0302399
Project Description Dunn Field Pistol Range
Project Number C5X51112

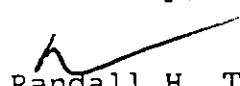
The above referenced project has been analyzed per your instructions. The analyses were performed in our laboratory in accordance with Standard Methods, The Solid Waste Manual SW-846, EPA Methods for Chemical Analysis of Water and Wastes and/or 40 CFR part 136.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, instrumentation maintenance and calibration were performed in accordance with guidelines established by the USEPA.

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

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

Sincerely,


Randall H. Thomas
Vice-President/General Manager

rt
Attachment

JACOBS_DDMT2

Certifications

Tennessee #02027
Arkansas
Kentucky #90047
Alabama #40750
Illinois #000537

Mississippi
Oklahoma #9311
Virginia #00106
Louisiana DEQ #04015
USACE_HTRW

USDA #S-46279
EPA #TN00012
NELAP #04015

ENVIRONMENTAL TESTING & CONSULTING, INC.

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729 397

ANALYTICAL SUMMARY/CROSS REFERENCE TABLE

Client Name **Jacobs**
Site ID **Dunn Field Pistol Range**

C5X51112

<u>ETC Sample ID</u>	<u>Field ID</u>	<u>Sample Date</u>	<u>Matrix</u>	<u>Method</u>	<u>Method Description</u>
030239901	PR-A2	02/18/03	SOIL	6010B	Lead
030239902	PR-A3	02/18/03	SOIL	6010B	Lead
030239903	PR-A15	02/18/03	SOIL	6010B	Lead
030239904	PR-A16-2	02/18/03	SOIL	6010B	Lead
030239905	PR-B5-2	02/18/03	SOIL	6010B	Lead

Environmental Testing & Consulting, Inc.

Login
Chain-of-Custody



Environmental Testing & Consulting, Inc.
2924 Walnut Grove Rd.
Memphis, TN 38111
(901)327-2750 FAX (901)327-6334

CHAIN OF CUSTODY RECORD

ETC Work Order : 0302399

Company Name JACOBI		Phone # : 931-393-6448		Fax Results	
Project/Site DUNN FIELD PISTOL RANGE		Fax # : 931-393-6211		RUSH	
Project # CSXS1112		FID # :		Ice	
Project Manager/Contact KRAIG SMITH		PO # :			
Matrix		1 Wastewater		4 Sludge	
3 Sediment		2 Aqueous		5 Oil/Solvent	
6 Other		Sample Date		Sample Time	
Depth		Matrix		Grab/Comp	
# of cont.		Sample ID/Number		Type	
1		PR-A2		1200	
1		PR-A3		1202	
1		PR-A15		1204	
1		PR-A16-2		1206	
1		PR-B5-2		1208	
Sampled By Kraig Smith		Method of Shipment Hand Deliver		Blank/Cooler Temp OK	
RELIQUISHED BY (sign) Kraig Smith		DATE 2/18/03		TIME 1300	
RELIQUISHED BY (sign)		DATE		TIME	
RELIQUISHED BY (sign)		DATE		TIME	
RELIQUISHED BY (sign)		DATE		TIME	
RECEIVED BY (sign)		DATE		TIME	
RECEIVED BY (sign)		DATE		TIME	
RECEIVED BY LAB (print/sign) R. B. Smith		DATE 2/18/03		TIME 1300	
Sample Delivery Group ID		DATE		TIME	

Environmental Testing & Consulting, Inc.
Cooler Receipt Form

Date/Time Received 2/18/03-13:00
 Date/Time Checked In 2/18/03-13:00
 Carrier/Bill# Client hand-delivered

LIMS# 0302-399
 Project Dunn Field
Pistol Range
 By Rebekah Barger

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

Comments _____

*Validated Date and Time of Sample Receipt (VDTSR)

Environmental Testing & Consulting, Inc.

Sample Reports

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 402

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/18/03

ETC Order Number 0302399

ETC Lab ID : 0302399-01

Field ID : PR-A2

Matrix : SOIL

Sample Date : 02/18/03 12:00:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-68				02/18/03	SH	3051
Lead	10.5	mg/Kg	0 400	02/19/03	02/18/03	SH	6010B


Data Validator

ND - Not Detected

000006

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 403

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/18/03

ETC Order Number 0302399

ETC Lab ID 0302399-02

Field ID PR-A3

Matrix : SOIL

Sample Date : 02/18/03 12:02:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-68				02/18/03	SH	3051
Lead	17.4	mg/Kg	0.400	02/19/03	02/18/03	SH	6010B


Data Validator

ND - Not Detected

000007

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 404

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID Dunn Field Pistol Range

Date Arrived 02/18/03

ETC Order Number 0302399

ETC Lab ID : 0302399-03

Field ID : PR-A15

Matrix : SOIL

Sample Date : 02/18/03 12:04:00

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-68				02/18/03	SH	3051
Lead	8.56	mg/Kg	0.400	02/19/03	02/18/03	SH	6010B


Data Validator

ND - Not Detected

400008

ENVIRONMENTAL TESTING & CONSULTING, INC.

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

729 405

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388Site ID **Dunn Field Pistol Range**Date Arrived **02/18/03**ETC Order Number **0302399**ETC Lab ID : **0302399-04**Field ID : **PR-A16-2**Matrix : **SOIL**Sample Date : **02/18/03 12:06:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-68				02/18/03	SH	3051
Lead	13.0	mg/Kg	0 400	02/19/03	02/18/03	SH	6010B


Data Validator

ND - Not Detected

000009

ENVIRONMENTAL TESTING & CONSULTING, INC. 729 406
2924 Walnut Grove Road - Memphis, TN 38111 - (901)327-2750

Client Name

Jacobs
Memphis Defense Depot
600 William Northern Blvd.
Tullahoma, TN 37388

Site ID **Dunn Field Pistol Range**

Date Arrived **02/18/03**

ETC Order Number **0302399**

ETC Lab ID : **0302399-05**

Field ID **PR-B5-2**

Matrix : **SOIL**

Sample Date : **02/18/03 12:08:00**

TEST	RESULT	UNITS	DETECTION LIMIT	DATE ANALYZED	DATE PREPARED	BY	METHOD
Metals Digestion Batch	V17-SO-68				02/18/03	SH	3051
Lead	7.83	mg/Kg	0.400	02/19/03	02/18/03	SH	6010B


Data Validator

ND - Not Detected

030310

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level II
Metals (ICP/GFAA/CV)**

ENVIRONMENTAL TESTING AND CONSULTING, INC.
CASE NARRATIVE
METALS -SOIL

729 408

Client Name Jacobs
Project Name Dunn Field Pistol Range

ETC Order # 0302-399

PRESERVATION

No preservation required.

HOLDING TIMES

QC Batch(s) for this order ICP Metals V17-SO-68

Sample Preparation/Analysis All samples digested/ analyzed within holding time

METHOD

Preparation. SW-846 3051
Analysis SW-846 6010B

CALIBRATION

Initial Calibration All criteria met
Continuing Calibration All criteria met

SAMPLE ANALYSIS

Instrumentation Thermo Jarrell Ash Enviro-I ICP
Dilutions Required No dilutions required

QUALITY CONTROL

Method Blank

V17-SO-68BLK ICP Metals
No target analytes detected in the method blank

Laboratory Control Sample(s)

V17-SO-68LCS ICP Metals
All acceptance criteria met.

Matrix Spike / Matrix Spike Dup - ICP Metals

Batch V17-SO-68
0302-322-01 RPD All analytes within QC limits
Spike Recovery All analytes within QC limits
Refer to Laboratory Control Sample(s) for system verification

36

Project Manager

000012

FORM 3A
SOLID METHOD BLANK
METALS

Lab Name: Environmental Testing and Consulting, Inc

Laboratory ID ICP/GFAA Metals V17-SO-68 BLK QC Batch
V17-SO-68Date Sample Prepared 2/18/03 ICP/GFAA Metals

Metals	Concentration mg/Kg	Detection Limit mg/Kg	Date Analyzed	Method
Lead	ND	0.400	2/19/03	6010B

ND - Not Detected

Reviewed by 

0302-399 mqc BLANK

FORM 7
SOLID LABORATORY CONTROL SAMPLE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory Control ID

ICP/GFAA Metals V17-SO-68 LCS

QC Batch

V17-SO-68

Date Prepared

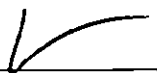
ICP/GFAA Metals 2/18/03

Metals	Spike Added mg/Kg	Found mg/Kg	% R	#	QC Limits	
Lead	8 00	7 55	94		80	120

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by



0302-399.mqc LCS

000014

FORM 6
SOLID MATRIX SPIKE / MATRIX SPIKE DUPLICATE
METALS

Lab Name Environmental Testing and Consulting, Inc

Laboratory ID MS ICP/GFAA Metals 0302-322-01 QC Batch V17-SO-68

Date Sample Prepared 2/18/03 ICP/GFAA Metals

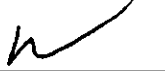
Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MS Conc mg/Kg	RPD <20% #	MS % Rec #	QC Limits	
Lead	7.30	9.56	15.7	27 *	84	75	125

Metals	SPIKE Added mg/Kg	SAMPLE Conc mg/Kg	MSD Conc mg/Kg		MSD % Rec #	QC Limits	
Lead	7.65	9.56	20.5		143 *	75	125

ND - Not Detected

Column to be used to flag recovery values with an asterisk

* Values outside of QC limits

Reviewed by 

0302-399 mqc MSMSD

Environmental Testing & Consulting, Inc.

**Quality Control Reports
Level III
Metals (ICP/GFAA/CV)**

ENVIRONMENTAL TESTING & CONSULTING, INC **ICP Metals Sequence Check List**

Sequence ID : 21903System ID : ICP1
ICP2Date: 2-19-03
Time: 1028Analyst : SW
Supervisor: JP**1. Instrument Profile Intensity Check (Arsenic / Manganese)**4600**2. Initial Calibration**

- a. Initial Calibration Blank (STD1-Blank)
- b. Initial Calibration Standard 1 (C1) 3 Exposures at less than 3% RSD
- c. Initial Calibration Standard 2 (C2) 3 Exposures at less than 3% RSD
- d. Initial Calibration Standard 3 (C3) 3 Exposures at less than 3% RSD
- e. Initial Calibration Standard 4 (C4) 3 Exposures at less than 3% RSD
- f. Standardization Report

3. Initial Calibration Readback (+/- 5% Difference Check Table)**Failures**

a. Initial Calibration Standard 1 (C1)	_____	✓	_____
b. Initial Calibration Standard 2 (C2)	_____	✓	_____
c. Initial Calibration Standard 3 (C3)	_____	✓	_____
d. Initial Calibration Standard 4 (C4)	_____	✓	_____

4. Initial Calibration Verification

e. Initial Calibration Blank (ICB) – All elements below 2 times MDL	_____	✓	_____
f. Low Level Check (LLC1) – (20%)	_____	✓	_____
g. Low Level Check (LLC2) – (20%)	_____	—	_____
h. Initial Calibration Verification (ICV1) – (10%)	_____	✓	_____
i. Initial Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL	_____	✓	_____
j. Initial Interelement Correction Standard – (ICSAB) – (20%)	_____	✓	_____
k. Final Interference Check Standard, ICS-A (Interferents at 20%) all others 2 X MDL	_____	✓	_____
l. Final Interelement Correction Standard – (ICSAB) – (20%)	_____	✓	_____

Comments

Pb ONLY**Applicable ETC Order Nos. for this sequence:**

<u>4175068</u>	_____	_____	_____	_____
<u>302399</u>	_____	_____	_____	_____
<u>302322</u>	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Table Name: PLASMA1 Autosampler Type: TYPE TJA
 Sample Positions: 42/192 QC Positions: 19/19 # Sets: 1
 Reagent Station location is rack -1, pos. -1.

--- Racks ---

Rack #	Type	Usage	#Pos Left	Analyses/Pos
1	Aux. (L) Rack	STD/QC/BLANK	19	10
2	Sample (16mm)	Samples	0	1
3	Sample (16mm)	Samples	0	1
4	Sample (16mm)	Samples	0	1
5	Sample (16mm)	Samples	42	1

--- Sample Sets ---

Set#	Type	Prepare?	Description	Method	#Pos	Rack#	StartPos
1	Normal	No	21903	ICPT0613	150	2	1

--- Preparation Info ---

Set#	Uptake	Uptake#2	Final	Dil.Factor
No Samples Prepared.				

Rack #1

Row	Col	Sample Name	Set #	#Used	Type
(1...19	Not	Used)			

Rack #2

Pos	Row	Col	Sample Name	Set #	#Used	Type
1	1	1	V17SO68 SB	1	-NA-	Sample
2	1	2	30239901	1	-NA-	Sample
3	1	3	30239902	1	-NA-	Sample
4	1	4	30239903	1	-NA-	Sample
5	1	5	30239904	1	-NA-	Sample
6	1	6	30239905	1	-NA-	Sample
7	1	7	V17SO68 LC	1	-NA-	Sample
8	1	8	30232201	1	-NA-	Sample
9	1	9	30232201 MS	1	-NA-	Sample
10	1	10	30232201 MSD	1	-NA-	Sample
11	1	11	CCB1	1	-NA-	Sample
12	1	12	CCV1	1	-NA-	Sample
13	2	1	ICSA	1	-NA-	Sample
14	2	2	ICSAB	1	-NA-	Sample
15	2	3	(empty)	1	-NA-	-NA-
16	2	4	(empty)	1	-NA-	-NA-
17	2	5	(empty)	1	-NA-	-NA-
	2	6	(empty)	1	-NA-	-NA-
	2	7	(empty)	1	-NA-	-NA-
20	2	8	(empty)	1	-NA-	-NA-
21	2	9	(empty)	1	-NA-	-NA-

FORM 2A

Lab Name
Environmental Testing and Consulting, Inc

Date/Time of Sequence

02/19/03 1028

Instrument

131

Initial Calibration Source

C1 M6-81-13

C2 M6-98-01

C3 M7-2-14

C4 M6-79-08

Continuing Calibration Source

ICV/CCV M6-98-19

Analyte	Initial Calibration Verification			Continuing CCV1			Found			Flag		
	True	Found	%Diff(1)	True	Found	%Diff(1)	Found	%Diff(1)	Found	%Diff(1)	Found	%Diff(1)
Lead	500	509	2	500	485	3						

(1) Percent difference from true value. ICP Method 6010B - 10% ICP Method 200.7 - 5%

FORM 3
INITIAL AND CONTINUING CALIBRATION BLANKS
ICP METALS

Lab Name Environmental Testing and Consulting, Inc Date/Time of Sequence 02/19/03 1028 Instrument ICPT

Analyte	Initial Calibration Blank ug/L	CCB1	Continuing Calibration Blank ug/L									
Lead	ND	ND										

FORM 4
INTERFERENCE CHECK SAMPLE
ICP METALS

Lab Name Environmental Testing and Consulting, Inc

Date/Time of Sequence 02/19/03 1028 Instrument ICPT

Concentration Units: ug/L

Analyte	True Sol	Initial Found		Final Found	
	AB	Sol AB	%REC	Sol AB	%REC
Aluminum	250000	249000	100		
Calcium	250000	244000	98		
Iron	100000	101000	101		
Magnesium	250000	259000	104		
Lead	200	205	103		

%R - Recovery should be within 20%.

Analyte	True Sol	Initial Found		Final Found	
	A	Sol A	%REC	Sol A	%REC
Aluminum	250000	248000	99		
Calcium	250000	241000	96		
Iron	100000	99700	100		
Magnesium	250000	255000	102		
Lead	0	ND	0		

%R - Recovery should be within 20%.

APPENDIX E
WASTE DISPOSAL RECORDS

**THE TUNICA LANDFILL**

6035 Bowdre Road
Robinsonville, MS 38664
(662) 363-2282
(662) 363-0170 Fax

Certificate of Disposal

Memphis Defense Depot
WMI Profile Number CR4499

Be It Known By All Men,

Beginning on January 27, 2003, through February 18, 2003, 69 loads containing 1400.20 tons of non-regulated solids from Memphis Defense Depot at 2163 Airways Boulevard in Memphis, Tennessee were transported by Matthews & Kopt Trucking under the direction of Jacobs Engineering, Inc. 6000 William Northern Boulevard in Tullahoma, Tennessee to Waste Management of Tunica Landfill Inc.

These loads were deposited on the landfill; the exact location determined by an agent of the landfill owner and equipment operator. Each load was placed within the confines of approved Sub-titled D Lined Area for final interment, properly destroying the entire shipment.

As previously mentioned this project to date has consisted of destruction of 69 loads and an Online Report substantiating this fact is enclosed.

I, Jeffrey H. Papasan, agent for Waste Management of Tunica Landfill Inc., certify that said destruction did occur at this facility located at 6035 Bowdre Road in Robinsonville, Mississippi.

If you should have any questions in regard to this matter please feel free to contact me at 662-363-2282.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Jeffrey H. Papasan', written over a horizontal line.

Jeffrey H. Papasan
District Manager
Waste Management of Tunica Landfill Inc

Enclosure

GENERATOR'S WASTE PROFILE SHEET
PLEASE PRINT IN INK OR TYPE

729 420

Service Agreement on File? ☐ YES ☐ NO
☐ Hazardous ☐ Non-Hazardous ☐ TSCAProfile Number
Renewal DateCR 4499
/ /

A. Waste Generator Information

1 Generator Name: MEMPHIS DEPOT CARETAKER SIC Code: _____
3 Facility Street Address: 2163 AIRWAY AVE 4 Phone: (901) 544-3477
5 Facility City: MEMPHIS, TN 6 State/Province: TENNESSEE
7 Zip/Postal Code: 38114 8 Generator USEPA/Federal ID #: 7N4210020574
9 County: SHELBY 10. State/Province ID #: _____
11. Customer Name: TACBS ENGINEERING CO. 12 Customer Phone: (615) 305-6437
13 Customer Contact: KRUG SMITH 14. Customer Fax: 931-393-6211
15 Billing Address: 600 William Northern Blvd, Tullahoma, TN 37388 ☐ Same as above

B. Waste Stream Information

1. Description

- a. Name of Waste: Soil and some construction debris (concrete & metal)
b. Process Generating Waste: Soil is being removed from old Pistol Range at Memphis Depot. The top one foot of soil is being excavated from the target area and is to be removed from the site.

c Color <u>BROWN</u>	d Strong odor (describe). <u>None</u>	e Physical state @ 70°F ☒ Solid ☐ Liquid ☐ Gas ☐ Sludge ☐ Other	f Layers ☒ Single Layer ☐ Multi-layer	g Free liquid range <u>0</u> to <u>0</u> % h. pH: Range <u>6.5</u> to <u>7.5</u> %
-------------------------	---	--	--	---

- i Liquid Flash Point. ☐ <73°F ☐ 73-99°F ☐ 100-139°F ☐ 140-199°F ☐ ≥ 200°F ☒ Not applicable
j. Chemical Composition (List all constituents (including halogenated organics, debris, and UHCs) present in any concentration and submit representative analysis)

Constituents	Concentration Range	Constituents	Concentration Range
<u>Soil</u>	<u>98%</u>		
<u>Concrete/metal debris</u>	<u>2%</u>		

TOTAL COMPOSITION MUST EQUAL OR EXCEED 100%

- k ☐ Oxidizer ☐ Pyrophoric ☐ Explosive ☐ Radioactive
☐ Carcinogen ☐ Infectious ☐ Shock Sensitive ☐ Water Reactive

l Does the waste represented by this profile contain any of the carcinogens which require OSHA notification? (list in Section B 1 j) ☐ YES ☒ NO

m Does the waste represented by this profile contain dioxins? (list in Section B.1 j) ☐ YES ☒ NO

n Does the waste represented by this profile contain asbestos? ☐ YES ☒ NO
If yes, ☐ friable ☐ non-friable

o Does the waste represented by this profile contain benzene?
If yes, concentration _____ ppm

Is the waste subject to the benzene waste operations NESHAP? ☐ YES ☒ NO

p Is the waste subject to RCRA Subpart CC controls? ☐ YES ☒ NO

If no, does the waste meet the organic LDR Exemption? ☐ YES ☒ NO

If no, does the waste contain <500 ppmw volatile organic (VO)? ☒ YES ☐ NO

Volatile organic concentration 4 ppmw

q Does the waste contain any Class I or Class II ozone-depleting substances? ☐ YES ☒ NO

r Does the waste contain debris? (list in Section B 1 j) ☒ YES ☐ NO

s Is the waste subject to controls as a Group 1 wastewater or residual under the HON? ☐ YES ☒ NO

If yes, is it a Table 8 _____ or Table 9 _____ compound?

2. Quantity of Waste

Estimated Annual Volume 1405 ☒ Tons ☐ Yards ☐ Drums ☐ Other (specify) _____

ONE TIME

3. Shipping Information

a. Packaging.

☒ Bulk Solid, Type/Size Direct Load to Truck
☐ Drum, Type, Size _____

☐ Bulk Liquid, Type/Size _____
☐ Other _____

GENERATOR'S WASTE PROFILE SHEET

729 421

PLEASE PRINT IN INK OR TYPE

over the week period

- b Shipping Frequency Units 1400 Tons Per ☐ Month ☐ Quarter ☐ Year ☒ One time ☐ Other _____
- c. Is this a U.S. Department of Transportation (USDOT) Hazardous Material? (If no, skip d, e, and f) ☐ YES ☒ NO
- d. Reportable Quantity (lbs., kgs): _____ e. Hazard Class/ID #: _____
- f USDOT Shipping Name _____
- g. Personal Protective Equipment Requirements. NONE
- h. Transporter/Transfer Station: WASTE MANAGEMENT

C. Generator's Certification (Please check appropriate responses, sign, and date below.)

- 1 Is this a USEPA hazardous waste (40 CFR Part 261)? If the answer is no, skip to 2 ☐ YES ☒ NO
a. If yes, identify ALL USEPA listed and characteristic waste code numbers (D, F, K, P, U) _____
- b If a characteristic hazardous waste, do underlying hazardous constituents (UHCs) apply? (if yes, list in Section B 1 j) ☐ YES ☐ NO
- c Does this waste contain debris? (if yes, list size and type in Chemical Composition - B 1.) ☐ YES ☐ NO
- 2 Is this a state hazardous waste? ☐ YES ☒ NO
Identify ALL state hazardous waste codes _____
- 3 Is the waste from a CERCLA (40 CFR 300, Appendix B) or state mandated clean up? ☐ YES ☒ NO
If yes, attach Record of Decision (ROD), 104/106 or 122 order or court order that governs site clean-up activity For state mandated clean-up provide relevant documentation
- 4 Does the waste represented by this waste profile sheet contain radioactive material, or is disposal regulated by the Nuclear Regulatory Commission? ☐ YES ☒ NO
- 5 Does the waste represented by this waste profile sheet contain concentrations of Polychlorinated Biphenyls (PCBs) regulated by 40 CFR 761? (if yes, list in Chemical Composition - B 1 j) ☐ YES ☒ NO
a If yes, were the PCBs imported into the U S? ☐ YES ☐ NO
- 6 Do the waste profile sheet and all attachments contain true and accurate descriptions of the waste material, and has all relevant information within the possession of the Generator regarding known or suspected hazards pertaining to the waste been disclosed to the Contractor? ☒ YES ☐ NO
- 7 Will all changes which occur in the character of the waste be identified by the Generator and disclosed to the Contractor prior to providing the waste to the Contractor? ☒ YES ☐ NO

☒ Check here if a Certificate of Destruction or Disposal is required.

Any sample submitted is representative as defined in 40 CFR 261 - Appendix I or by using an equivalent method I authorize WM to obtain a sample from any waste shipment for purposes of recertification. If this certification is made by a broker, the undersigned signs as authorized agent of the generator and has confirmed the information contained in this Profile Sheet from information provided by the generator and additional information as it has determined to be reasonably necessary. If approved for management, Contractor has all the necessary permits and licenses for the waste that has been characterized and identified by this approved profile.

Certification Signature: Kerry SmithTitle: Generator's Authorized AgentName (Type or Print): KERRY SMITHCompany Name: TACSB ENGINEERING Date: 12/19/02☒ Check if additional information is attached. Indicate the number of attached pages 118**D. WM Management's Decision****FOR WM USE ONLY**

- 1 Management Method ☐ Landfill ☐ Non-hazardous Solidification ☐ Bioremediation ☐ Incineration
☐ Hazardous Stabilization ☐ Other (Specify) _____
- 2 Proposed Ultimate Management Facility: _____
- 3 Precautions, Special Handling Procedures, or Limitation on Approval, _____
- 4 Waste Form _____ 5 Source _____ 6 System Type _____
☐ Approved ☐ Disapproved
- Special Waste Decision ... _____ Date _____
- Salesperson's Signature _____ Date _____
- Division Approval Signature (Optional) _____ Date _____
- Special Waste Approvals Person Signature _____ Date: _____



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 422

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: () 771-5117 Phone No.: () 771-5117
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature _____ Shipment Date 1-1-12

TRANSPORTER

Truck No.: 1251/1 Transporter Phone No.: () _____
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: 1251 S. Main St. Vehicle License No./State: 1-40-22-21
Memphis, TN Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below

Signature _____ Pickup Date 1-1-12 Signature _____ Delivery Date 1-1-12

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001063

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 423

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 211-1111 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature _____ Shipment Date _____

TRANSPORTER

Truck No.: _____ Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001064

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 424

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 551-1111 Phone No.: (901) 551-1111
 Waste ID Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

By my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature _____ Shipment Date 1/1/11

TRANSPORTER

Truck No.: _____ Transporter Phone No.: (901) _____
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001073

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:

**THE TUNICA LANDFILL**
A WASTE MANAGEMENT COMPANY

729 425

6580

NON-HAZARDOUS WASTE MANIFEST**GENERATOR**

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 449-1111 Phone No.: (901) 500-1111
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent Signature _____ Shipment Date 1/11/05

TRANSPORTER

Truck No.: 1500 Transporter Phone No.: (601) 278-1111
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001074

White LANDFILL Yellow - GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 426

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: () Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: Customer Number

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: Volume:

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: 8221 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print):
 Address: 2111111111 Rd Vehicle License No./State:
 Vehicle Certification: 11111111

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time:
 Discrepancies:

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) Signature Receipt Date

001075

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker

Waste Generation Location: Pistol Range

Address: 2163 Airways Blvd.

Address: Dunn St.

Memphis, TN 38114

Phone No.: (901) 541-0017

Phone No.: () 530-1111

Waste ID. Code No.: CR 4499

Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description

Actual Quantity

Units

Container Type

Pb Contaminated Soil

0.5

☐ Pounds
☒ Tons
☐ Cu. Yd.
☐ Cu. Ft.

☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other: _____
Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith

Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: _____

Transporter Phone No.: () _____

Transporter Name: Matthews Trucking

Driver Name (print): _____

Address: _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill

Phone No.: 1-877-989-2783

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

MS 001076

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 428

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 110-0077 Phone No.: () 510-6
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith Signature _____ Shipment Date 11/1/05
 Generator Authorized Agent

TRANSPORTER

Truck No.: 1001-2 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print):
 Address: Vehicle License No./State:
 Vehicle Certification:

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date 11/1/05 Signature _____ Delivery Date 11/1/05

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time:
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date 11/1/05

001077

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 429

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 514 2017 Phone No.: () Area
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith [Signature] 1/18/13
 Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No.: () _____
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001079

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY

729 430

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 311-1017 Phone No.: ()
Waste ID Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith [Signature] 1/17/10
Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No.: ()
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature] 1/17/10 [Signature] 1/17/10
Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

[Signature] [Signature] 1/17/10
Name (print) Signature Receipt Date

001001

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 431

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 574-2547 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720016459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature _____

Shipment Date 1/27/07

TRANSPORTER

Truck No.: 10101
 Transporter Name: Matthews Trucking
 Address: _____

Transporter Phone No.: (662) 777-1111
 Driver Name (print): _____
 Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____

Pickup Date 1/27/07

Signature _____

Delivery Date 1/27/07

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Phone No.: 1-877-989-2783

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____

Signature _____

Receipt Date 1/27/07

001002

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 432

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 571 0017 Phone No.: () 571 0017
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0726310459 Ticket Number: _____ Customer Number _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description

Actual Quantity

Units

Container Type

Pb Contaminated Soil

- ☐ Pounds
☒ Tons
☐ Cu. Yd.
☐ Cu. Ft.

- ☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other: _____
 Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date 1/27/93

TRANSPORTER

Truck No.: _____

Transporter Name: Matthews Trucking

Address: _____

Transporter Phone No.: () _____

Driver Name (print): _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill

Phone No.: 1-877-989-2783

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001003

White - LANDFILL Yellow - GENERATOR Pink - TRANSPORTER Goldenrod - CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 433

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 268-6859 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: _____

Transporter Phone No.: () _____

Transporter Name Matthews Trucking

Driver Name (print): _____

Address: _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill

Phone No.: 1-877-989-2783

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001004

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:

901 268-6859



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 434

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: () _____ Phone No.: () _____
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

[Signature]
 Signature

1-18-03
 Shipment Date

TRANSPORTER

Truck No.: 1111
 Transporter Name: Matthews Trucking
 Address: 1111

Transporter Phone No.: () _____
 Driver Name (print): _____
 Vehicle License No./State: 1-1111
 Vehicle Certification: 1111

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature]
 Signature

1-18-03
 Pickup Date

[Signature]
 Signature

1-18-03
 Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664
 Discrepancies: _____

Phone No.: 1-877-989-2783
 Time: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

[Signature]
 Name (print)

[Signature]
 Signature

1-18-03
 Receipt Date

001005

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 435

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker

Waste Generation

Location: Pistol RangeAddress: 2163 Airways Blvd.Address: Dunn St.Memphis, TN 38114Phone No.: (901) 211-0017Phone No.: () 512Waste ID. Code No.: CR 4499Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description

Actual Quantity

Units

Container Type

Pb Contaminated Soil

15

- ☐ Pounds
☒ Tons
☐ Cu. Yd.
☐ Cu. Ft.

- ☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other.
 Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith

Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: _____

Transporter Phone No.: () _____

Transporter Name: Matthews Trucking

Driver Name (print): _____

Address: _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica LandfillPhone No.: 1-877-989-2783Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001006

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 436

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (615) 544-207 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil 4 sub-bags	10	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature Kraig Smith Shipment Date 1/18/03

TRANSPORTER

Truck No.: _____ Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001007

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 437

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544 3017 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil 1 drums	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

1178133
 Shipment Date

TRANSPORTER

Truck No.: MM14 Transporter Phone No.: (601) 544 5100
 Transporter Name: Matthews Trucking Driver Name (print): Matthews
 Address: 500 Matthews Road Vehicle License No./State: AD7720 MS
South, Mo Vehicle Certification: 11163-17

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001208

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 438

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-0017 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil 4 drums		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature [Signature] Shipment Date 11/18/03

TRANSPORTER

Truck No.: 1111-8 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): [Name]
 Address: [Address] Vehicle License No./State: [License]
 Vehicle Certification: [Certification]

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature [Signature] Pickup Date 11/18/03 Signature [Signature] Delivery Date 11/18/03

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

000009

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 439

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-0617 Phone No.: () SAME
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description

Actual Quantity

Units

Container Type

Pb Contaminated Soil

- 1 0200 J

15

☐ Pounds
☒ Tons
☐ Cu Yd
☐ Cu. Ft.

☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other: _____
 Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: 15
 Transporter Name: Matthews Trucking
 Address: _____

Transporter Phone No.: () _____
 Driver Name (print): _____
 Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Phone No.: 1-877-989-2783
 Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001010

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 440

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 511-1617 Phone No.: () Same
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil A drums	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Kraig Smith
 Signature

1/18/03
 Shipment Date

TRANSPORTER

Truck No.: 8001
 Transporter Name: Matthews Trucking
 Address: Matthews, PA

Transporter Phone No.: (717) 251-1111
 Driver Name (print): Matthews Trucking
 Vehicle License No./State: 4-500000
 Vehicle Certification: 1/18/03

With my signature, I certify that the above material was picked up at the Generator site listed above.

Matthews Trucking
 Signature

1/18/03
 Pickup Date

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Matthews Trucking
 Signature

1/18/03
 Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Phone No.: 1-877-989-2783

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

 Name (print)

 Signature

1/18/03
 Receipt Date

001011

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 441

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-0617 Phone No.: () SAME
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil 1 drums	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date 1/28/93

TRANSPORTER

Truck No.: 111
 Transporter Name: Matthews Trucking
 Address: _____

Transporter Phone No.: ()
 Driver Name (print): _____
 Vehicle License No /State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Phone No.: 1-877-989-2783

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001012

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 442

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544 1111 Phone No.: () () ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature [Signature] Shipment Date 1/12/13

TRANSPORTER

Truck No.: 111-2 Transporter Phone No.: () () ()
 Transporter Name: Matthews Trucking Driver Name (print): [Name]
 Address: [Address] Vehicle License No./State: [License]
 Vehicle Certification: [Certification]

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature [Signature] Pickup Date 1/12/13 Signature [Signature] Delivery Date 1/12/13

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date 1/12/13

001013

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 443

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 544-0017 Phone No.: () NAME
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations

Kraig Smith
Generator Authorized Agent Signature Kraig Smith Shipment Date 1/17/03

TRANSPORTER

Truck No: _____ Transporter Phone No.: () _____
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001014

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 444

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 44-2617 Phone No.: () 519 m e
 Waste ID Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil 4 yds	15	☐ Pounds ☒ Tons ☐ Cu. Yd ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: RM14 Transporter Phone No.: (601) 519-0000
 Transporter Name: Matthews Trucking Driver Name (print): L. Matthews
 Address: 1750 Matthews Dr. Vehicle License No./State: A 4803 MS
Memphis, TN Vehicle Certification: 1001-0007

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

004016

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-0617 Phone No.: () Same
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil 4 5-bags	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature Kraig Smith Shipment Date 11-27-03

TRANSPORTER

Truck No.: 1111 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): Matthews
 Address: 1222 2nd St Vehicle License No./State: 11-2222
Memphis, TN 38114 Vehicle Certification: 11-2222

With my signature, I certify that the above material was picked up at the Generator site listed above. Signature [Signature] Pickup Date 11-27-03
 With my signature, I certify that the above named material was delivered without incident to the destination listed below. Signature [Signature] Delivery Date 11-27-03

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) 021017 Signature _____ Receipt Date _____



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 446

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range

Address: 2163 Airways Blvd. Address: Dunn St.

Memphis, TN 38114

Phone No. (901) 544-0617 Phone No.: () SAME

Waste ID. Code No.: CR 4499

Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil + Debris	15	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

Signature Kraig Smith

1/12/91
Shipment Date

TRANSPORTER

Truck No.: 129103

Transporter Name: Matthews Trucking

Address: _____

Transporter Phone No.: () _____

Driver Name (print): _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____

Pickup Date _____

Signature _____

Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Phone No.: 1-877-989-2783

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____

Signature _____

Receipt Date _____

001018

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE: _____



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 447

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No. () 777 7777 Phone No. ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: Customer Number:

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. <u> </u> Volume: <u> </u>

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print):
 Address: Vehicle License No./State:
 Vehicle Certification:

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time:
 Discrepancies:

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) Signature Receipt Date

001019

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 450

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: () Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: Customer Number:

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: Volume

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: 1 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print):
 Address: Vehicle License No./State:
 Vehicle Certification:

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time:
 Discrepancies:

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) Signature Receipt Date

001022

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 451

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (111) 111-1111 Phone No.: () 111-1111
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith [Signature] 1/5/11
 Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature] 1/5/11 [Signature] 1/5/11
 Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

ereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

00023

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 452

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No. (901) 217 Phone No.: ()
Waste ID. Code No. CR 4499
Special Handling Instructions and Additional Information. Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW 0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith _____
Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No. () _____
Transporter Name. Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____

Discrepancies _____
We hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001024

TOTAL TO DATE: _____



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 453

GENERATOR

Name of Generator: Memphis Depot - Caretaker
Address: 2163 Airways Blvd.
Memphis, TN 38114
Phone No.: (901) 594-1117
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Waste Generation Location: Pistol Range
Address: Dunn St.
Phone No.: () 594-1117

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number _____ Customer Number. _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	10	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent
Signature _____ Shipment Date 2-15-11

TRANSPORTER

Truck No.: _____ Transporter Phone No.: () _____
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____

Discrepancies: _____
I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001025

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 454

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-5617 Phone No.: () 544-5617
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature _____ Shipment Date 7/15/92

TRANSPORTER

Truck No.: _____ Transporter Phone No.: _____
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: 1/7
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

009026

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 455

GENERATOR

Name of Generator: Memphis Depot - CaretakerWaste Generation Location: Pistol RangeAddress: 2163 Airways Blvd.Address: Dunn St.Memphis, TN 38114Phone No.: (901) 241-1417Phone No.: () Waste ID Code No.: CR 4499Special Handling Instructions and Additional Information: Bill to Jacobs EngineeringTrash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: Customer Number:

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description

Actual Quantity

Units

Container Type

Pb Contaminated Soil

- ☐ Pounds
☒ Tons
☐ Cu. Yd
☐ Cu. Ft.

- ☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other:
 Volume:

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: 111Transporter Phone No.: () Transporter Name Matthews TruckingDriver Name (print): Address: Vehicle License No./State: Vehicle Certification:

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica LandfillPhone No.: 1-877-989-2783Site Address: 6035 Bowdre Road Robinsonville, MS 38664Time: Discrepancies:

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001027

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 456

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (771) 517-1017 Phone No.: () 517-1017
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No.: () _____
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: 100 77

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

00128

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 457

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: () Phone No.: ()
 Waste ID Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number _____ Customer Number _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature _____ Shipment Date 1 5 10

TRANSPORTER

Truck No.: _____ Transporter Phone No.: () _____
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001029

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 458

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 251-1111 Phone No.: (901) 251-1111
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith _____
Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No.: (601) 251-1111
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001030

TOTAL TO DATE:



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 459

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 729-4597 Phone No.: (662) 511-1111
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith _____
Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No. _____ Transporter Phone No.: (_____) _____
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No /State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001031

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 460

GENERATORName of Generator: Memphis Depot - CaretakerWaste Generation Location: Pistol RangeAddress: 2163 Airways Blvd.Address: Dunn St.Memphis, TN 38114

Phone No.: ()

Phone No.: ()

Waste ID. Code No. CR 4499Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number. _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description**Actual Quantity****Units****Container Type**Pb Contaminated Soil

- ☐ Pounds
☒ Tons
☐ Cu Yd.
☐ Cu Ft.

- ☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other _____
 Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

Signature

Shipment Date

TRANSPORTERTruck No.: 2017

Transporter Phone No.: ()

Transporter Name: Matthews Trucking

Driver Name (print): _____

Address: _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATIONSite Name: Trash Hunters of Tunica, Ins dba The Tunica LandfillPhone No.: 1-877-989-2783Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001032

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 461

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 211-2117 Phone No.: () 211-2117
Waste ID. Code No. CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

Signature

Shipment Date 1/5/95

TRANSPORTER

Truck No.: _____ Transporter Phone No.: (601) 211-2117
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001033

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:

THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 462

GENERATOR

Name of Generator: Memphis Depot - Caretaker

Address: 2163 Airways Blvd.
Memphis, TN 38114

Phone No.: (901) 544-3611

Waste ID Code No.: CR 4499

Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Waste Generation Location: Pistol Range

Address: Dunn St.

Phone No.: ()

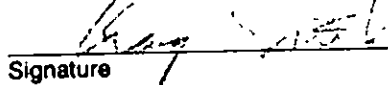
Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent


Signature

15103
Shipment Date

TRANSPORTER

Truck No.

Transporter Name: Matthews Trucking

Address: _____

Transporter Phone No.: ()

Driver Name (print): _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Discrepancies: _____

Phone No.: 1-877-989-2783

Time: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001034

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 463

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-5017 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

[Signature]
 Signature

2-15-10
 Shipment Date

TRANSPORTER

Truck No.: 1 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature]
 Signature

1/1
 Pickup Date

[Signature]
 Signature

1/1
 Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

[Signature]
 Name (print)

[Signature]
 Signature

1/1
 Receipt Date

004035

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 464

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - CaretakerWaste Generation Location: Pistol RangeAddress: 2163 Airways Blvd.Address: Dunn St.Memphis, TN 38114Phone No.: (901) 571-0617Phone No.: () 571-0617Waste ID. Code No.: CR 4499Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description

Actual Quantity

Units

Container Type

Pb Contaminated Soil

20

- ☐ Pounds
☒ Tons
☐ Cu Yd.
☐ Cu Ft.

- ☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other: _____
Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: _____

Transporter Phone No.: () _____

Transporter Name: Matthews Trucking

Driver Name (print): _____

Address: _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica LandfillPhone No.: 1-877-989-2783Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

000036

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 465

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 541-1617 Phone No.: () SAME
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: 111 Transporter Phone No.: ()
Transporter Name: Matthews Trucking Driver Name (print): Matthews
Address: 1111 Vehicle License No./State: 1111
Vehicle Certification: 1111

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001037

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 466

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 544-9417 Phone No.: () SAME
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent
Signature: [Signature] Shipment Date: 2-15-13

TRANSPORTER

Truck No.: _____ Transporter Phone No.: () 667-7111
Transporter Name: Matthews Trucking Driver Name (print): Matthews, Brad
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____
With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.
Signature: [Signature] Pickup Date: 2-15-13 Signature: [Signature] Delivery Date: 2-15-13

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print): _____ Signature: _____ Receipt Date: _____
301038
White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR
TOTAL TO DATE: _____



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 467

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 574-0017 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number _____ Customer Number _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	2	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature Kraig Smith Shipment Date 7-15-00

TRANSPORTER

Truck No.: _____ Transporter Phone No.: (602) 617-2002
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

000039

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY

729 468

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (721) 514-3417 Phone No.: () 726
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permt # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent Signature Kraig Smith Shipment Date 12-10

TRANSPORTER

Truck No: _____ Transporter Phone No: () 726
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

000040

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 469

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 514-2017 Phone No.: ()
 Waste ID Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720310459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	2.5	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature Kraig Smith Shipment Date 1-5-13

TRANSPORTER

Truck No.: 1513 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print):
 Address: Vehicle License No./State:
 Vehicle Certification:

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature Pickup Date 1-5-13 Signature Delivery Date 1-5-13

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time:
 Discrepancies:

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date 1/5/13

001241

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 470

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544 2617 Phone No.: () 544 2617
 Waste ID. Code No. CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature [Signature] Shipment Date 7-15-13

TRANSPORTER

Truck No.: 111 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): Tim Matthews
 Address: 21111111 Vehicle License No./State: 1-2357
 Vehicle Certification: 11111

With my signature, I certify that the above material was picked up at the Generator site listed above.

Signature [Signature] Pickup Date 7-15-13

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature [Signature] Delivery Date 7-15-13

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

3042

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:

THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY

729 471

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker

Address: 2163 Airways Blvd.
Memphis, TN 38114

Phone No.: (901) 511-0007

Waste ID. Code No.: CR 4499

Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Waste Generation Location: Pistol Range

Address: Dunn St.

Phone No.: () SAME

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

[Signature]
Signature

7-15-10
Shipment Date

TRANSPORTER

Truck No.: 1-1

Transporter Name: Matthews Trucking

Address: _____

Transporter Phone No.: ()

Driver Name (print): _____

Vehicle License No /State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature] Signature 7-15-10 Pickup Date

[Signature] Signature 7-15-10 Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Discrepancies: _____

Phone No.: 1-877-989-2783

Time: _____

every certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

081043 Name (print)

[Signature] Signature

7-15-10 Receipt Date

TOTAL TO DATE: _____

THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 472

GENERATOR

Name of Generator: Memphis Depot - Caretaker
Address: 2163 Airways Blvd.
Memphis, TN 38114
Phone No.: (901) 511-3617
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Waste Generation Location: Pistol Range
Address: Dunn St.
Phone No.: () SAME

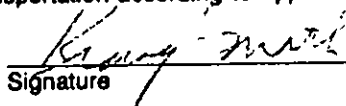
Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent


Signature

215122
Shipment Date

TRANSPORTER

Truck No.: _____
Transporter Name: Matthews Trucking
Address: _____

Transporter Phone No.: (601) 722-1177
Driver Name (print): _____
Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____

Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill
Site Address: 6035 Bowdre Road Robinsonville, MS 38664
Discrepancies: _____

Phone No.: 1-877-989-2783
Time: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____
301044

Signature _____

Receipt Date _____

TOTAL TO DATE: _____

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 473

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 544-0017 Phone No.: () SAME
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number. _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	3'	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent
Signature Kraig Smith Shipment Date 2-15-05

TRANSPORTER

Truck No.: 101 Transporter Phone No.: () 1-877-989-2783
Transporter Name: Matthews-Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001045

TOTAL TO DATE:

THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 474

GENERATOR

Name of Generator: Memphis Depot - Caretaker

Address: 2163 Airways Blvd.
Memphis, TN 38114

Phone No.: (901) 544-0617

Waste ID. Code No.: CR 4499

Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Waste Generation Location: Pistol Range

Address: Dunn St.

Phone No.: () Same

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	2	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

[Signature]
Signature

2-15-13
Shipment Date

TRANSPORTER

Truck No.: _____

Transporter Name: Matthews Trucking

Address: _____

Transporter Phone No.: () _____

Driver Name (print): _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature] Signature 2-15-13 Pickup Date

[Signature] Signature 2-15-13 Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Discrepancies: _____

Phone No.: 1-877-989-2783

Time: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

_____ Name (print)

_____ Signature

_____ Receipt Date

001046

TOTAL TO DATE:

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 475

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No: (901) 544-5577 Phone No: () same
Waste ID. Code No. CR 4499
Special Handling Instructions and Additional Information. Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number. _____

RESPONSIBLE AGENCY Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

Kraig Smith
Signature

2/5/98
Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No: ()
Transporter Name: Matthews Trucking Driver Name (print):
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature Pickup Date

Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

000047

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 476

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (701) 544-2617 Phone No.: () Same
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

[Signature]
 Signature

7 15 103
 Shipment Date

TRANSPORTER

Truck No.: _____
 Transporter Name Matthews Trucking
 Address: _____

Transporter Phone No.: () _____
 Driver Name (print): _____
 Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Phone No.: 1-877-989-2783

Time: _____

Discrepancies: _____

Hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

000048

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY
NON-HAZARDOUS WASTE MANIFEST

729 477

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 511-0017 Phone No.: () 511-0017
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith Signature 7/15/02 Shipment Date
Generator Authorized Agent

TRANSPORTER

Truck No.: _____ Transporter Phone No.: ()
Transporter Name: Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

 Signature 7/15/02 Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) Signature Receipt Date
301049 **White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR** **TOTAL TO DATE:**



THE TUNICA LANDFILL
A WASTE MANAGEMENT COMPANY

729 479

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 544-0017 Phone No.: ()
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: 1072 Transporter Phone No.: ()
Transporter Name Matthews Trucking Driver Name (print): _____
Address: _____ Vehicle License No./State: _____
Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above. With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) Signature Receipt Date

001051

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 480

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 571-0017 Phone No.: () 541-1111
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature [Signature] Shipment Date 2-15-10

TRANSPORTER

Truck No.: 201 Transporter Phone No.: (601) 427-1111
 Transporter Name: Matthews Trucking Driver Name (print): [Signature]
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001052

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE: _____



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 481

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 514-3617 Phone No.: () 514-3617
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature [Signature] Shipment Date 2-1-05

TRANSPORTER

Truck No.: 352 Transporter Phone No.: () _____
 Transporter Name: Matthews Trucking Driver Name (print): Matthews
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature [Signature] Pickup Date 2-1-05 Signature [Signature] Delivery Date 2-1-05

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001053

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 482

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-2027 Phone No.: () 2-AM-5
 Waste ID. Code No. CR 4499
 Special Handling Instructions and Additional Information Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW 0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	7.1	☐ Pounds ☒ Tons ☐ Cu Yd. ☐ Cu Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith Signature 2-15-13
 Generator Authorized Agent Shipment Date

TRANSPORTER

Truck No: TR1 Transporter Phone No.: () 216-1-1111
 Transporter Name: Matthews Trucking Driver Name (print): T. Matthews
 Address: 5011 N. 1st St. Vehicle License No./State: MS 1-12345
 Vehicle Certification: MS 1-12345

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

001054

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 483

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 541 0617 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	70	☐ Pounds ☒ Tons ☐ Cu. Yd ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent

[Signature]
 Signature

2-15-93
 Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature]
 Signature

2-15-93
 Pickup Date

[Signature]
 Signature

2-15-93
 Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

[Signature]
 Name (print)

[Signature]
 Signature

2-15-93
 Receipt Date

000055

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 484

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 541-5017 Phone No.: () AMF
 Waste ID Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	2.0	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature [Signature] Shipment Date 7/15/03

TRANSPORTER

Truck No.: 107 Transporter Phone No.: ()
 Transporter Name: Matthews-Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below

Signature _____ Pickup Date 7/15/03 Signature _____ Delivery Date 7/15/03

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

reby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date 7/15/03

001056

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 485

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 544-0017 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW 0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	20	☐ Pounds ☒ Tons ☐ Cu. Yd ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
 Generator Authorized Agent Signature [Signature] Shipment Date 1/5/03

TRANSPORTER

Truck No.: 1116 Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

00057

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 486

GENERATORName of Generator: Memphis Depot - CaretakerAddress: 2163 Airways Blvd.Memphis, TN 38114Phone No.: (901) 541 2017Waste ID. Code No.: CR 4499Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Waste Generation Location:

Pistol Range

Address:

Dunn St.

Phone No.: ()

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW 0720010459 Ticket Number: _____

Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description**Actual Quantity****Units****Container Type**Pb Contaminated Soil

- ☐ Pounds
☒ Tons
☐ Cu. Yd.
☐ Cu. Ft.

- ☐ Drum ☒ Truck
☐ Carton ☐ Box
☐ Bag ☐ Other: _____
 Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith

Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: _____

Transporter Name: Matthews Trucking

Address: _____

Transporter Phone No.: () _____

Driver Name (print): _____

Vehicle License No./State: _____

Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATIONSite Name: Trash Hunters of Tunica, Ins dba The Tunica LandfillSite Address: 6035 Bowdre Road Robinsonville, MS 38664Phone No.: 1-877-989-2783

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001058

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 487

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (901) 941-1117 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith _____
 Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: Transporter Phone No.: () _____
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: Vehicle License No./State:
 Vehicle Certification:

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature _____ Pickup Date _____ Signature _____ Delivery Date _____

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) _____ Signature _____ Receipt Date _____

000059

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

NON-HAZARDOUS WASTE MANIFEST

729 488

GENERATOR

Name of Generator: Memphis Depot - Caretaker

Address: 2163 Airways Blvd.
Memphis, TN 38114

Phone No.: (901) 544-607

Waste ID. Code No.: CR 4499

Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Waste Generation Location: Pistol Range

Address: Dunn St.

Phone No.: ()

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____

Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith
Generator Authorized Agent

Signature

Shipment Date

TRANSPORTER

Truck No.: TD1

Transporter Name: Matthews Trucking

Address: 515 N. Main

Transporter Phone No.: ()

Driver Name (print): Matthews

Vehicle License No./State: MS

Vehicle Certification: MS

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature

Pickup Date

Signature

Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill

Site Address: 6035 Bowdre Road Robinsonville, MS 38664

Phone No.: 1-877-989-2783

Time: _____

Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print)

Signature

Receipt Date

001060

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod - CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 489

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
Phone No.: (901) 544-5617 Phone No.: ()
Waste ID. Code No.: CR 4499
Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept. of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil	2.0	☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other: _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith Signature 8/18/10 Shipment Date
Generator Authorized Agent

TRANSPORTER

Truck No.: RM10 Transporter Phone No.: ()
Transporter Name: Matthews Trucking Driver Name (print): Matthews
Address: 2163 Airways Blvd. Vehicle License No./State: A 4-128-160
Memphis, TN Vehicle Certification: 11/1/07

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

Signature 8/18/10 Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Ins dba The Tunica Landfill Phone No.: 1-877-989-2783
Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

Name (print) Signature Receipt Date

001061

White LANDFILL Yellow GENERATOR Pink TRANSPORTER Goldenrod CONTRACTOR

TOTAL TO DATE:



THE TUNICA LANDFILL

A WASTE MANAGEMENT COMPANY

729 490

NON-HAZARDOUS WASTE MANIFEST

GENERATOR

Name of Generator: Memphis Depot - Caretaker Waste Generation Location: Pistol Range
 Address: 2163 Airways Blvd. Address: Dunn St.
Memphis, TN 38114
 Phone No.: (615) 41-2111 Phone No.: ()
 Waste ID. Code No.: CR 4499
 Special Handling Instructions and Additional Information: Bill to Jacobs Engineering

Trash Hunters of Tunica dba THE TUNICA LANDFILL Permit # SW-0720010459 Ticket Number: _____ Customer Number: _____

RESPONSIBLE AGENCY: Mississippi Dept of Environmental Quality (601) 961-5171

Waste Description	Actual Quantity	Units	Container Type
Pb Contaminated Soil		☐ Pounds ☒ Tons ☐ Cu. Yd. ☐ Cu. Ft.	☐ Drum ☒ Truck ☐ Carton ☐ Box ☐ Bag ☐ Other. _____ Volume: _____

With my signature, I certify that the above named material does not contain free liquid as defined by 40 CFR Part 260.10 or any applicable law or regulation, is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations.

Kraig Smith [Signature] 7/1/92
 Generator Authorized Agent Signature Shipment Date

TRANSPORTER

Truck No.: _____ Transporter Phone No.: ()
 Transporter Name: Matthews Trucking Driver Name (print): _____
 Address: _____ Vehicle License No./State: _____
 Vehicle Certification: _____

With my signature, I certify that the above material was picked up at the Generator site listed above.

With my signature, I certify that the above named material was delivered without incident to the destination listed below.

[Signature] 7/1/92 [Signature] 7/1/92
 Signature Pickup Date Signature Delivery Date

DESTINATION

Site Name: Trash Hunters of Tunica, Inc dba The Tunica Landfill Phone No.: 1-877-989-2783
 Site Address: 6035 Bowdre Road Robinsonville, MS 38664 Time: _____
 Discrepancies: _____

I hereby certify that the above named material has been accepted and to the best of my knowledge, the foregoing is true and accurate.

001062 [Signature] 7/1/92
 Name (print) Signature Receipt Date

APPENDIX F
SURVEY DATA

Pistol Range Survey Data

	Point	Northing	Easting	Elevation	Point Name
Control Points	1	281569.7	802695.6	304.76	CP - Control Point
	2	281242.7	802054.8	304.65	CP - Control Point
	3	282158	803191.7	292.17	CP - Control Point
	50	281598.9	802884.4	279.288	CP - Control Point
Project Excavation and Activity Boundary	1000	281586.7	802846.9	283.269	LINE ST
	1001	281579.1	802822.7	286.383	LINE
	1002	281572.3	802800	288.909	LINE
	1003	281556.4	802771.7	293.84	LINE STCV
	1004	281547.9	802749.5	298.175	LINE
	1005	281552.3	802717.8	302.191	LINE
	1006	281564.4	802690.9	304.697	LINE
	1007	281582.6	802663.5	304.655	LINE
	1008	281606.9	802653	305.202	LINE
	1009	281642.6	802649.9	303.754	LINE
	1010	281674.3	802655.7	304.202	LINE
	1011	281689.2	802672.2	305.961	LINE
	1012	281704	802691.1	305.329	LINE
	1013	281714.8	802711	303.81	LINE
	1014	281714.9	802732.3	300.47	LINE ENDCV
	1015	281710.6	802748	296.409	LINE
	1016	281704.9	802774.6	291.418	LINE
	1017	281700.1	802798.3	288.832	LINE
	1018	281688.5	802825.9	285.004	LINE
	1019	281682	802845.7	282.808	LINE CLOSE-
Sample Locations	1020	281680.9	802800.9	283.824	BH-F1
	1021	281681.7	802769.2	285.43	BH-F2
	1022	281699.1	802750.8	292.934	BH-F3
	1023	281682.5	802735.6	288.784	BH-F4
	1024	281673.6	802704.9	292.907	BH-D1
	1025	281679	802698.3	299.68	BH-D2
	1026	281685.2	802690.5	305.214	BH-D4
	1027	281696.6	802700.9	304.289	BH-D3
	1028	281656.7	802683	301.587	BH-C7
	1029	281643.3	802671.8	304.985	BH-C12
	1030	281625.7	802672.3	304.962	BH-C13
	1031	281612	802672.7	305.675	BH-C14
	1032	281657.9	802673.9	305.166	BH-C11
	1033	281642.7	802682.3	299.763	BH-C8
	1034	281634.5	802682.4	300.262	BH-C17
	1035	281626.7	802683.5	300.156	BH-C9
	1036	281613.5	802683.8	301.35	BH-C10
	1037	281619.7	802692.7	294.532	BH-C6
	1038	281634.1	802692.4	293.633	BH-C16
	1039	281649.9	802692.3	293.653	BH-C5
	1040	281654.7	802703.3	287.071	BH-C1
	1041	281643.6	802703	286.668	BH-C2
	1042	281635.1	802702.7	287.373	BH-C15

Pistol Range Survey Data

	Point	Northing	Easting	Elevation	Point Name
Sample Locations	1043	281626.1	802703.4	287.037	BH-C3
	1044	281613.1	802704.5	287.496	BH-C4
	1045	281596.3	802707.3	290.962	BH-E1
	1046	281591.2	802699.6	297.932	BH-E2
	1047	281583.9	802689.5	304.758	BH-E4
	1048	281567.8	802713.1	302.804	BH-E3
	1049	281574.3	802752.4	293.186	BH-G3
	1050	281585	802731.7	290.445	BH-G4
	1051	281586.3	802770.7	286.016	BH-G2
	1052	281586.5	802801.6	284.455	BH-G1
	1053	281615.1	802829.2	279.669	BH-A3
	1054	281630	802830.8	279.803	BH-A2
	1055	281644	802830.2	279.733	BH-A1
	1056	281643.8	802815	279.729	BH-A4
	1057	281629.8	802813.9	279.812	BH-A5
	1058	281615.1	802815.3	279.832	BH-A6
	1059	281614.9	802801.3	279.712	BH-A9
	1060	281629.8	802800.1	279.962	BH-A8
	1061	281643.9	802800.2	279.658	BH-A7
	1062	281645.5	802780.4	279.651	BH-B1
	1063	281629.3	802769.6	279.813	BH-B3
	1064	281615.6	802781.3	279.674	BH-B2
	1065	281616.2	802752.8	279.493	BH-B5
	1066	281628.9	802742.1	279.982	BH-B6
	1067	281617.5	802727.7	280.881	BH-B8
	1068	281644.5	802728.1	280.707	BH-B7
	1069	281645.1	802751.5	279.761	BH-B4
Project Excavation and Activity Boundary	1070	281420.6	802118.4	298.896	LINE ST
	1071	281415.3	802117.9	298.86	LINE
	1072	281415.6	802114.6	298.822	LINE
	1073	281421	802115	298.836	LINE CLOSE-
	1074	281111.5	802085.4	302.756	LINE ST
	1075	281116.9	802085.5	302.763	LINE
	1076	281116.9	802088.9	302.717	LINE
	1077	281111.5	802088.7	302.672	LINE CLOSE-
	1078	280790.3	802060.8	299.448	LINE ST
	1079	280795.1	802063.2	299.52	LINE
	1080	280796.6	802060.2	299.482	LINE
	1081	280791.9	802057.8	299.449	LINE CLOSE-

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE