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SITE ASSESSMENT AND INVESTIGATION OF RAILROAD RIGHT OF WAY NAS FORT WORTH TX
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FINAL

Site Assessment and Investigation of the Railroad Right-of-Way

Air Force Plant 4, Fort Worth, Texas

Department of the Air Force
Headquarters (HQ) Human Systems Center (HSC) PKVCC
3207 North Road
Brooks AFB, Texas 78235-5353

Contract No. F41624-95-D-8002
Delivery Order 0003, Modification 001

April 1999

The Environmental Company, Inc.

APR 1 2 REC'D

464 2

The Environmental Company, Inc.

Rafael Vazquez
AFBCA Regional Operating Location
3711 Outlaw Country Drive
Austin, TX 78719-2557

RE: Final Railroad Right-of-Way Site Investigation Report, Air Force Plant 4, Fort Worth, Texas

Dear Mr. Vazquez:

Enclosed please final versions of the document cover, title page, distribution page, report documentation page, preface, notice, executive summary, Table of Contents, and Appendix K for the insertion into the *Railroad Right-of-Way Site Investigation Report*. The preface indicates that the draft version of the report was reviewed and accepted without request for modification. The draft text, originally submitted in July 1998, is therefore considered final. A copy of the agency review letter is provided for inclusion in the report as Appendix K.

These pages have been distributed to you at the request of Mr. John Doepker, Aeronautical Systems Center Office of Environmental Management, Wright-Patterson Air Force Base, and Mr. Charles Pringle, Air Force Center for Environmental Excellence, Brooks Air Force Base.

Sincerely;
THE ENVIRONMENTAL COMPANY, INC.

Bob Duffner

Bob Duffner, P.E.
Project Manger

FINAL REPORT

SITE ASSESSMENT AND INVESTIGATION OF THE RAILROAD RIGHT-OF-WAY

AIR FORCE PLANT 4 FORT WORTH, TEXAS AND NAS FORT WORTH JOINT RESERVE BASE CARSWELL FIELD, TEXAS

Contract No. F41624-95-D-8002
Delivery Order 0003
Modification 001

January 1999

Prepared for:

Department of the Air Force
Headquarters (HQ) Human Systems Center (HSC) PKVCC
3207 North Road
Brooks AFB, Texas 78235-5353

Prepared by:

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1. AGENCY USE ONLY *(Leave blank)*

2. REPORT DATE
January 1999

3. REPORT TYPE AND DATES COVERED
Final Technical Report- January1999

4. TITLE AND SUBTITLE
DRAFT REPORT
SITE ASSESSMENT AND INVESTIGATION OF THE
RAILROAD RIGHT-OF-WAY AIR FORCE PLANT 4 FORT WORTH, TEXAS
AND NAS FORT WORTH JOINT RESERVE BASE
CARSWELL FIELD, TEXAS

5. FUNDING NUMBERS
Contract No. F41624-95-D-8002
Delivery Order 0003
Modification 001

6. AUTHOR(S)
The Environmental Company, Inc.

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
The Environmental Company, Inc.
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8. PERFORMING ORGANIZATION REPORT NUMBER
NA

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
HQ AFCEE/ERB
Air Force Center for Environmental Excellence
Base Closure Division
Brooks AFB, TX 78235

10. SPONSORING/MONITORING AGENCY REPORT NUMBER
NA

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

12b. DISTRIBUTION CODE

13. ABSTRACT *(Maximum 200 words)*

This Technical Report provides a summary of investigation activites including a Site Assessment and Investigation of the Railroad Right-of-Way Air Force Plant 4, Fort Worth, Texas and NAS Fort Worth Joint Reserve Base, Carswell Field, Texas.

14. SUBJECT TERMS
FINAL TECHNICAL REPORT

15. NUMBER OF PAGES
100

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT
Unclassified

18. SECURITY CLASSIFICATION OF THIS PAGE
Unclassified

19. SECURITY CLASSIFICATION
Unclassified

20. LIMITATION OF ABSTRACT

PREFACE

A site assessment/site investigation (SA/SI) of the area in the vicinity of the Railroad Right-of-Way at Air Force Plant 4 Fort Worth, and Naval Air Station (NAS) Fort Worth, Joint Reserve Base, Carswell Field, Texas (identified as Project No. 98-8126) was conducted to determine the presence or absence of contamination within the study area. This Technical Report provides a summary of SA/SI activities and provides conclusions of the investigation.

This Technical Report was prepared by The Environmental Company, Inc. under contract No. F41624-95-D-8002, Delivery Order 0003, Modification 001, Project No. 98-8126.

This Technical Report was written under the direction of Mr. Bob Duffner, P.E., TEC Project Manager. The Contracting Officer's Representative for this project is Mr. Charles Rice, Air Force Center for Environmental Excellence, Environmental Restoration Branch, Brooks Air Force Base, Texas.

The draft version of the Technical Report was reviewed and accepted without request for modification (see Appendix K). The draft version of the technical report is therefore considered final.

Approved By: Date: 4/1/99

Bob Duffner, P.E.
Project Manager
The Environmental Company, Inc.

Approved By: Date: 4/1/99

for Jack Wilson, P.E.
Program Manager
The Environmental Company, Inc.

NOTICE

This Technical Report has been prepared for the U.S. Air Force (USAF) by The Environmental Company, Inc. (TEC). Although the area of study is being investigated in accordance with Installation Restoration Program (IRP) guidance, the area has not been identified as an IRP site. This project was jointly funded and initiated by the Aeronautical Systems Center office of Environmental Management (ASC/EM) and the Air Force Base Conversion Agency (AFBCA). The ASC/EM owns the majority of the property that is the subject of this study; a small portion of the rail line is under the control of the AFBCA. It is the desire of the ASC/EM and the AFBCA to make these properties available for reuse or disposal. In support of property reuse and disposal, this report summarizes investigative efforts to confirm or deny the presence of contamination.

Release of this report prior to a USAF final decision on remedial action may be in the public interest to make known actual or possible releases of potentially hazardous substances. The limited objectives of this report and the ongoing nature of the IRP, along with the evolving knowledge of site conditions and chemical effects on the environment and health, must be considered when evaluating this report because subsequent facts could become known that may make this report premature or inaccurate.

Acceptance of this report in performance of the contract under which it is prepared should not be construed as Air Force adoption of the conclusions, recommendations, or other views expressed herein, which are those of the contractor only and do not necessarily reflect the official USAF position.

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EXECUTIVE SUMMARY

A two-phased study was conducted at the Railroad Right-of-Way (RRRW) to investigate whether past railroad activities have impacted environmental media. The RRRW area covered in this study spans approximately 7 linear miles and is located between West Vickery Boulevard and Air Force Plant 4 near Naval Air Station (NAS) Fort Worth, Joint Reserve Base, Texas. The RRRW is approximately 50 to 75 feet wide. The study consisted of a Site Assessment (SA) and a Site Investigation (SI). The results of both phases of the study indicate that the RRRW has not been adversely impacted by past railroad activities.

During the SA phase, background information including a historic information review, a visual inspection, and a soil gas survey were conducted. The results of the SA demonstrate no potential impacts to the RRRW from railroad activities. There were no reports of historic spills to the surface and no potential impacts were noted during the visual inspection of the entire RRRW. Although variations in soil gas results were identified, the masses reported were low and were not indicative of a contaminant source area.

During the SI, definitive data was collected to confirm the conclusion developed from the SA. A total of 12 surface and subsurface soil samples were collected from eight locations associated with the highest soil gas readings. Although a number of inorganics were reported at concentrations slightly greater (less than two times) the background levels established for NAS Fort Worth (Jacobs, 1998), the levels are believed to be representative of natural background variations and not attributable to activities associated with the railroad. Two volatile organics were also detected (methylene chloride and toluene). These compounds are common laboratory contaminants, however, and are also not attributable to the study area.

Based on the results of this investigation, it is recommended that the RRRW be managed under AFCEE Category 1: No further action.

TABLE OF CONTENTS

1.0 INTRODUCTION ..... 1 - 1
1.1 THE AIR FORCE INSTALLATION RESTORATION PROGRAM ..... 1 - 1
1.2 NAS FORT WORTH DESCRIPTION ..... 1 - 1
1.2.1 Installation Location ..... 1 - 1
1.2.2 Installation History 1-3
1.2.3 Land Use and Demographics ..... 1 - 4
1.2.4 Regional Topography and Surface Hydrology ..... 1 - 4
1.2.5 Regional Geology and Hydrogeology ..... 1 - 4
1.2.6 Climate ..... 1 - 5
1.3 SITE DESCRIPTION ..... 1 - 5
1.3.1 Site Location ..... 1 - 5
1.3.2 Site History ..... 1 - 6
1.3.3 Site Geology ..... 1 - 6
1.4 PAST OBSERVATIONS, INVESTIGATIONS, AND REMEDIAL ACTIONS ..... 1 - 7

2.0 PROJECT ACTIVITIES ..... 2 - 1
2.1 PROJECT OBJECTIVES ..... 2 - 1
2.2 FIELD ACTIVITIES ..... 2 - 1
2.2.1 SA Phase Field Program ..... 2 - 1
2.2.1.1 Review of Historical Information ..... 2 - 1
2.2.1.2 Site Reconnaissance ..... 2 - 2
2.2.1.3 Soil Gas Survey ..... 2 - 2
2.2.2 SI Phase Field Program ..... 2 - 6
2.2.3 Project Team Members ..... 2 - 8
2.2.4 Chronology of Field Work ..... 2 - 8
2.2.5 Field Quality Assurance/Quality Control ..... 2 - 10
2.2.5.1 Quality Control Activities ..... 2 - 10
2.2.5.2 Quality Assurance Activities ..... 2 - 11
2.2.5.3 Problems Detected and Corrective Actions Taken ..... 2 - 12
2.3 LABORATORY ANALYSIS ..... 2 - 12
2.3.1 Soil Gas Survey ..... 2 - 12
2.3.2 Subsurface Soil Characterization ..... 2 - 12
2.4 DATA EVALUATION ..... 2 - 12

LIST OF APPENDICES

Appendix A Property Description

Appendix B Site Investigation Sample Location Surveying Data

Appendix C Photographic Log

Appendix D List of Analytical Parameters

Appendix E Field Sampling Reports

Appendix F Borehole Logs

Appendix G Contact Reports

Appendix H Soil Gas Analysis Report

Appendix I Independent Data Validation Report And Validated Laboratory Data Summary Reports

Appendix J Chain-of-Custody Forms

Appendix K Agency Review Comments

LIST OF FIGURES

Figure 1-1 Railroad Right-of-Way Site Map

Figure 2-1 Railroad Right-of-Way South of AF Plant 4

Figure 2-2 Railroad Right-of-Way Adjacent to Carswell Field and Ridgmar Mall

Figure 2-3 Railroad Right-of-Way Adjacent to Vickery Boulevard

Figure 3-1 Railroad Right-of-Way Soil Gas Results

IRP	Installation Restoration Program
JRB	Joint Reserve Base
Kg	Kilogram
L	liter
LCS	Laboratory Control Samples
MDL	Method Detection Limit
mg	milligram
MS	Matrix Spike
MSD	matrix spike duplicate
NAS	Naval Air Station
NCP	National Contingency Plan
ND	not detected
PCB	polychlorinated biphenyl
PID	photoionizing detector
PQL	Practical Quantitation Limit
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RECRA	RECRA Environmental, Inc.
RCRA	Resource Conservation and Recovery Act
RI/FS	Remedial Investigation/Feasibility Study
RRRW	Railroad Right-of-Way
SA	Site Assessment
SARA	Superfund Amendments Reauthorization Act
SC	Site Characterization
SI	Site Investigation
SOP	Standard Operating Procedures
SOW	Statement of Work
SVOC	semivolatile organic compound

TAB

1

1.0 INTRODUCTION

This Technical Report (TR) has been prepared by The Environmental Company, Inc. (TEC) under U.S. Air Force Center for Environmental Excellence (AFCEE) Contract No. F41624-95-D-8002, Delivery Order 0003, Modification 001 Project Number 95-8026. This TR summarizes the results of an investigative effort conducted at the Railroad Right-of-Way (RRRW) for the Air Force Plant (AFP) 4 and the Air Force Base Conversion Agency (AFBCA). Areas investigated during this project include those portions of the RRRW that extend south from the AFP 4 (Clifford Avenue) to the point where the RRRW merges with the main rail lines located along West Vickery Boulevard (see Figure 1-1).

The project comprised a two-phased data collection effort that included an initial Site Assessment (SA) followed by a Site Investigation (SI). This TR provides a summary of the activities and results of both of these phases.

All efforts were completed in accordance with guidelines provided in the Headquarters (HQ) AFCEE *Handbook for the Installation Restoration Program (IRP) Remedial Investigations and Feasibility Studies (RI/FS)*, dated September 1993 (hereafter referred to as the *Handbook*). Although the RRRW area was investigated in accordance with IRP guidance, it has not been identified as a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site or Resource Conservation, and Recovery Act (RCRA) site under any Federal or state program. The remaining portion of the study area is associated with the formerly Carswell Air Force Base[AFB], which is undergoing property disposal/reuse pursuant to the Base Realignment and Closure Act (BRAC) of 1990 and Round II of the Base Closure Commission deliberations. The majority of the study area is managed by the Aeonautical Systems Center Office of Environmental Management (ASC/EM), is considered excess property, and is ready for disposal.

1.1 THE AIR FORCE INSTALLATION RESTORATION PROGRAM

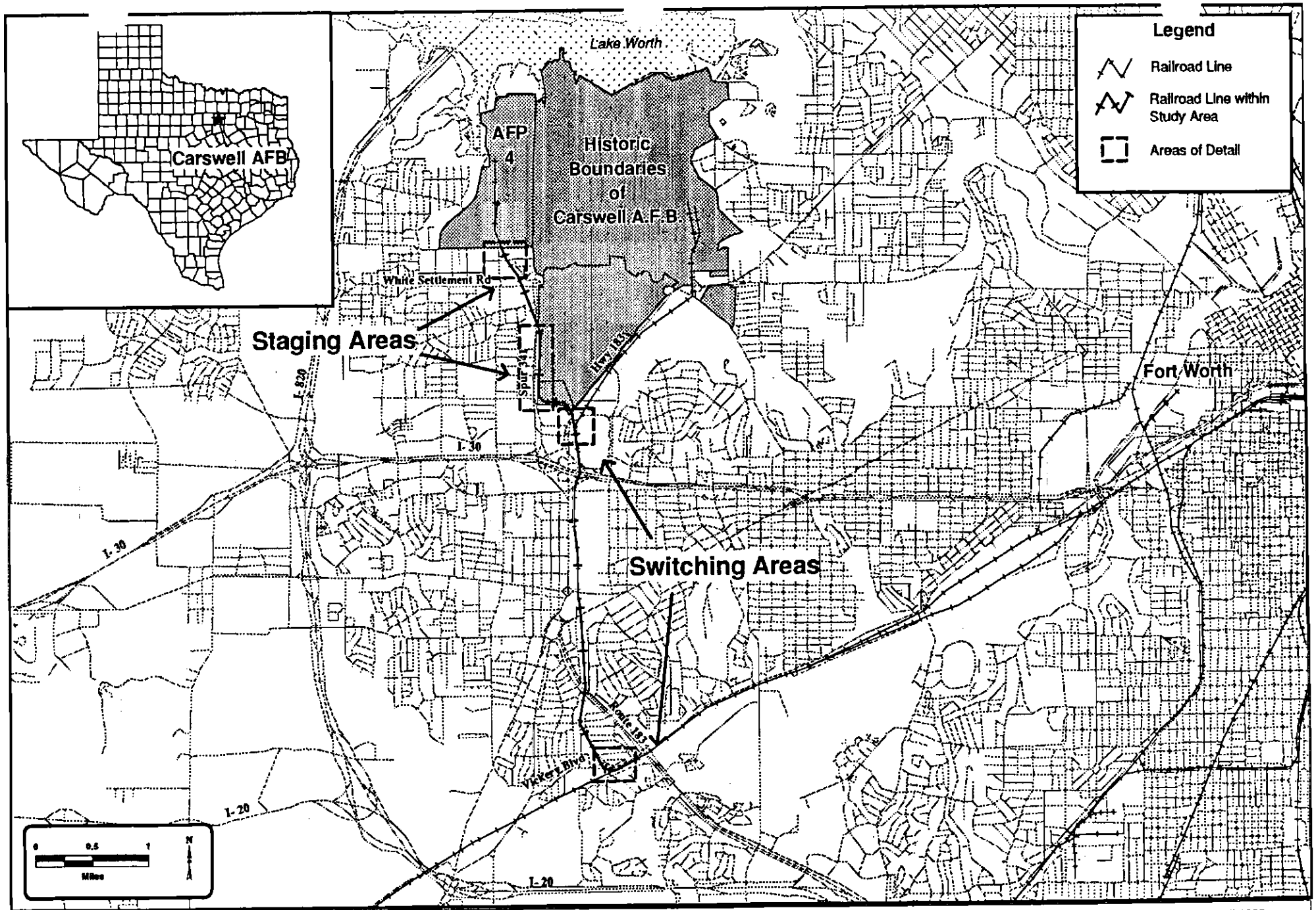
The objective of the U.S. Air Force (USAF) IRP is to assess past hazardous waste disposal and spill sites at USAF installations and to develop remedial actions for those sites. The IRP is the basis for assessments and response actions consistent with the National Contingency Plan (NCP), CERCLA, and the Superfund Amendments and Reauthorization Act (SARA) of 1986 for those sites that pose a threat to human health and welfare or the environment.

1.2 AIR FORCE PLANT 4 AND NAS FORT WORTH DESCRIPTION

1.2.1 Installation Location

AFP 4 is located in a suburban area of Tarrant County, Texas, 7 miles northwest of the City of Fort Worth (see Figure 1-1). The total land area of AFP 4 is 663 acres, including 560.03 acres of perpetual-lease land, 44.28 acres of term-lease land, and approximately 60 acres in the process of being transferred to AFP 4 from Tarrant County and the former Carswell AFB.

AFP 4 is bordered directly to the east by NAS Fort Worth, to the north by Lake Worth, and to the south and west by the City of White Settlement. NAS Fort Worth



The Environmental Company, Inc.

Figure 1-1 -- Railroad Right- f-Way Site Map

Date: April 1998
Project Manager: B. Duffner
Prepared By: D. Bedarf
Project No: P-3103-025

AFB is bordered to the east by the Trinity River and Westworth Village, to the southeast by the City of Fort Worth, to the north by Lake Worth, to the west by AFP 4, and to the southwest by the City of White Settlement.

The former Carswell Field AFB included those areas now occupied by NAS Fort Worth and additional properties as shown on Figure 1-1.

1.2.2 Installation History

AFP 4 is a government-owned, contractor-operated facility that became operational in 1942 when Consolidated Aircraft began manufacturing the B-24 bomber aircraft for national defense during World War II. General Dynamics took over operation of the manufacturing facility in 1953. The Lockheed Fort Worth Company took control of the plant in 1993 and in 1996 merged with Martin Marietta to form Lockheed Martin. As a result, AFP 4 operation became part of Lockheed Martin Tactical Aircraft Systems.

AFP 4 originally contained buildings totaling 1,961,00 square feet, but had expanded to cover 4,742,000 square feet by the end of World War II. A period of large expansion took place in the late 1960s and early 1970s, and by 1973 the total area covered was 6,552,000 square feet. Expansions since 1973, including Lockheed Martin-owned and temporary buildings, bring the current covered area to 7,265,550 square feet.

Past activities in support of manufacturing operations have included parts machining, metal parts surface preparation, anodizing, plating, other metal finishing operations, degreasing, general cleaning, painting, coating, fueling operations, and wastewater treatment. Current plant operations cover all phases of aircraft manufacturing including metal finishing, coating, inspection, assembly, painting, engine testing/fueling, hydrazine filling, and testing of finished aircraft.

The land area currently known as NAS Fort Worth was originally an earthen runway constructed to service an aircraft manufacturing facility. When established in 1942, the installation was referred to as the Tarrant Field Airdrome and was under the jurisdiction of the Gulf Coast Army Air Field Training Command. The installation mission was to provide transition training for B-24 bomber pilots.

The Strategic Air Command (SAC) assumed control of Tarrant Field Airdrome in 1946 and the installation served as the Headquarters (Headquarters (HQ)) for the Eighth Air Force and as a heavy bomber base. In 1948, the installation was renamed Carswell Air Force Base (AFB) in honor of Major Horace S. Carswell, a Fort Worth native. HQ 19th Air Division was located at Carswell AFB in 1951 and the installation became home base for B-52s and KC-135s in 1956. The Air Combat Command (ACC) assumed control of Carswell AFB in 1992 concurrent with the disestablishment of the SAC.

Carswell AFB was selected for closure and associated property disposal/reuse during Round II of Base Closure Commission deliberations pursuant to the Defense Base Closure and Realignment Act (DBCRA) of 1990. The planning process for closure and property disposal/reuse at Carswell AFB was initiated in 1992 and Carswell AFB officially closed on 30 September 1993.

The US Navy assumed control of Carswell AFB on 1 October 1994 and renamed the installation NAS Fort Worth.

1.2.3 Land Use and Demographics

Land uses west of NAS Fort Worth and AFP 4 are primarily residential and industrial, included single-family residences, commercial centers, and an industrial complex in White Settlement. White Settlement has a population of 15,472 and lies to the west and southwest of AFP 4. Total population within a mile and within a half-mile of the site boundaries has been estimated using an area-proportional spatial analysis technique and is based on 1990 U.S. Census data. Approximately 13,158 people reside within a mile of site boundaries; of those 6,303 people reside within a half-mile . There were a total of 5,161 housing units within one mile of the boundaries with an average of 2.55 persons per household.

AFP 4 employs approximately 11,500 people. In 1989, the year of peak employment, there were approximately 31,500 people were employed at the plant. Prior to the U.S. Navy taking over Carswell Field AFB, the USAF employed approximately 1,200 military personnel and 300 civilians at NAS Fort Worth.

Southeast of AFP 4 (along the RRRW) are various types of residential development; a commercial area is located south of the station at the interchange of Interstate Highway 30 (I-30) and State Highway 183. This commercial area includes a discount retail center, a shopping mall (Ridgmar Mall), and a convenience store.

1.2.4 Regional Topography and Surface Hydrology

AFP 4 and NAS Fort Worth is situated in the Grand Prairie Section of the Central Lowlands Physiographic Province (Frenneman, 1931). The area is characterized by gently sloping broad terraces that incline to the east and are separated by west-facing escarpments. The surface is typically grass-covered with isolated stands of timber on some of the uplands. The station is located in the Trinity River Basin immediately south of Lake Worth (see Figure 1-1). Within the station, the land surface slopes gently northeast towards Lake Worth and east towards the West Fork Trinity River, which flows along the eastern border. Elevations range between 550 and 690 feet above sea level (ASL).

1.2.5 Regional Geology and Hydrogeology

A layer of Quaternary sediments covers most of the surface of AFP 4 and NAS Fort Worth. This material is thin to absent in some areas, where a thin layer of organic soil caps near-surface bedrock. The Quaternary material consists of fill deposits or alluvium deposited by the West Fork Trinity River and its tributaries. Cretaceous limestones and limy shales of the Goodland Limestone and the Walnut Formation form the bedrock in the areas investigated (Leggatt, 1957; Rivers et al, 1997). These units are a portion of the stable Texas shelf. Bedding is essentially horizontal with regional dips ranging from 20 to 40 feet per mile towards the southeast (Rivers et al, 1997). No major fracture zones or faults have been mapped in the proximity of the base.

The principal hydrogeologic units underlying AFP 4 and NAS Fort Worth include the terrace alluvial aquifer and the Upper, Middle, and Lower Paluxy Aquifers (Rivers et al, 1997). The Paluxy Aquifers are bedrock hosted. The uppermost aquifer in the area occurs in near-surface unconsolidated materials. These materials include fill, alluvium, and the more highly weathered upper portions of the Goodland Limestone. The unconfined, discontinuous zones of groundwater within these deposits are collectively known as the terrace alluvial aquifer. This aquifer is only partially saturated and is not used as a source of drinking water. Recharge of the aquifer is from Lake Worth, precipitation, and leaking water supply lines, sewer lines, and storm drains. Discharge seeps into small streams as well as the West Fork Trinity River. Flow directions are generally controlled by the bedrock topography of the Goodland Limestone. Unweathered portions of the Goodland Limestone serve as an aquitard, preventing discharge from the upper aquifer into the Paluxy aquifers below.

The Paluxy Aquifers are hosted by fine- to medium-grained sandstone separated by clays and shales of the Paluxy Formation. The Middle Paluxy Aquifer serves as a water supply source for the community of White Settlement. The Paluxy Aquifers are hydraulically separated from the terrace alluvial aquifer by the Walnut Formation, a limestone coquina, and unweathered portions of the Goodland Limestone. The Walnut Formation has been subjected to extensive subaerial erosion, particularly in the area of AFP 4 and NAS Fort Worth, suggesting the possibility of local hydraulic communication between the terrace alluvial aquifer and the Upper Paluxy Aquifer (Rivers et al, 1997).

1.2.6 Climate

Subtropical humid summers and dry winters characterize the climate of AFP 4 and NAS Fort Worth, which are situated at 33 degrees (°) north latitude. The average annual air temperature is 66° Fahrenheit (F). July is the warmest month, with an average monthly air temperature of 86°F; January is the coldest month, with an average monthly air temperature of 45°F. Temperature changes may be rapid in the region and often change 20°F to 30°F in a matter of hours. The average annual relative humidity is 63 percent. The average annual precipitation is 31.5 inches, with the majority of precipitation falling between the months of April and October. Prevailing winds are primarily southerly from March through November and northerly from December through February. The average wind speed is 8 knots. Thunderstorms with wind speeds in excess of 65 knots, as well as hail storms, are common during the region. Climate conditions in summer make tornado formations possible.

1.3 SITE DESCRIPTION

This section provides a physical description and operational history of the RRRW area. In addition, a summary of the site-specific geology is provided based on information gathered during SI activities.

1.3.1 Site Location

The RRRW area covered in this study spans approximately 7 linear miles and is approximately 50 to 75 feet wide. Railroad tracks were installed in the 1950s from the main railroad line along West Vickery Boulevard to AFP 4 and Carswell Field for the delivery of bulk materials. The exact installation date is unknown. The railroad tracks

run from a switching point on the south side of West Vickery Boulevard, paralleling Route 183 north to Carswell Field. The tracks divide south of the base near the juncture of Spur 341 and Route 183, north of I-30. One section of the tracks continues east to Carswell Field along Route 183. The other proceeds west and north to AFP 4 along Spur 341 (see Figure 1-1).

The RRRW ownership is currently divided between the AF Materiel Command, the Air Force Base Conservation Agency (AFBCA) for the Carswell 7th Wing, and the State of Texas Department of Transportation. The AF Materiel Command controls the RRRW extending from West Vickery Boulevard north to the point where the tracks divide. The eastern set of tracks outside of the historic boundaries of Carswell AFB are controlled by the Department of Transportation and are not part of this study. The AFBCA controls approximately one mile within the boundaries of NAS Fort Worth, and the remaining 6 or 7 miles is controlled by AFP 4. The western set of tracks extend for approximately 2 miles before entering AFP 4. As shown on Figure 1-1, the southern half of the western tracks is within the historic boundaries of Carswell AFB and is controlled by the AFBCA. The northern portion is controlled by the AF Materiel Command.

This TR involves those sections of the RRRW that extend from West Vickery Boulevard to AFP 4. It does not include the eastern tracks of the RRRW which extend from Highway 183 to Carswell Field. Figure 1-1 identifies the overall area of the RRRW study and identifies the segments where investigations were focused based on interviews and other data gathered during this project.

A property description of the northern portions of the RRRW that extend from Highway 183 to AFP 4 has been completed. This property description was completed as part of a separate Air Force Center for Environmental Excellence AFCEE project and is included in Appendix A.

1.3.2 Site History

The railroad between West Vickery Boulevard and AFP 4 was active from approximately 1950s to 1988. During that period, Southern Pacific (currently Union Pacific) managed and maintained the railroad under contract to AF Materiel Command. As part of the general rail transport operations, rail cars were reportedly staged and switched at a number of locations (Long, 1997). Based on track configuration, there are two areas where cars could have been switched from one set of tracks to another. The southernmost area is along West Vickery Boulevard where the tracks serving AFP 4 and Carswell Field diverge from the main tracks. A second switching area is located directly south of Highway 183 where the tracks divide, the eastern leg continuing to Carswell Field and the western leg continuing to AFP 4 (see Figure 1-1).

In addition to switching operations, cars were reportedly staged or stored before entering or leaving the AFP 4 and NAS Fort Worth area (Long, 1997). On the western leg of the tracks serving AFP 4, cars were reportedly staged on the tracks within the historic boundaries of Carswell AFB. This set of track runs parallel to Spur 343 and the airfield runways. In addition, cars were likely staged directly south of the AFP 4 between Clifford Avenue and White Settlement Road (see Figure 1-1).

1.3.3 Site Geology

Soils encountered in the present investigation ranged from silty clays to clay-rich saprolite and decomposed limestone. Boreholes drilled near AFP 4 and Ridgmar Mall encountered a thin profile of topsoil followed by silty clays containing calcium carbonate ($CaCO_3$) concretions and limestone fragments. Boreholes drilled near the NAS Fort Worth runway encountered saprolite and decomposed limestone, and had very shallow depths to bedrock. Seven of eight boreholes drilled during the SI met refusal against bedrock. At one location approximately 800 feet south of the AFP 4 southern boundary, groundwater was encountered at 11 feet below ground surface (bgs). Refusal depths ranged from 0.75 feet near the runway to 14 feet near AFP 4. Additional details of the lithology encountered during this investigation are discussed in Section 3.2.4, *Lithology Characterization*, and are noted on the borehole logs provided in Appendix F.

1.4 PAST OBSERVATIONS, INVESTIGATIONS, AND REMEDIAL ACTIONS

There have been no past observations or investigations related to potential environmental threat or hazards associated with the RRRW, nor have there been any remedial actions completed within the RRRW area.

TAB

2

2.0 PROJECT ACTIVITIES

This section provides a synopsis of the objectives, activities, and methods used in the assessment and investigation of the RRRW area at NAS Fort Worth.

2.1 PROJECT OBJECTIVES

The overall objective of this project, as defined in the AFCEE Statement of Work (SOW) for Project Number 95-8021 (Contract Number F41624-95-D-8002, Delivery Order Number 0003, Modification 001) dated 9 June 1997, is to "report on the presence or absence and nature of contamination in the RRRW area at NAS Fort Worth, Texas."

Accomplishing this project objective was achieved through a phased evaluation consisting of an SA and an SI. Activities completed in the SA and the SI were initially identified in planning documents developed for the project. These planning documents were compiled in *Final Work Plan Addendum, Site Assessment and Investigation of the Railroad Right-of-Way* (TEC, 1997). This document incorporates by reference a more detailed series of planning documents developed for an associated NAS Fort Worth study. These referenced planning documents include a Field Sampling Plan (FSP) (TEC, 1996a), a Quality Assurance Project Plan (QAPP) (TEC, 1996), and a Health and Safety Plan (HSP) (TEC, 1996c). The activities performed in the SA and SI phases of the project are summarized below.

2.2 FIELD ACTIVITIES

This section summarizes the field activities performed in both the SA (Section 2.2.1) and SI (Section 2.2.2) phases of the project. Included are brief descriptions of the activities performed. Also provided are a listing of the major responsibilities of field team members and subcontractors used during the implementation of the field program (Section 2.2.3), a chronology of the field activities (Section 2.2.4), and a synopsis of key aspects of the field quality assessment/quality control (QA/QC) program (Section 2.2.5). Results of the field activities are discussed in Section 3.0.

2.2.1 SA Phase Field Program

During the SA phase of the project preliminary investigation requirements were developed and limited physical investigations were conducted. Three site assessment field tasks were completed. These included:

- a review of historical information;
- a site reconnaissance; and
- a soil gas survey.

Methods used to complete each of these SA field tasks are described below.

2.2.1.1 Review of Historical Information

As part of the review of historical information concerning the RRRW, a series of interviews were performed. These interviews focused on obtaining documentation of past practices and identifying material types that may have been carried by rail car to or from Carswell AFB and AFP 4.

Persons interviewed included Olen Long, Installation Management Officer with AFBCA; Travis Rainwater, Engineer overseeing railroad operations with Lockheed-Martin for greater than 30 years; Gerald Cumby, Lockheed Director of Transportation; and Ed Daniels, Lockheed Environmental/Spill Coordinator. During each interview, inquiries were made as to the availability of any written documentation concerning RRRW use. No written documentation was found.

2.2.1.2 Site Reconnaissance

A reconnaissance of the entire 7 mile RRRW study area was performed. The reconnaissance consisted of a visual inspection of the RRRW study area. Areas of stressed vegetation, discolored soils, and/or other indicators of contamination were noted during the inspection.

In addition to a visual inspection, the surface of the study area was screened for volatile emissions and radiation using a photoionizing detector (PID) and a Victoreen V190 radiation monitor, respectively. Meter readings were collected directly above the surface at all potentially anomalous locations. Background PID and radiation readings were also collected along the study area for comparison.

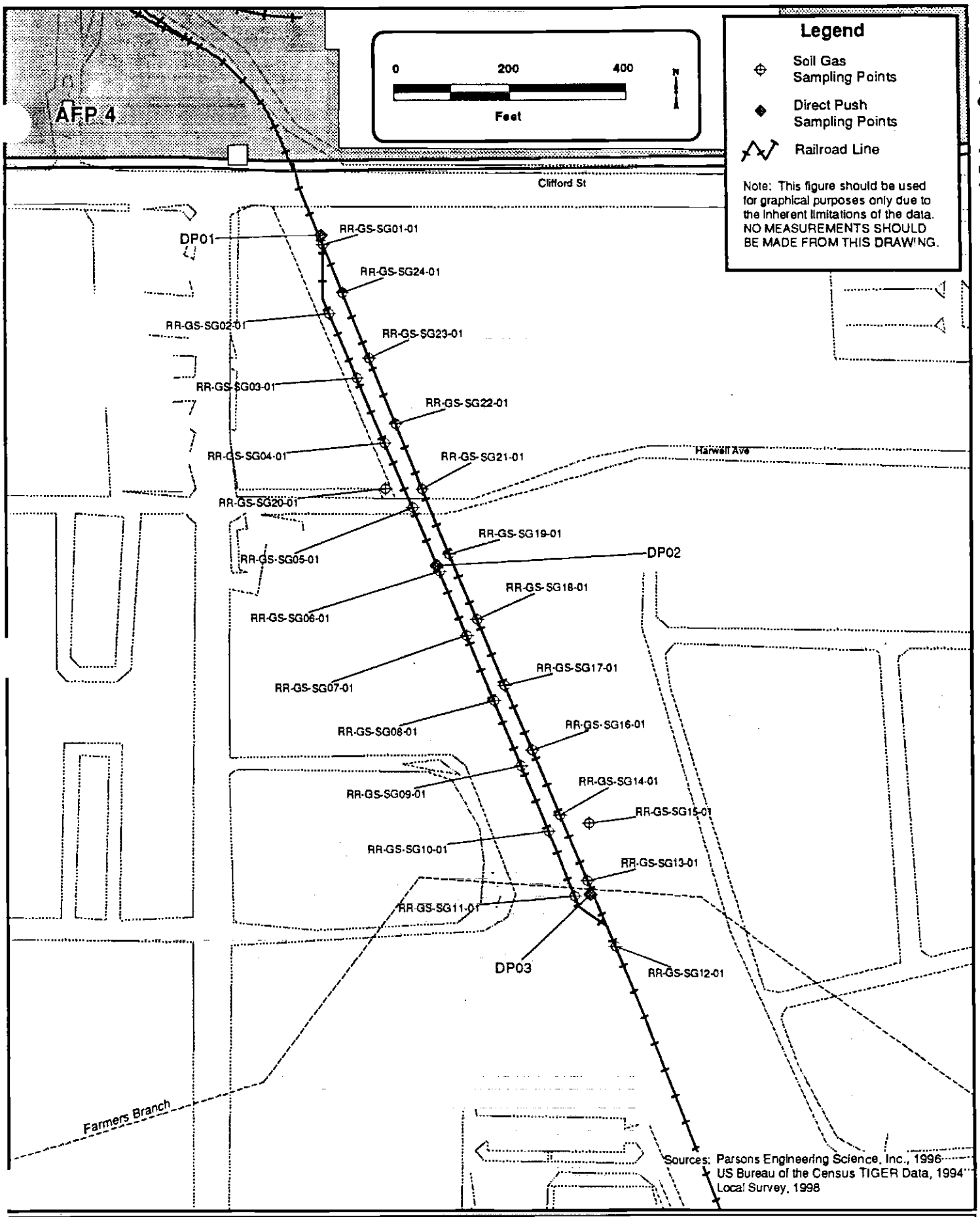
2.2.1.3 Soil Gas Survey

As discussed further in Section 3.1, the review of historical information identified four areas along the RRRW where increased activities could have increased the risk of spills to the surface. The four areas indicated on Figure 1-1 are:

- a staging/switching area south of AFP 4;
- a staging area adjacent to the west and south sides of the Carswell Field runway;
- a switching area between Route 183 and the north side of I-30 (near Ridgmar Mall); and
- a switching area along West Vickery Boulevard

The site reconnaissance failed to indicate any anomalies within these or other areas along the RRRW. However, it was recognized that potential contamination resulting from past spills may not be evident by visual observations and PID/radiation screening alone. Therefore, a soil gas survey was conducted. The soil gas survey focused on the four staging and switching areas identified above.

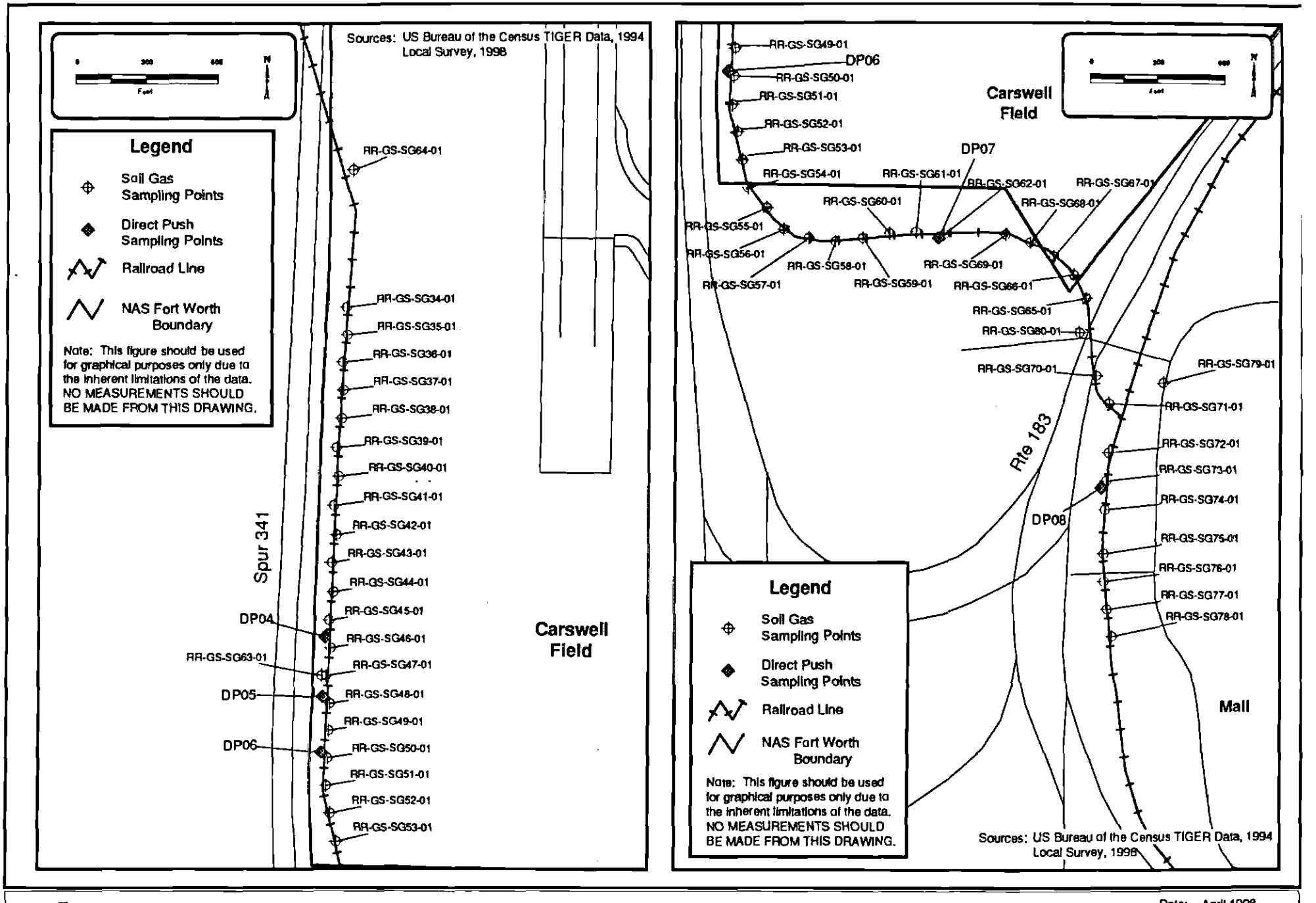
Eighty soil gas samples were collected from the four staging and switching areas shown on Figure 1-1. Twenty-four samples were collected at 120-foot intervals along the portion of railroad south of AFP 4 (see Figure 2-1). Thirty-one samples were collected at 120-foot intervals along the portion of railroad adjacent to the west and south sides of the Carswell Field (see Figure 2-2). Sixteen samples were collected at 120-foot intervals along the portion of railroad between the Ridgmar Mall and State Road 183 (see Figure 2-2). Nine samples were collected at 100-foot intervals along the portion of railroad adjacent to West Vickery Boulevard (see Figure 2-3). Eight additional samples were collected for background data, two at each of the four sections identified above. GORE-SORBER® Passive Sorbent Collection Devices (hereafter referred to as sorbers) were used to conduct the soil gas survey due to their affinity for a broad range of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). The sorbed contaminant-passive approach



The Environmental Company, Inc.

Figure 2-1 -- Railroad Right-of-Way South of AFP 4

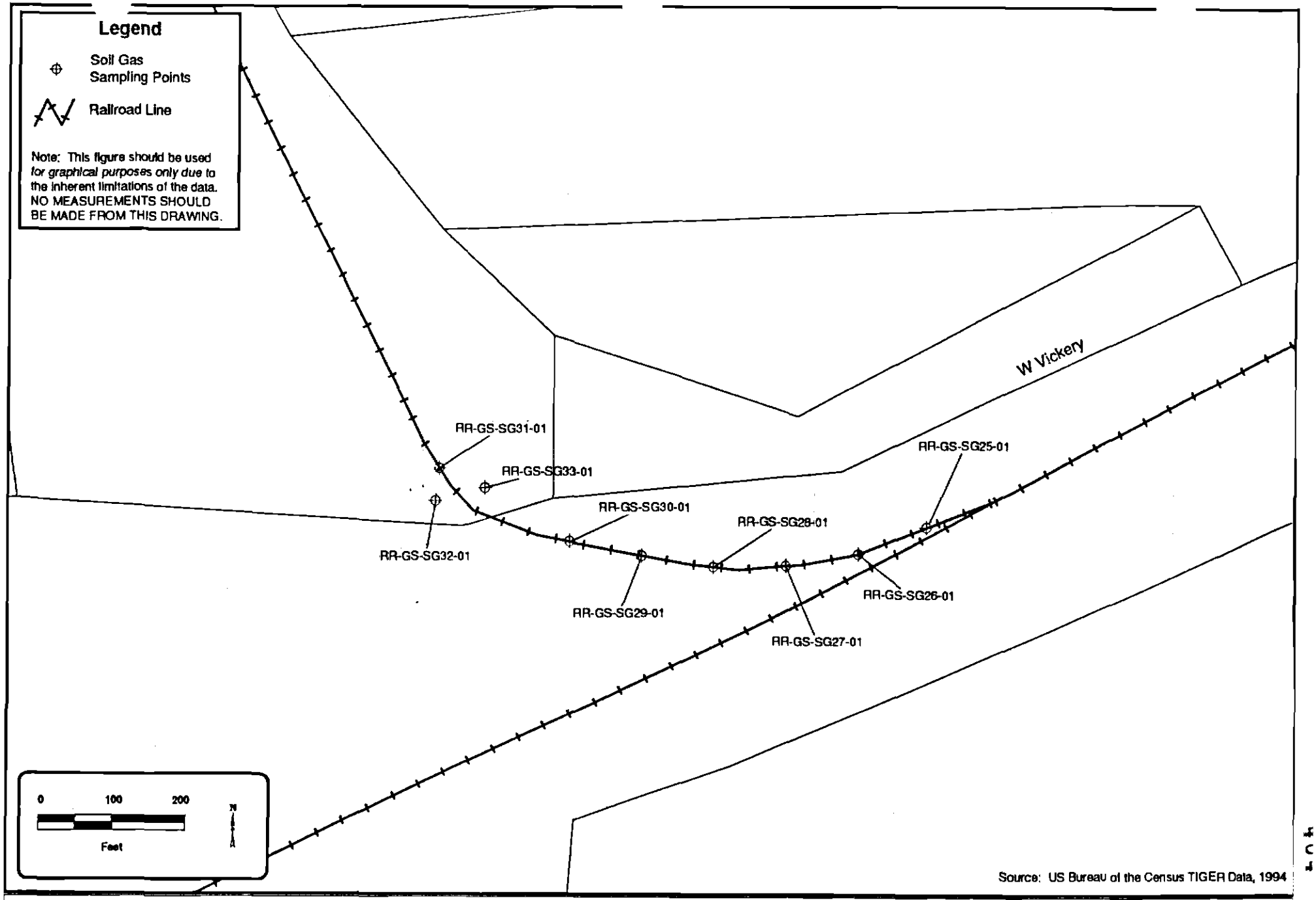
Date: April 1998
Project Manager: B. Duffner
Prepared By: D. Bedarf
Project No: P-3103-025



The Environmental Company, Inc.

Figure 2-2 -- Railroad Right-of-Way Adjacent to Carswell Field and Ridgmar Mall

Date: April 1998
Project Manager: B. Duffner
Prepared By: D. Bedart
Project No: P-3103-025



The Environmental Company, Inc.

Figure 2-3 -- Railroad Right-of-Way Adjacent to Vickery Boulevard

Date: April 1998
Project Manager: B. Duffner
Prepared By: D. Bedarf
Project No: P-3103-025

464 26

involves collecting a sample over time on an adsorbent material. This approach not only provides high sensitivity for VOCs and SVOCs, but also allows for better success on sites with low soil permeability and minimizes the impacts of changing ambient and subsurface conditions on the results.

The WP Addendum (TEC, 1997) specified that the sorbers would be installed directly above the centerline of the railroad tracks. Because extensive amounts of fill material (gravel) were used to build up the railroad bed in certain areas, however, some samples were located to the sides of the tracks where the sorbers could be placed in soil rather than gravel.

The sorbers were installed by initially advancing a 0.75- to 1-inch diameter pilot hole to an average depth of 2 to 3 feet bgs using a rotary hammer drill with a 1-inch auger bit. After the pilot hole was advanced to the desired installation depth, the sorbers were inserted. The top of each cord was fastened to a cork, which was then tamped flush with the ground surface to facilitate retrieval and to seal the annulus of the pilot hole. Each sample location was then marked with a surveying flag to help locate during the retrieval process. The sorbers were retrieved from the site approximately 14 days from the date of placement, sealed, and submitted along with five trip blanks for laboratory analyses.

2.2.2 SI Phase Field Program

Based on the results from the SA phase, eight locations were selected for further characterization. Bore hole locations were selected on the basis of soil gas results. The rationale for location selection and the soil gas results are discussed in Section 3.1.3, *Soil Gas Survey*. The SI phase was intended to confirm the presence or absence of contamination at the specified locations through the collection and analysis of soil samples. Prior to the sample collection, a utilities location survey was performed. The final SI activity included a land survey of the eight locations investigated, along with locations of 17 other reference points.

As discussed in Section 2.4.2, *Data Analysis Interpretation*, SI efforts were focused in three sections of the RRRW. These sections and SI sampling locations are identified in Table 2-1 and are shown in Figures 2-1 and 2-2. Coordinates and elevations of the soil sampling locations are provided in Appendix B. A photographic log of the sample locations is provided in Appendix C.

Table 2-1 SI Investigation Areas and Sample Locations

Area	Area Description	Sample Locations
South of AFP 4	Between Clifford Avenue and Farmers Branch Creek	DP01, DP02, DP03
Adjacent to Carswell Field Runway	Along west and south perimeter of Carswell Field Between Spur 341 and runways	DP04, DP05, DP06, DP07
Adjacent to Ridgmar Mall	Directly southeast of Highway 183	DP08

Surface and subsurface soil samples were collected using direct push techniques (DPT). DPT allows for the rapid collection of sample material with minimal generation of soil

investigation-derived waste (IDW) and minimal surface disturbance at the site. Soil samples were continuously collected at each location until reaching the groundwater table or refusal, whichever occurred first. All borings were properly abandoned according to procedures outlined in the WP Addendum (TEC, 1997). All DPT activities conformed with state and local regulations and were supervised by a state-licensed geologist.

Samples were collected at approximately 2-foot intervals using a stainless steel, continuous-drive, split-spoon sampler driven into the ground with a hydraulic piston mounted on a Simco 2400 drill rig. All samples were to be collected using 6-inch brass liners placed inside the split-spoon. Use of liners was discontinued after samples were collected at location DP-01, however, due to the inability to effectively extract the high-clay-content soil from the liners. Soil was collected at each interval for:

- volatile organic vapor screening;
- potential chemical characterization; and
- lithologic characterization.

Volatiles Screening

Field screening for volatile organic vapors was performed at all intervals by filling a Ziploc bag approximately half full with soil, then quickly sealing the bag. The soil was then vigorously shaken for approximately 30 seconds and allowed to equilibrate a minimum of 15 minutes and a maximum of 2 hours to a temperature of approximately 25° Celsius (C). The bag headspace was then screened for organic vapors by inserting the PID probe into the bag to a distance approximately one-half the headspace depth. The highest reading displayed on the instrument meter was recorded.

Chemical Characterization

Soil collected from all intervals was considered for potential chemical characterization. Chemical characterization included analyses for inorganics, VOCs, SVOCs, pesticides, polychlorinated biphenyls (PCBs), and total petroleum hydrocarbons. A list of analytical methods and the parameters included in each analysis are listed in Appendix D.

Sample material for VOC analyses was collected in a brass liner (DP01 only) or placed directly into a sample container with no head space. Material for all other analyses were composited by mixing and homogenizing the soil in a stainless steel bowl with a stainless steel spoon. The sample material was then transferred into the appropriate sample container, sealed, labeled, and placed in an iced cooler maintained at a temperature of 4° C. The stainless steel spoon was decontaminated between samplings using the method described in Section 2.2.5.1, *Quality Control Activities.*

After sampling to either bedrock or groundwater, samples were selected for chemical characterization based on the number of intervals sampled at the location and results of the VOC screening. At least one sample from each location was submitted to the laboratory for chemical characterization. Two samples were generally collected from borehole locations where there was sufficient depth to bedrock. The number of samples collected for chemical characterization and the analyses performed is listed in Table 2-2.

At locations DP01 and DP03, samples were collected from the intervals that provided the highest organic vapor readings. In the remaining boreholes, the organic vapor screening results did not indicate the presence of any contamination. At these locations, samples were collected directly below the ground surface, as inorganics and SVOCs would most likely occur in these upper intervals. Field sampling reports for each sample collected are provided in Appendix E.

Lithologic Characterization

A lithologic description of the sample was made immediately after collection of material for volatile analysis. All information, including soil texture, density, consistency, and color, were recorded on soil boring logs. Headspace screening results are also included on the boring logs. These logs are presented in Appendix F.

2.2.3 Project Team Members

The site assessment and investigation efforts were performed by TEC personnel, and task-specific subcontractor specialists operating under the direct supervision of the TEC Project Manager, Field Supervisor, or Project Geologist. Key project personnel and specialty subcontractors included in this effort are identified below along with their respective project responsibilities:

- Project Director - Jack Wilson, P.E.
- Project Manager - Bob Duffner, P.E.
- Field Supervisor - Deborah Petrak Green
- Project Geologist - Lesley Myers, CPG
- Surveying Subcontractor - Baird, Hampton, and Brown
- Utility Location Subcontractor - Little Bear Construction
- Analytical Subcontractors - RECRA Environmental, Inc.
  - W. L. Gore and Associates
- Drilling Subcontractor - Maxim Technologies, Inc.
- Data Validation - Chemworld Environmental, Inc.

2.2.4 Chronology of Field Work

Field work associated with the RRRW study occurred in September and December 1997 and February 1998. The chronology of specific SA and SI phase field tasks is:

- Site Reconnaissance - September 3 and 4, 1997
- Radionuclide Soil Screening - December 3 through 5, 1997
- Soil Gas Sampling
  - Sorber Installation - December 3 through 5, 1997
  - Sorber Retrieval - December 17 and 18, 1997
- Utility Location - February 12 through 16, 1998
- Subsurface Soil Characterization - February 17 and 18, 1998
- Land Survey - February 19, 1998

Table 2-2. Subsurface Soil Sample Summary

	Analytical Sample Number	Sample Depth Interval (feet)	Inorganics	VOCs	SVOCs	Pest./PCBs	TPH
Investigation Area Field Samples							
South of AFP4	DP01 -01	2.0 to 4.0	√	√	√	√	√
	-02	4.0 to 6.0	√	√	√	√	√
	DP02 -01	0.0 to 2.0	√	√	√	√	√
	DP03 -01	4.0 to 6.0	√	√	√	√	√
	-02	6.0 to 8.0	√	√	√	√	√
	-03 (Dup.)	4.0 to 6.0	√	√	√	√	√
Adjacent to Carswell Field Area	DP04 -01	0.0 to 2.0	√	√	√	√	√
	DP05 -01	0.0 to 1.5	√	√	√	√	√
	DP06 -01	0.0 to 0.8	√	√	√	√	√
	DP07 -01	0.0 to 2.0	√	√	√	√	√
Adjacent to Ridgmar Mall	DP08 -01	1.0 to 3.0	√	√	√	√	√
	-02	3.0 to 5.0	√	√	√	√	√
Quality Control Samples							
Trip Blanks	TB -01			√			
	TB -02			√			
Ambient Blanks	AB -01			√			
	AB -02			√			
Equipment Batanks	EB -01		√	√	√	√	√

Notes:

VOCs: Volatile Organic Compounds

SVOCs: Semivolatile Compounds

TPH: Total Petroleum Hydrocarbons

Pest.: Pesticides

PCBs: Polychlorinated Biphenyls

2.2.5 Field Quality Assurance/Quality Control

To ensure that sampling and monitoring activities regularly meet the data quality objectives prescribed in the WP (TEC, 1997), TEC maintains a formal, comprehensive field QA/QC program for field measurements and environmental sampling and analysis. Details pertaining to specific QA/QC program activities, problems encountered, and corrective actions taken are provided below.

2.2.5.1 Quality Control Activities

All RRRW investigation field activities included the following QC elements:

- Use of AFCEE- and U.S. Environmental Protection Agency (EPA)-approved sample collections, field measurement methods, and containers;
- Use of properly calibrated and maintained field instruments appropriate for the anticipated task and DQO;
- Calibration of field instruments to within acceptable limits according to EPA and/or manufacturers recommendations before, during, and after use in the field;
- Routine periodic inspection and maintenance of all equipment and instruments in accordance with manufacturer's recommendations;
- Use of EPA-accepted sample handling, preparation, and preservation methods;
- Collection of all important associated environmental data (e.g., weather conditions, sample location observations, unique or abnormal conditions) using acceptable and applicable methods and equipment;
- Use of U.S. Department of Transportation (DOT)-approved sample shipment procedures;
- Use of formal chain-of-custody procedures in the field and during shipment;
- Collection of appropriate numbers and types of field QC samples; and
- Maintenance of adequate records and logs of all field-related activity.

In addition to adhering to well-defined standard operating procedures (SOPs), a number of equipment and/or field measurement-specific QC checks were performed. These included periodic calibration of field instruments and operational checks performed according to the manufacturer's instrument manuals and the AFCEE IRP *Handbook* (1993). The primary field instrument used in this study was a Photovac MicroTIP PID meter. The PID was calibrated at least twice per day. In some instances, calibration was performed more frequently. Calibration records were maintained in the site log.

As part of the QC program, field sampling equipment was decontaminated in the field. Decontamination consisted of the following steps.

- Scrub equipment with a solution of potable water and a phosphate-free detergent (e.g., Alconox) to remove all dirt from sampling or drilling item.
- Rinse sampling item thoroughly with copious quantities of potable water to remove residue dirt; rewash if necessary.
- Rinse item with American Society of Testing and Materials (ASTM) Type II Reagent Water.

- Rinse item with pesticide-grade methanol to remove residual organics, followed by a hexane rinse.
- Prior to reuse, allow item to air-dry on a clean surface. The item will be covered with aluminum foil or placed in a closed stainless steel, glass, or Teflon container if it is not immediately reused.

Field QC samples included equipment blanks, trip blanks, and ambient blanks. Table 2-2 lists the field QC samples collected and identifies the analyses performed on each sample.

Equipment blanks were collected to assess the effectiveness of equipment decontamination procedures. One equipment blank was collected during subsurface characterization activities at the RRRW area. The equipment blank was created by pouring a sample of ASTM Type II reagent grade water into or over the decontaminated split-spoon sampler, collecting the water in an appropriate sample container, and packaging/ transporting the sample to the laboratory for analysis. The equipment blank was analyzed for all laboratory parameters requested for the environmental samples collected at the study area.

Trip blanks were used to assess potential cross-contamination of environmental samples during transportation and storage. A total of two trip blanks were submitted at the rate of one per cooler of samples sent to the laboratory for analysis of VOCs. A trip blank consisted of a VOC sample vial filled in the laboratory with ASTM Type II reagent grade water, transported to the sampling site, handled like an environmental sample, and returned to the laboratory for analysis. Trip blanks were not opened in the field. Trip blanks were prepared only when environmental samples were collected and submitted for VOC analyses. Consequently, trip blank samples were analyzed only for VOC analytes.

Ambient blanks were used to assess the potential introduction of contaminants from ambient sources (e.g., active runways, engine test cells, internal combustion motors in operation) to the samples during collection. Two ambient blanks were collected. One ambient blank sample was collected in the study area directly south of AFP 4. The second ambient blank was collected in the study area adjacent to the Carswell Field runway. The ambient blank consisted of ASTM Type II reagent grade water poured into a VOC sample vial at the sampling site. It was handled like an environmental sample and transported to the laboratory for VOC analysis.

2.2.5.2 Quality Assurance Activities

Two types of QA audits are typically performed as a part of TEC's overall QA program: generic and project-specific. Generic audits are performed periodically for each engineering or environmental program and technical services area in the company. Their frequency is determined by the results of previous audits, and at a minimum of one per environmental program/technical service area per year. The need for more frequent audits is determined based on:

- The importance of the activity to the successful completion of stated corporate objectives;
- Significant changes in the functional areas of the QA program, such as significant reorganization or procedural revisions;
- Suspected nonconformance in an item or service; or

- The necessity to verify implementation of required corrective action.

Project-specific audits are performed at a frequency dictated by contractual agreements and as noted in the project QAPPs. A project-specific audit was not performed for this investigation.

2.2.5.3 Problems Detected and Corrective Actions Taken

Comparison of equipment calibration records with manufacturer-specified calibration control limits indicate that there were no significant problems with field equipment and/or instrumentation which required corrective action.

2.3 LABORATORY ANALYSIS

This section describes the analytical program developed to accomplish the objectives of the RRRW SI investigation. As noted previously, two types of analytical data quality levels were identified for this project: screening and definitive. Screening analytical data included field measurements of organic vapors in the headspace of subsurface soil and soil gas analyses for VOC and SVOC compounds. Definitive data consisted of chemical characteristics of subsurface soil samples.

2.3.1 Soil Gas Survey

The soil gas samples collected during the SA Phase were analyzed at W.L. Gore & Associates Screening Module Laboratory (GORE) for a general fuel hydrocarbon list including benzene, toluene, ethylbenzene, xylene (BTEX); alkanes; and certain SVOCs. Appendix D provides a complete listing of the soil gas analytical parameters. Analytical techniques included thermal desorption, gas chromatography, and mass spectroscopy. A complete description of the soil gas analytical methods used is provided in Appendix H.

2.3.2 Soil Chemical Characterization

The surface and subsurface soil samples collected for definitive characterization were analyzed for inorganic elements, VOCs, SVOCs, pesticides and PCBs, and TPHs. Analyses were performed utilizing the *United States Environmental Protection Agency. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods* (SW-846, Third Edition). Appendix D provides a comprehensive list of the analytical parameters and analytical methods for each sample. All laboratory analyses for definitive quality level data were performed by RECRA Environmental, Inc. (RECRA).

2.4 DATA EVALUATION

This section briefly discusses the procedures used to identify, validate, reduce, interpret, and use field and analytical data generated during the project. Included are discussions of the methodology for data quality assessment, and data analysis and interpretation.

2.4.1 Methodology of Data Quality Assessment

The analytical data for the soil samples and the QC samples were independently validated by Chemworld Environmental, Inc. A facilitated data screening procedure was utilized to validate 100 percent of the data. identifying unusable data. For the subsurface soil data, the laboratory and field QA/QC samples and controls were evaluated for deviations from the AFCEE QAPP 2.0 version. Criteria evaluated includes:

- Holding Times;
- Surrogate Recovery (for organics only);
- Matrix Spikes (MS) and Matrix Spike Duplicates (MSD);
- Laboratory Control Samples (LCS);
- Initial and Continuing Calibration;
- Blanks (Method and Field);
- Gas Chromotography/Mass Spetroscopy (GC/MS) Instrument Performance Check (GC/MS organics methods only);
- Internal Standards (for GC/MS organics methods only);
- Inductively Coupled Plasma (ICP) Interference Check Sample (for inorganics only);
- ICP Serial Dilution (for inorganics only).

Upon completion of the data quality screening, a more detailed evaluation of 10 percent (two field samples) of the data for acceptability of use and identifying deviations in the data was conducted in accordance with the site-specific QAPP, the AFCEE QAPP data validation requirements, and the SW-846 Methods, where applicable and relevant. The following criteria, in addition to the criteria listed above, were evaluated in the detailed data validation procedure:

- MS/MSD (for organic methods also);
- Field Duplicates;
- Compound Identification;
- Compound Quantitation and Reported Detection Limits; and
- Sample Result Verification (for inorganics only).

Results of the data quality assessment can be found in Section 3.2.2, *Field and Laboratory Data Quality Assessment.*

2.4.2 Data Analysis and Interpretation

Data collected during the SA and SI phases of the project were analyzed and interpreted in an effort to confirm the presence or absence of contamination in the RRRW area. Methods used in each phase are described below.

Primary SA Phase

SA phase data analysis and interpretation efforts were primarily focused on the soil gas results. To identify potential values of concern, reported contaminant masses were compared to the method detection limits (MDLs) and to levels reported in background soil gas samples. In addition, all RRRW soil gas results were compared to identify general trends across the areas investigated.

Practical Quantitation Limits (PQLs) were not assigned by the laboratory. Therefore, for the purposes of identifying potential values of concern, a factor of five times the MDL was used (EPA 1994a, 1994b). Reported values less than this threshold value were not considered a concern. The presence of parameters in the blanks would require an additional factor to be considered when determining values of concern, but no parameters were detected in the blanks.

Detected results were graphed to identify general trends in the areas investigated, (figure 3-1). The combined masses of two parameter groups BTEX; and undecane, tridecane, and pentadecane (C11, C13, and C15)] were plotted with respect to sample location. Areas of relatively higher reported contaminant masses were selected for additional characterization in the SA phase.

SI Phase

During the subsurface soil investigation, samples were collected and characterized with respect to organic vapors and chemical constituents. Organic vapor readings were analyzed relative to background and ambient conditions. Organic vapor readings of ambient conditions collected by the PID meter were found to be influenced by soil moisture. Subsurface soil organic vapor readings exceeding background and/or ambient conditions were interpreted as indications of contamination. These readings were used directly in the selection of samples for chemical characterization as described in Section 2.2.2, *SI Phase Field Program.*

To facilitate the assessment of the chemical data collected, a simple screening evaluation was performed by comparing RRRW results to background levels. The background screening levels shown in the first two columns of Table 2-3 are based on upper tolerance limits (UTLs) of distributions of background soil data populations estimated for Carswell AFB in the *Draft NAS Fort Worth JRB, Texas Basewide Background Study Volume I* (Jacobs, 1997). UTLs for some of the metals were subsequently revised when samples were reanalyzed (Jacobs, 1998). Both surface (defined as Horizon A, ground surface to a depth of 2 feet) and subsurface soil (defined as Horizon B, second encountered soil type below the organically rich surface soil) were sampled and analyzed for inorganic constituents. Jacobs (1997) collected 30 samples from each horizon. The analytical results were used to calculate background concentrations using the tolerance interval method to estimate UTLs with 95 percent confidence and 95 percent coverage ($UTL_{95,95}$). This value represents a 95 percent confidence that 95 percent of the background population lies below the UTL. A site value greater than the UTL has only a 5 percent probability of being from the background population, and therefore, may indicate site-related contamination (Jacobs, 1997).

Regional background concentration ranges cited by EPA Region 6 (EPA 1996) are also provided in Table 2-3 for comparative purposes. These values, along with the $UTL_{95,95}$, were used in Section 3.2, *Site Investigations,* in the analytical results discussion.

Table 2-3. Background Soil $UTL_{95,95}$ for Detected Analytes

Analytes[a]	Surface Soil $UTL_{95,95}$[b] (0.0 - 2.0 ft bgs)	Subsurface Soil $UTL_{95,95}$[b] (>2.0 ft bgs)	EPA Region 6 Background Range[c]
Volatiles (mg/kg)			
Methylene chloride	NDB	NDB	NDB
Toluene	NDB	NDB	NDB
Inorganics (mg/kg)			
Aluminum - Total	22,035	20,260	45,000
Arsenic - Total	5.85	6.58	1.1-16.7
Barium - Total	233	128.1	130
Beryllium - Total	1.02	1.13	0.5-2
Calcium - Total	167,788	272,000	NA
Chromium - Total	25.86	16.31	38
Cobalt - Total	11.05	6.19	6
Copper - Total	17.37	13.72	20
Iron - Total	17,717	17,469	NA
Lead - Total	30.97	12.66	10-18
Magnesium - Total	3,003	2,420	NA
Manganese - Total	849	351.7	389-850
Molybdenum - Total	1.46	1.93	NA
Nickel - Total	14.6	19.76	16
Potassium - Total	2,895	1,717	NA
Sodium - Total	37,300	53,200	NA
Vanadium - Total	46.3	37.4	66
Zinc - Total	38.8	31.3	22-50
TRPH (mg/kg)			
Total Recoverable Petroleum Hydrocarbons	NDB	NDB	NDB

NA - not available

NDB - not determined in background

$UTL_{95,95}$ - upper tolerance limit with 95 percent confidence and 95 percent coverage

[a] Analytes listed in this table include only those that were detected in site soil samples (summarized in Table 3-6).

[b] Source: Jacobs (1997, 1998).

c Source: EPA (1996). For comparative purposes.

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TAB

3

3.0 PROJECT INVESTIGATIONS RESULTS

This section present the results of the project investigations. Results of the SA were used to define the site environmental setting and identify potentially contaminated areas. The objective of the SI phase of the field investigation was to confirm the presence or absence of contamination at the those locations identified in the SA.

3.1 SITE ASSESSMENT

As discussed in Section 2.2.1, *SA Phase Field Program*, three field tasks were performed during the SA. These included:

- a review of historical information;
- a site reconnaissance; and
- a soil gas survey.

3.1.1 Review of Historical Information

A historical information review was completed through a series of interviews with individuals familiar with RRRW past practices and operations. Individuals contacted included: Olen Long, Installation Management Officer with AFBCA; Travis Rainwater, member of Facilities Engineering group with Lockheed-Martin at AFP 4 for greater than 30+ years; Gerald Cumby, Lockheed Director of Transportation; and Ed Daniels, Lockheed Environmental/Spill Coordinator. Contact reports summarizing each of the interviews are provided in Appendix G. Information gathered from these individuals was generally related to:

- materials transported;
- spill history; and
- operational practices.

Materials

Although no sources interviewed were able to provide manifests or other documentation identifying cargo carried on the rail lines, general material types transported were identified. These materials included:

- jet and diesel fuel;
- cleaning fluids (e.g., trichloroethene);
- metal parts and metal wastes (e.g., filings); and
- bulk chemicals (e.g., sodium hydroxide, sulfuric acid and nitric acid).

Spill History

The sources listed above were contacted regarding potential spills during the operating history of the RRRW. Mr. Rainwater, an engineer overseeing railroad operations with Lockheed-Martin for greater than 30 years, indicated that no spills ever occurred between West Vickery Boulevard and Clifford Street (the area considered in this study). None of the other sources contacted were aware of any spills along the RRRW between West Vickery Boulevard and AFP 4.

Operational Practices

In addition to material types and spill history, general operational practices were discussed during the interviews. As indicated in Section 1.3.2, two practices were identified which potentially could have increased the risk of materials being spilled to the ground surface. These practices included switch and staging. Switching operations would involve coupling and uncoupling of cars. Such activities could jar the materials being transported, increasing the risk of a spill. Cars were also staged while awaiting transport into or out of the plant. If leaks were occurring, these locations would have the highest likelihood of being impacted. Four staging and/or switching areas were identified. These included:

- a staging/switching area south of AFP 4;
- a staging area adjacent to the west and south sides of the Carswell Field runway;
- a switching area between Route 183 and the north side of I-30 (near Ridgmar Mall); and
- a switching area along West Vickery Boulevard.

3.1.2 Site Reconnaissance

The second SA activ. y completed was a visual reconnaissance of site conditions and PID soil screening of the RRRW study area. No visible evidence of surface soil contamination in the RRRW area, such as stressed vegetation or discolored soils. was identified. In addition, the PID readings did not indicate the existence of areas with surficial VOCs. As part of this inspection, a Victoreen V190 radiation monitor was utilized to identify specific surface areas that may have the potential for exhibiting radioactive element contamination within the area of study. No elevated radioactive levels were detected above background. No areas of potential concern were identified during the site reconnaissance.

3.1.3 Soil Gas Survey

The third activity completed was a soil gas survey. The survey was conducted in those sections of the RRRW area identified during the review of historical information and site reconnaissance as having increase probability of being impacted by railroad operations. Because there were no reported spills and no evidence of surface soil contamination was observed, the soil gas survey was conducted at the four staging and/or switching areas identified above in Section 3.1.1, *Review of Historical Information.*

Eighty sorbers were placed evenly throughout the four focus areas of the study. All of the retrieved sorbers and five trip blanks were analyzed by modified EPA method 8260A/8270B thermal desorption (Perkin-Elmer ATD-400), coupled with gas chromatography (HP 5890 gas chromatographs) and mass spectroscopy (5971A mass selective). The method parameters are listed in Appendix D. The complete laboratory soil gas report is provided in Appendix H. The following sections provide a description of the soil gas data quality assessment, a data summary, and an identification of potential sources identified by the survey.

3.1.3.1 Soil Gas Data Quality Assessment

Because the soil gas results are screening data, a formal data validation was not performed. An internal data check was completed, however, to review the laboratory's QA/QC controls and consistency in data reporting. As part of the QA efforts, a series of trip and method blanks were analyzed. No parameters were detected in any of the blanks.

GORE laboratory practices were reported to be consistent with Good Laboratory Practices (GLP) guidelines and International Organization for Standardization (ISO) Guide 25 (GORE, 1998). QA/QC measures were undertaken to ensure sample representativeness, as specified in the QAPP (TEC 1996). Laboratory QA/QC controls included instrument, manufacturing, and method blanks, as well as calibration standards. Two instrument blanks, a sorber containing 5 micrograms (µg) bromoflourobenzene (BFB), and one method blank were analyzed prior to each run sequence; a method blank and a sorber containing BFB was analyzed after every 30 samples and/or trip blanks (GORE 1998). In addition, standards containing the selected compounds at three calibration levels (5, 20, and 50 µg) were analyzed prior to each run and a second-source reference standard, at a level of 20 µg of each compound, was analyzed after every 10 samples and/or trip blanks (GORE, 1998). No deviations from QC methods or unacceptable QC results were reported (GORE, 1998).

3.1.3.2 Soil Gas Survey Data Summary

Twenty of the 30 compounds for which analysis was conducted were detected in the soil gas samples. Analytical results of the detected compounds in soil gas are presented in Table 3-1.

To identify potential values of concern, the contaminant masses desorbed were compared to the MDLs, and masses found in the trip and method blanks in a manner that is consistent with EPA guidelines (EPA 1989, 1992). Method detection limits, as well as the results of trip blanks (SG81, SG82, and SG83) and method blanks, are presented in Table 3-1.

Potential values of concern are identified by boxes in Table 3-1. In order to further assess which areas had the greatest potential for contamination, a graphic representation of these data was produced and is shown in Figure 3-1.

The graphic representation was generated on the detected results to identify data trends. BTEX and C11, C13, and C15 compounds were the parameters selected for plotting on the graph. BTEX was chosen because it is present at levels analogous to the other detected compounds at all but one site where values of interest were found. C11, C13, and C15 compounds were chosen because they are the most prevalent compounds detected at the one site where the mass of BTEX was not of interest.

The order of the sample locations on the graph corresponds to the physical location of the sites, from north to south, as depicted in Figures 2-1, 2-2, and 2-3. Therefore, Figure 3-1 approximates a contamination profile along the RRRW. The graph is divided into four regions representing sites south of AFP 4, adjacent to Carswell Field, adjacent to Ridgmar Mall, and adjacent to West Vickery Boulevard. Areas for additional sampling were chosen based on examination of this graph and are denoted by green arrows. The

Table 3-1 Analytical Data Summary of Detected Compounds from the Soil Gas Survey

RRRW Section	Field ID	BTEX	BENZ	EtBENZ	TOL	mpXYL	oXYL	C11, C13, &C15	PENTADEC	UNDEC	TRIDEC	TMBs	124TMB	135TMB	NAPH&2-MN	NAPH	2MeNAPH	MTBE	CHCl3	OCT	PCE
	MDL:	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.04	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.16	0.01	0.02	0.03
	SG01	6.47	ND	0.81	1.29	2.48	1.89	0.48	0.12	0.16	0.20	0.17	0.10	0.07	0.30	0.18	0.12	ND	ND	0.27	ND
	SG02	0.18	ND	ND	0.06	0.08	0.05	ND	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND
	SG03	0.28	ND	ND	0.09	0.12	0.08	BDL	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG04	BDL	ND	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG05	0.30	ND	0.03	0.09	0.12	0.07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG06	0.57	ND	0.06	0.14	0.24	0.14	0.02	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG07	0.07	ND	ND	ND	0.04	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG08	0.30	ND	ND	0.08	0.14	0.08	BDL	ND	BDL	ND	BDL	ND	BDL	ND	ND	ND	ND	ND	ND	ND
	SG09	0.06	ND	ND	ND	0.04	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
South of	SG10	0.05	ND	ND	ND	0.03	BDL	ND	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND
AFP4	SG11	0.42	ND	0.05	0.12	0.17	0.09	0.05	ND	0.05	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG12	0.12	ND	ND	ND	0.07	0.05	BDL	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG13	0.13	ND	ND	0.05	0.05	BDL	0.02	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG14	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG15*	0.24	ND	0.03	0.06	0.10	0.05	0.04	ND	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG17	0.24	ND	0.03	ND	0.12	0.09	0.04	ND	0.04	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND
	SG20*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.13
	SG21	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG22	0.20	ND	ND	ND	0.11	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG23	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG25	0.21	ND	ND	ND	0.14	0.08	BDL	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG26	0.08	ND	ND	ND	0.05	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Adjacent	SG27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
to	SG28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vickery	SG29	0.03	ND	ND	ND	0.03	ND	0.02	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blvd	SG30	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG31	0.03	ND	ND	ND	0.03	ND	0.02	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG32*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG33*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG34	0.02	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG35	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG36	BDL	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG37	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG38	0.19	ND	0.06	ND	0.09	0.05	BDL	ND	BDL	ND	0.02	BDL	BDL	0.03	BDL	BDL	ND	ND	ND	ND
	SG39	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG40	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG41	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG42	0.03	ND	ND	ND	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Adjacent	SG43	0.03	ND	ND	ND	0.03	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
to	SG44	0.05	ND	ND	ND	0.03	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	0.04	ND	ND
Caswell	SG45	0.92	ND	0.04	0.07	0.13	0.08	0.06	ND	0.06	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND
Field	SG46	0.63	ND	0.10	0.16	0.23	0.14	0.09	ND	0.09	ND	BDL	BDL	ND	BDL	ND	BDL	ND	0.04	0.09	ND
	SG47	1.17	ND	0.15	0.28	0.45	0.27	0.18	ND	0.18	ND	0.04	0.02	BDL	BDL	ND	BDL	BDL	ND	0.13	ND
	SG48	0.43	ND	0.09	0.12	0.14	0.09	0.07	ND	0.08	ND	ND	ND	ND	ND	ND	ND	ND	0.02	ND	ND
	SG49	1.01	ND	0.14	0.23	0.39	0.24	0.09	ND	0.09	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.11	ND

Parameters**

464 41

Table 3-1 Analytical Data Summary of Detected Compounds from the Soil Gas Survey

RRRW Section	MDL: / Field ID	BTEX 0.02	BENZ 0.03	EtBENZ 0.02	TOL 0.03	mpXYL 0.02	oXYL 0.03	C11, C13, &C15 0.02	PENTADEC 0.03	UNDEC 0.04	TRIDEC 0.02	TMBs 0.02	124TMB 0.02	135TMB 0.02	NAPH&2-MN 0.03	NAPH 0.03	2MeNAPH 0.03	MTBE 0.16	CHCl3 0.01	OCT 0.02	PCE 0.03
		Parameters**																			
	SG50	0.75	0.04	0.16	0.19	0.22	0.14	0.06	ND	0.06	ND	0.02	0.02	ND	BDL	ND	BDL	ND	0.04	ND	ND
	SG51	1.39	ND	0.14	0.60	0.40	0.24	0.16	ND	0.16	ND	0.02	0.02	ND	0.03	ND	BDL	ND	0.04	0.14	ND
	SG52	0.33	ND	0.07	0.08	0.11	0.07	0.03	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG53	0.09	ND	ND	ND	0.06	0.03	BDL	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG54	0.22	ND	0.03	0.06	0.08	0.05	BDL	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG56	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG57	0.15	ND	ND	0.07	0.04	0.03	ND	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	BDL	ND	ND	ND
Adjacent	SG58	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
to	SG59	0.55	ND	0.12	0.18	0.15	0.09	0.05	ND	0.05	ND	0.09	0.07	0.02	0.03	BDL	BDL	0.23	0.11	ND	ND
Carswell	SG60	0.66	ND	0.17	0.19	0.19	0.11	0.05	ND	0.05	ND	0.07	0.06	BDL	0.04	BDL	BDL	BDL	0.10	0.11	ND
Field	SG61	1.10	ND	0.24	0.32	0.34	0.20	0.14	ND	0.14	ND	0.06	0.05	BDL	0.04	BDL	BDL	BDL	ND	0.19	ND
	SG62	1.09	ND	0.21	0.31	0.36	0.21	0.23	ND	0.22	BDL	0.18	0.14	0.05	0.11	0.05	0.06	BDL	ND	0.13	ND
	SG63*	0.52	ND	0.14	0.14	0.16	0.09	0.17	ND	0.17	BDL	0.04	0.03	BDL	0.03	BDL	BDL	ND	ND	0.07	ND
	SG64*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG65	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG66	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	ND	BDL	ND	ND	ND	ND
	SG67	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG68	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG69	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Adjacent	SG70	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
to	SG71	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ridgmar	SG72	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mall	SG73	0.05	ND	ND	ND	0.03	ND	0.62	0.09	0.13	0.40	BDL	BDL	ND	0.11	BDL	0.09	ND	ND	ND	ND
	SG74	0.02	ND	ND	ND	0.02	ND	ND	ND	ND	ND	BDL	BDL	ND	ND	ND	ND	ND	ND	ND	ND
	SG75	BDL	ND	ND	ND	BDL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG77	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG78	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	BDL	BDL	ND	ND	ND	ND	ND	ND	ND	ND
	SG79*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG80*	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG81	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG82	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG83	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Blanks	SG84	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	SG85	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Method	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Method	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	Method	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

MDL - Method Detection Limit.

ND - Not Detected.

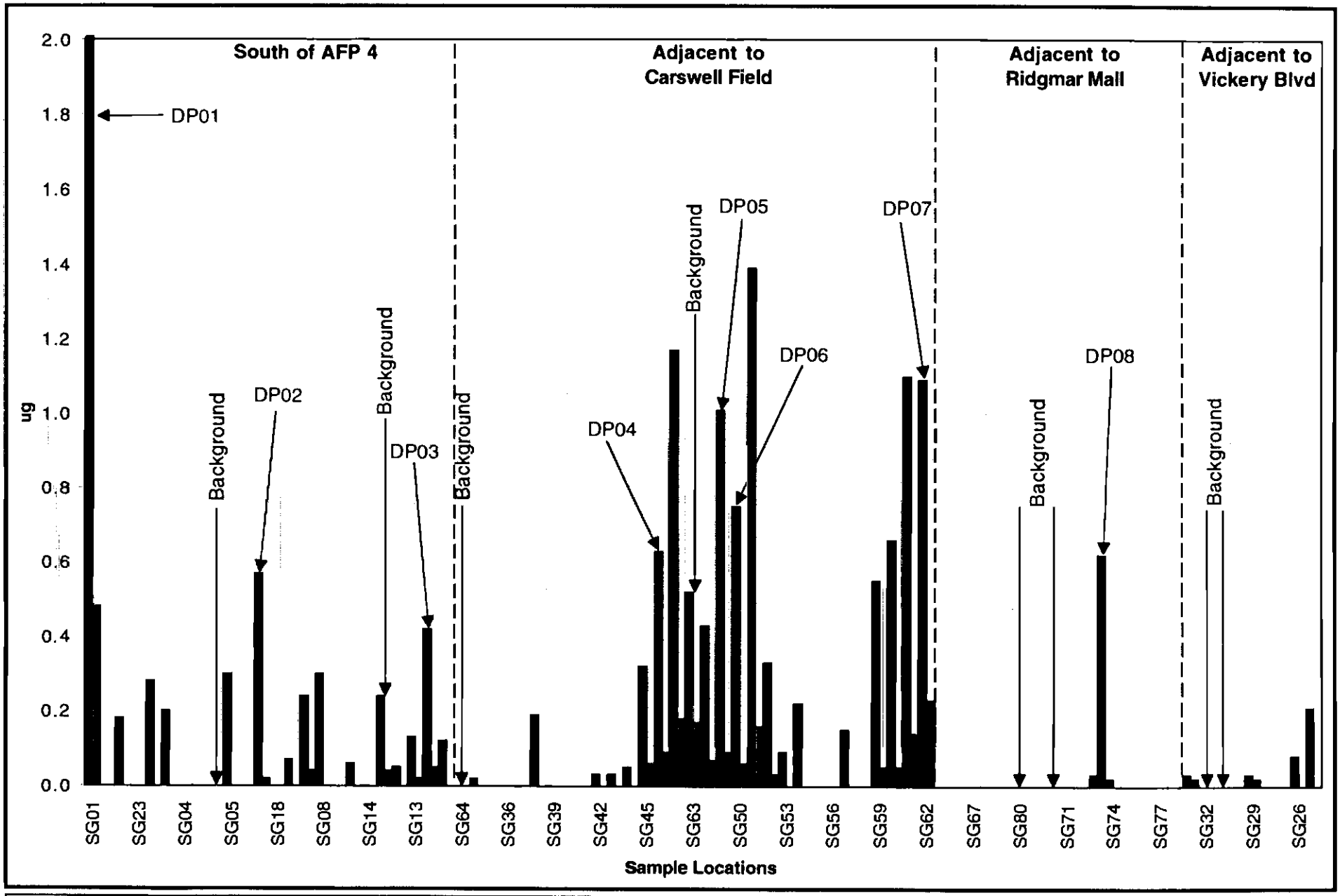
BDL - Below Detection Limit.

* - Background Site.

** - Full analyte names listed in Appendix D.

Boxed values indicate potential concentration of concern based on reported value greater than five times the MDL.

Intentionally left blank.



Figur 3-1 – Railr ad Right-of-Way S il Gas R sults

■ BTEX
■ C11, C13, &C15

distribution of values of interest within the region south of AFP 4 is roughly uniform throughout the area. The three locations with the highest values were selected for additional sampling. Those locations are positioned uniformly across the area. One is located at the far north end of the area, another located at the far south end, and the last is located almost exactly in the middle of the area.

The area adjacent to Carswell Field contains two distinct regions where values of interest were detected. The larger of the two regions exhibits a roughly normal distribution of both parameters. Three additional samples were collected from this region. The other region of interest is at the south end of the Carswell Field area. One additional sample was collected from this area at the location where the highest combined value of the two chosen parameters was found.

Only one location in the area adjacent to Ridgmar Mall contained elevated levels of C11, C13, and C15. An additional sample was collected from this location.

The area adjacent to West Vickery Boulevard was free from sites containing values of interest, and no additional samples were collected.

3.2 SITE INVESTIGATION

Based on the results of the SA, an SI was conducted at eight locations identified as needing additional investigation. The SI consisted of a surface and subsurface soil investigation performed through the advancement of direct-push boreholes and the collection of samples for organic vapor screening, lithologic characterization, and chemical characterization. The sections below provide a description of the field and laboratory data, followed by discussions of the SI results. The SI results include a summary of the subsurface soil screening, a summary of analytical results of the borehole sampling, and a comparison of analytical results with background levels.

3.2.1 SI Investigation Locations

As discussed in Section 3.1.3.2, *Soil Gas Survey Data Summary*, locations with elevated VOC concentrations that warranted further investigation were found at three of the four soil gas study areas. These areas included the RRRW area south of AFP 4, adjacent to Carswell Field, and adjacent to Ridgmar Mall. There were no soil gas sorber locations adjacent to West Vickery Boulevard that contained elevated soil gas levels. This section describes these potential source areas further. It also discusses borehole location selection based on the results of the soil gas survey.

South of Air Force Plant 4

Based on the survey results, the soil gas sorber locations that were considered for soil borehole sampling included SG01, SG06, and SG11. These sorber locations are identified in Figure 2-1.

Borings DP01, DP02, and DP03 were drilled in this area (see Figure 2-1). DP01 was advanced to the point of refusal (14 feet bgs) at the site of soil gas location SG01, approximately 55 feet south of Clifford Street. DP02 was drilled at the site of soil gas point SG06, approximately 95 feet south of Harwell Avenue along the tracks. This borehole was advanced to a depth of 12 feet, as water was encountered at 11 feet bgs.

DP03 was drilled at the site of soil gas point SG11, approximately 60 feet north of the point where the tracks diverge. DP03 was advanced to refusal, which occurred at a depth of 12 feet bgs. Logs for each borehole are provided in Appendix F.

Adjacent to Carswell Field

Based on the survey results, the soil gas sorber locations that were considered for soil borehole sampling included SG47, SG49, SG51, and SG62. These sorber locations are identified in Figure 2-2.

All four boreholes in this area of concern were drilled to the west and south of the railroad tracks (see Figure 2-2). During the soil gas survey, sorbers were installed on alternate sides of the tracks where possible. The gradient east and north of the railroad tracks is very steep, which prohibited drill rig access. DP04 was advance to refusal at the site of soil gas point SG47. DP05 was drilled on the west side of the railroad tracks, directly opposite the site of soil gas point SG49. DP06 was also drilled on the west side of the railroad tracks, directly opposite the site of soil gas point SG51. DP07 was drilled in a shallow ditch approximately 5 feet to the south of soil gas point SG62. The steep angle of the track bed prohibited drilling directly at the soil gas survey point. A Lone Star gas pipeline had also been marked to the south of the tracks (see Appendix C, Photograph 9); the borehole was therefore located as close to soil gas point SG51 as possible, even though influence from materials transported in the drainage ditch was likely. Logs for each borehole are provided in Appendix F.

Adjacent to Ridgmar Mall

Based on the survey results, the only soil gas sorber locations considered for soil borehole sampling was SG73 (see Figure 2-2). Borehole DP08 was drilled to refusal (14 feet bgs) at the site of soil gas point SG73, located on the built-up plateau of the railroad bed. The log for this borehole is included in Appendix F.

3.2.2 Field and Laboratory Data Quality Assessment

Field and laboratory data quality assessment was performed through an independent validation of the inorganic and organic analyses of 12 soil samples collected during the SI phase of the project. A complete data validation report is provided in Appendix I. Copies of analysis data sheets with qualifiers are included in the data validation summary report. Data qualifiers are defined in Table 3-2. Summaries of the data quality assessment for each analysis performed are provided below. Included in the summaries are the results of laboratory method blanks and field blanks (trip, equipment, and ambient). A summary table that identifies individual field samples associated with each blank sample is provided in Table 3-3.

3.2.2.1 Volatile Organic Compounds

All the data quality assessment criteria listed in Section 2.4.1, *Methodology of Data Quality Assessment*, were generated within acceptable QC specifications.

One equipment blank, two trip blanks, and two ambient blanks were analyzed for VOCs. Positive results of chloroform and toluene were detected in the blank samples (Table 3-4). The one detect of chloroform was reported at a concentration below the PQL.

Table 3-2 Data Qualifiers

Qualifier	Definition
Organics	
U	Indicates that the compound was analyzed for, but not detected. The associated numerical value is at or below the Method Detection Limit (MDL).
F	The compound was positively identified, however, the associated numerical value is below the Practical Quantitation Limit (PQL).
B	The compound was found in the associated blank, as well as in the sample.
E	Reported value is estimated due to quantitation above the calibration range.
D	Reported result taken from diluted sample analysis.
R	Reported value is unusable and rejected due to variance from quality control limits.
Inorganics	
U	Indicates that the compound was analyzed for, but not detected. The associated numerical value is at or below the MDL.
F	The compound was positively identified, however, the associated numerical value is below the PQL.
FB	The compound was found in the associated blank, as well as in the sample. The compound was positively identified. However, the associated numerical value is below the PQL.
R	Reported value is unusable and rejected due to variance from quality control limits.

Source: Data Validation Report (Appendix I), based on the project-specific QAPP.

Table 3-3 Field Blank Sample Cross Reference

Field Sample	RRRW Location	Equipment Blank	Trip Blank	Ambient Blank
DP01-01				
DPO1-02	South of			
DP02-01	AFP 4AF Plant 4		WQ-TB-01	
DPO3-01				
DP03-02				
DPO3-03		WQ-EB-01		
DP04-01				
DPO5-01	Adjacent to			
DP06-01	Carswell Field		WQ-TB-02	WQ-AB-01
DPO7-01				
DP08-01	Adjacent to			
DPO8-02	Ridgmar Mall			

Table 3-4 Summary of Detected Sample Results for Ambient, Equipment, and Trip Water Blanks

Type of Blank:	Ambient		Equipment	Trip	
Sample Number:	WQ-AB-01	WQ-AB-02	WQ-EB-01	WQ-TB-01	WQ-TB-02
Analytes					
Volatiles (ug/L)					
Chloroform	ND	ND	ND	0.2 F	ND
Toluene	2	2	1 F	ND	ND
Semivolatiles (ug/L)					
Bis(2-ethylhexyl) phthalate	-	-	31 J	-	-
Di-n-butyl phthalate	-	-	9 F	-	-
Diethyl phthalate	-	-	140 J	-	-
Pesticides/PCBs (ug/L)	-	-	ND	-	-
Inorganics (ug/L)					
Aluminum - Total	-	-	0.47	-	-
Arsenic - Total	-	-	ND	-	-
Barium - Total	-	-	0.006	-	-
Beryllium - Total	-	-	ND	-	-
Calcium - Total	-	-	2.5	-	-
Chromium - Total	-	-	ND	-	-
Cobalt - Total	-	-	ND	-	-
Copper - Total	-	-	ND	-	-
Iron - Total	-	-	0.43	-	-
Lead - Total	-	-	ND	-	-
Magnesium - Total	-	-	0.16	-	-
Manganese - Total	-	-	0.0085	-	-
Molybdenum - Total	-	-	ND	-	-
Nickel - Total	-	-	ND	-	-
Potassium - Total	-	-	ND	-	-
Sodium - Total	-	-	4.2	-	-
Vanadium - Total	-	-	ND	-	-
Zinc - Total	-	-	0.023	-	-
TRPH (ug/L)					
Total Recoverable Petroleum Hydrocarbons	-	-	ND	-	-

Note: Analytes listed include only those detected in at least one sample. Appendix D provides complete analyte list.

- - not analyzed

F - The compound was positively identified, however, the associated numerical value is below the PQL.

ND - not detected above the method detection limit

Toluene was detected in the ambient blank and both of the equipment blanks. Because toluene was only detected in the field QC blanks prepared on-site, this contamination most likely originated from an on-site source. However, toluene was not detected in the associated environmental samples, and as a result the source cannot be definitely determined. If the contamination were the result of the sample collection process, then toluene would have been detected in all related samples.

Toluene was not detected in the method blanks analyzed before the environmental samples. Toluene is a common laboratory contaminant, however, and by definition will be detected without pattern at varying concentrations. Regardless of origin, the toluene detected in the field QC blanks does not adversely impact the project data quality or the data quality objectives (DQOs).

3.2.2.2 Semivolatile Organics

All data quality assessment criteria listed in Section 2.4.1, *Methodology of Data Quality Assessment*, were generated within acceptable QC specifications, with the following deviations:

- Results for 2,4-dinitrophenol in all 12 soil samples and benzoic acid in WQ-EB-01 were qualified as "R", unusable, because the initial calibration was outside of acceptable limits.
- Results for hexachlorocyclopentadiene and naphthalene in sample WQ-EB-01 were qualified as "R", unusable, due to low laboratory control sample (LCS) recovery.
- The result for benzo(a)pyrene in WQ-EB-01 was qualified as "R", unusable, because the continuous calibration was outside of acceptable limits.
- Undetectable results for phenol-d5 and terphenyl-d14 in sample WQ-EB-01 were qualified as "R", unusable, due to low surrogate recovery. Positive results were qualified as "E", estimated.

The R-qualified data are not expected to impact the results and conclusions of this assessment because none of the aforementioned compounds were detected in site soil or blank samples.

Phthlates (e.g., bis(2-ethylhexyl) phthlate and diethyl phthlate) were detected in one equipment rinsate at 31 and 140 µg/L, respectively. These compounds were the only compounds detected in the environmental or laboratory QC samples reported in this sampling event; therefore, the exact origin cannot be determined. These compounds could be residual contaminants remaining from the detergents used to decontaminate the field equipment. The laboratory detergents are contained in plastic bottles or waxed containers. These compounds could have been detected in the first ASTM Type II water rinses following decontamination, but would subsequently have been rinsed from the equipment during the well preparation process.

These results should be considered unusable regardless of contaminant origin because all other compound concentrations were rejected due to surrogate recoveries that were less than the lower control limit.

A summary of the equipment blank results is provided in Table 3-4.

3.2.2.3 Pesticides/PCBs

All data quality assessment criteria listed in Section 2.4.1, *Methodology of Data Quality Assessment*, were generated within acceptable QC specifications, with deviations as follows. Results for gamma-beta hexachlorocyclohexane (BHC), alpha-BHC, aldrin, and PCB1016 in WQ-EB-01 were qualified as "R", unusable, due to low LCS recovery. The result for tetrachlorometaxylene (TCMX) in WQ-EB-01 was qualified as "R", unusable, due to low surrogate recovery.

The R-qualified data are not expected to impact the results and conclusions of this assessment because none of the aforementioned compounds were detected in site soil or blank samples.

Only the equipment blank sample (WQ-EB-01) was analyzed for pesticides/PCBs. Positive results were not detected in the blank sample.

3.2.2.4 Inorganics

All data quality assessment criteria listed in Section 2.4.1, *Methodology of Data Quality Assessment*, were generated within acceptable QC specifications. All of the data is considered to be valid and usable with appropriate qualifiers, as noted on the analysis data sheets provided in Appendix I.

Only the equipment blank was analyzed for inorganics. Eight elements (aluminum, barium, calcium, iron, manganese, molybdenum, sodium, and zinc) were detected in the equipment blank at concentrations slightly greater than the PQL. Ambient conditions blanks were not analyzed with the samples collected during this sampling event and these elements were not detected in the laboratory method blanks; therefore, the origin of these elements cannot be determined. The ASTM Type II water or the stainless steel sampling tools may be the source of these minute concentrations. ASTM Type II water is certified organic-free, but will contain some concentrations of trace elements.

Regardless of origin, the project data quality was not adversely impacted because these elements were detected in the associated environmental samples at concentrations orders of magnitude greater than that detected in the equipment rinsate.

A summary of the equipment blank sample analyses identifying positive results is provided in Table 3-4.

3.2.3 Subsurface Soil Screening and Analytical Sample Selection

Subsurface soil screening of organic vapors was performed on the eight locations identified during the SA as having potentially elevated VOC concentrations. The following paragraphs describe the screening and sample selection for each of the three areas encompassing the eight locations.

South of Air Force Plant 4

Results of the screening for the RRRW area at AFP 4 are summarized in Table 3-5. Although no odors were detected in the area of the RRRW south of AFP 4, elevated organic vapor readings were recorded for the upper 8 feet bgs in DP01 and from 4 to 8 feet bgs

Table 3-5 Organic Vapor Soil Screening Summary

RRRW Investigation Area	Location	Analytical Sample Number	Sample Depth Interval (feet)			Relative Moisture Content[a]	Organic Vapor[b] (ppm)
South of AFP4	DP01	NS	0.0	to	2.0	M	80.0
		-01	2.0	to	4.0	M	1044.0
		-02	4.0	to	6.0	M	176.0
		NS	6.0	to	8.0	M	36.0
		NS	8.0	to	10.0	M	13.1
		NS	10.0	to	12.0	M	0.5
		NS	12.0	to	14.0	M	0.0
	DP02	-01	0.0	to	2.0	M	0.7
		NS	2.0	to	4.0	M	1.2
		NS	4.0	to	6.0	M	0.5
		NS	6.0	to	8.0	M	0.0
		NS	8.0	to	10.0	M	0.0
		NS	10.0	to	12.0	S	0.0
	DP03	NS	0.0	to	2.0	M	0.0
		NS	2.0	to	4.0	M	0.0
		-01	4.0	to	6.0	M	240.0
		-02	6.0	to	8.0	M	202.0
		NS	8.0	to	10.0	M	0.0
		NS	10.0	to	12.0	M	4.5
Adjacent to Carswell Field	DP04	-01	0.0	to	2.0	D	2.5
		NS	2.0	to	3.0	D	3.3
	DP05	-01	0.0	to	1.5	S	2.3
	DP06	-01	0.0	to	0.8	D	0.0
	DP07	-01	0.0	to	2.0	M	0.0
Adjacent to Ridgmar Mall	DP08	-01	1.0	to	3.0	M	0.2
		-02	3.0	to	5.0	M	2.6
		NS	5.0	to	7.0	M	4.0
		NS	7.0	to	9.0	M	2.5
		NS	9.0	to	11.0	M	2.9
		NS	11.0	to	13.0	M	2.2
		NS	13.0	to	14.0	M	1.6

NS - No sample collected for chemical characterization

ppm - parts per million

RRRW - Railroad Right of Way

[a]Relative Moisture Content: D=Dry, M=Slightly to very moist, S=Saturated

[b]Measured with a PID

in DP03. In both of these boreholes, samples were collected from the intervals with the highest PID readings. In DP02, the readings were extremely low and probably reflected the build-up of moisture in the headspace. The sample from this borehole was collected directly below the ground surface where metals and semivolatiles would be most likely to occur.

Adjacent to Carswell Field

Results of the screening for the RRRW area adjacent to Carswell Field are summarized in Table 3-5. The PID readings above zero in the boreholes located in this area probably reflect the build-up of moisture in the headspace. No staining or odors were observed in any of the sample material from these boreholes (DP04 through DP07). All samples collected for chemical analysis were obtained from the 0 to 2 feet bgs interval where metals and semivolatiles would be most likely to occur.

Adjacent to Ridgmar Mall

Results of the screening for the RRRW area adjacent to Ridgmar Mall are summarized in Table 3-5. PID readings above zero in the borehole (DP08) located in this area are probably reflect the build-up of moisture in the headspace. No staining or odors were observed in the sample material other than the black material found in the middle subsurface layer. Samples for chemical analysis were obtained from the 0 to 2 feet bgs and the 2 to 4 feet bgs intervals where metals and semivolatiles would be most likely to occur.

3.2.4 Lithology Characterization

South of Air Force Plant 4

The subsurface profile intersected in all three borings in this area consisted of four layers. At the top of the profile was a thin layer of organic material, no more than 0.4 feet thick. Below the organic material was a 0.5- to 1.6-foot-thick layer of fill material, a mix of gravel, cobbles, silt, and clay from the built-up railroad bed. The third subsurface layer consisted of a silty clay ranging in color from olive brown to black. Upper portions of this clay often contained gravel and might have been disturbed during construction of the railroad tracks. The fourth layer, a basal layer of saprolitic material, consisted of pale gray to pale yellow silty clay with patches of indurated limestone and zones with remnant limestone textures. Flaggy limestone was encountered at the base of both DP01 and DP03.

Adjacent to Carswell Field

All boreholes in this area of investigation were advanced to refusal and revealed similar subsurface profiles. Depth to bedrock in these four boreholes ranged from 0.75 to 3 feet bgs. In DP05 and DP07, an upper layer of organic material was present. The remaining material in all boreholes was decomposed limestone, consisting of pale yellow to pale gray silts and clays mixed with zones of more indurated, but still highly weathered, limestone. The subsurface material in DP05 was wet due to the presence of standing water in the nearby shallow drainage ditch, which runs along the western side of the railroad tracks (see See Appendix C, Photograph 7).

Adjacent to Ridgmar Mall

Limestone bedrock was encountered at a depth of 14 feet bgs. Subsurface material above bedrock contained three layers. The uppermost layer consisted of 2 feet of fill material, primarily olive brown silty clay mixed with gravel and cobbles from the railroad bed. Beneath this layer was a 5.5-foot thick layer of gray silt and clay that contained numerous patches of black, fine-grained material, possibly organics or burnt matter. The PID did not register any increase in volatile organic vapor content for the black material. The basal layer in the borehole consisted of dark grayish-brown silty clay with $CaCO_3$ concretions.

3.2.5 Analytical Sample Results and Background Screening

Table 3-6 presents the analytical results for chemicals detected in soil samples collected from the three focus areas of the RRRW study area. It presents both the mean surface and subsurface soil concentrations for the detected inorganics in each area, as well as individual sample concentrations. The mean concentrations are considered to be fairly representative of the true central tendency of the data set for each compound because of the low variability among samples in a given focus area. Appendix I contains copies of the laboratory analysis data sheets with the qualified raw data. Data qualifiers are defined in Table 3-2.

Eighteen of the 24 inorganics for which analysis was conducted, and two organic compounds, were detected in the 12 soil samples collected from the RRRW study area. Total recoverable petroleum hydrocarbons (TRPH) were also detected in seven of the 12 samples. Mean concentrations of inorganics exceeding the background $UTL_{95,95}$ determined in Section 2.0 and all detected concentrations of organic compounds are indicated in Table 3-2. Analytical results and background screening are depicted below for each of the three focus areas.

South of Air Force Plant 4

Of the 18 inorganics detected in the three locations sampled along the RRRW area south of AFP 4, only five compounds had mean concentrations above the background $UTL_{95,95}$. These compounds include barium, beryllium, manganese, potassium, and vanadium. The mean concentrations of these five compounds were slightly less than 1.3 times greater than the respective $UTLs_{95,95}$ and all were within regional background ranges cited by EPA Region 6 (EPA, 1996) (see Table 2-3). With the exception of manganese in one sample, all of the individual sample concentrations were less than 1.5 times greater than the respective $UTLs_{95,95}$, with most of the exceedances being less than 1.2 times. All but one of these exceedances occur in subsurface samples. The manganese subsurface soil concentration at one sample location (DP03) was approximately twice the subsurface $UTL_{95,95}$, but below the surface $UTL_{95,95}$. All of the individual concentrations were either within ranges considered background for EPA Region 6 or were considered low in toxicity and are not expected to be environmentally hazardous at the levels detected in this area. The small magnitude in the $UTL_{95,95}$ exceedances, the comparability of the RRRW study area concentrations with regional background levels, and the generally congruent concentrations along the RRRW study area suggest that detected concentrations are likely to be a part of natural background variation and not attributable to activities associated with the railroad.

Table 3-6 Summary of Surface and Subsurface Soil Sample Results

Area	South of AFP 4							
Location	DP01		DP02	DP03				
Sample Number	DP01-01	DP01-02	DP02-01	DP03-01	DP03-02	DP03-03	Mean Concentration	
Depth (ft bgs)	2.0 - 4.0	4.0 - 6.0	0.0 - 2.0	4.0 - 6.0	6.0 - 8.0	4.0 - 6.0	Surface	Subsurface
Analytes						DUP		
Volatiles (mg/kg)								
Methylene chloride	ND	ND	ND	0.0038 B	ND	ND	--	--
Toluene	ND	ND	0.0014 U	ND	ND	0.0046 B	--	--
Semivolatiles (mg/kg)	ND	ND	ND	ND	ND	ND	--	--
Pesticides/PCBs (mg/kg)	ND	ND	ND	ND	ND	ND	--	--
Inorganics (mg/kg)								
Aluminum - Total	15,400 J	14,400 J	17,900 J	19,600 J	13,300 J	17,700 J	17,900	15,438
Arsenic - Total	7.3	6.1	4.6	6.6	3.8	6.1	4.6	5.89
Barium - Total	135 J	113 J	135 J	188 J	119 J	152 J	135	134
Beryllium - Total	1.2	1.2	1.2	1.1	0.76	1	1.2	1.05
Calcium - Total	85,600 J	9,790 J	8,110 J	46,000 J	132,000 J	42,100 J	8,110	67,860
Chromium - Total	16.2 J	17.1 J	17.7 J	19 J	13.8 J	17.3 J	17.7	16.31
Cobalt - Total	7.2	7.2	6.2	6.5	3.5	4.9	6.2	5.90
Copper - Total	11.3 J	18.2 J	11.3 J	10.1 J	7.1 J	9 J	11.3	11.54
Iron - Total	15,600 J	15,000 J	13,500 J	15,600 J	10,900 J	13,800 J	13,500	14,050
Lead - Total	15 M	13.2 M	12.3 M	11.3 M	8.5 M	10.2 M	12.3	11.86
Magnesium - Total	2,290 J	2,390 J	2,420 J	2,740 J	1,960 J	2,560 J	2,420	2,323
Manganese - Total	588 J	325 J	269 J	750 J	216 J	394 J	269	425
Molybdenum - Total	2.7 J	0.71 J	0.38 U	0.38 U	0.36 U	0.36 U	0.38	0.94
Nickel - Total	13.6	15.2	12.8	13.3	9.1	12	12.8	12.64
Potassium - Total	1,640 J	2,200 J	1,990 J	1,930 J	1,330 J	1,700 J	1,990	1,746
Sodium - Total	914 B	841 B	646 B	695 B	775 B	697 B	646	807
Vanadium - Total	45.7 J	38.5 J	41.4 J	38.5 J	30.2 J	36.7 J	41.4	38.00
Zinc - Total	25.9 M	36.9 M	28.1 M	29.2 M	21.2 M	28.6 M	28.1	28.23
TRPH (mg/kg)								
Total Recoverable Petroleum Hydrocarbons	68.2	62.9	36.9	128	29.2	ND	--	--

Boxed values exceed UTL 95,95.

Analytes listed include only those detected in at least one sample. Appendix D provides complete analyte list.

Qualifiers defined in Table 3-2.

ND - not detected above MDL.

Table 3-[illegible] Summary of Surface and Subsurface Soil Sample Results, Continued

Area	Adjacent to Carswell Field				
Location	DP04	DP05	DP06	DP07	
Sample Number	DP04-01	DP05-01	DP06-01	DP07-01	Mean Surface
Depth (ft bgs)	0.0 - 2.0	0.0 - 1.5	0.0 - 0.8	0.0 - 2.0	Concentration
Analytes					
Volatiles (mg/kg)					
Methylene chloride	ND	0.0037 B	0.0028 B	ND	--
Toluene	0.0015 F	ND	ND	ND	--
Semivolatiles (mg/kg)	ND	ND	ND	ND	--
Pesticides/PCBs (mg/kg)	ND	ND	ND	ND	--
Inorganics (mg/kg)					
Aluminum - Total	4,770 J	3,650 J	1,670 J	6,970 J	4,265
Arsenic - Total	3.6	3.6	1.6 F	2.5	2.83
Barium - Total	20.8 J	14.2 J	8.3 J	37.9 J	20.30
Beryllium - Total	0.38	0.34	0.16 F	0.39	0.32
Calcium - Total	239,000 J	371,000 J	274,000 J	255,000 J	284,750
Chromium - Total	7.4 J	10.2 J	5.7 J	9.8 J	8.28
Cobalt - Total	1.4	1.2	0.58	2.1	1.32
Copper - Total	3.3 J	2.7 J	1.5 J	3.8 J	2.83
Iron - Total	5,420 J	5,760 J	3,210 J	5,760 J	5,038
Lead - Total	17.4 M	9.3 M	5.5 M	13.4 M	11.40
Magnesium - Total	2,600 J	3,950 J	2,520 J	2,740 J	2,953
Manganese - Total	79.2 J	102 J	72.2 J	144 J	99
Molybdenum - Total	0.97 J	3.6 J	0.85 J	0.48 F	1.48
Nickel - Total	5.1	7.5	3.8	5.7	5.53
Potassium - Total	1,020 J	1,000 J	634 J	1,050 J	926
Sodium - Total	1,270 B	1,490 B	1,230 B	861 B	1,213
Vanadium - Total	17 J	24.2 J	15 J	24.7 J	20.23
Zinc - Total	21.5 M	14.1 M	12.3 M	21 M	17.23
TRPH (mg/kg)					
Total Recoverable Petroleum Hydrocarbons	ND	67.3	ND	33.4	--

Boxed values exceed UTL 95,95.

Analytes listed include only those detected in at least one sample. Appendix D provides complete analyte list.

Qualifiers defined in Table 3-2.

ND - not detected above MDL.

Table 3-6 Summary of Surface and Subsurface Soil Sample Results, Continued

Area	Adjacent to Ridgmar Mall		
Location	DP08		
Sample Number	DP08-01	DP08-02	Mean Subsurface
Depth (ft bgs)	1.0 - 3.0	3.0 - 5.0	Concentration
Analytes			
Volatiles (mg/kg)			
Methylene chloride	0.0035 B	ND	--
Toluene	ND	ND	--
Semivolatiles (mg/kg)	ND	ND	--
Pesticides/PCBs (mg/kg)	ND	ND	--
Inorganics (mg/kg)			
Aluminum - Total	19,500 J	18,400 J	18,950
Arsenic - Total	4.9	3.6	4.25
Barium - Total	173 J	136 J	155
Beryllium - Total	1	0.97	0.99
Calcium - Total	71,400 J	112,000 J	91,700
Chromium - Total	19.6 J	17.4 J	18.50
Cobalt - Total	5.5	4.2	4.85
Copper - Total	7.5 J	7.1 J	7.30
Iron - Total	16,100 J	12,400 J	14,250
Lead - Total	9.7 M	8.7 M	9.20
Magnesium - Total	2,790 J	2,580 J	2,685
Manganese - Total	346 J	311 J	329
Molybdenum - Total	0.47 F	0.37	0.42
Nickel - Total	11.1	9.3	10
Potassium - Total	2,030 J	1,930 J	1,980
Sodium - Total	1,010 B	827 B	919
Vanadium - Total	34.3 J	29.2 J	32
Zinc - Total	31 M	25.5 M	28
TRPH (mg/kg)			
Total Recoverable Petroleum Hydrocarbons	ND	ND	--

Boxed values exceed UTL 95,95.

Analytes listed include only those detected in at least one sample. Appendix D provides complete analyte list.

Qualifiers defined in Table 3-2.

ND - not detected above MDL.

The two organic compounds detected in samples collected from this area include methylene chloride and toluene. Methylene chloride was detected in the laboratory blanks associated with the DPT samples containing this compound. Therefore, the detects in soil samples are considered laboratory-related contamination and are not attributable to the study area. Similarly, detectable concentrations of toluene were reported for the ambient and equipment blank samples, indicating that the one detect in DPT samples is likely due to ambient air or laboratory-related contamination and not attributable to the study area. Section 3.2.2.1, *Volatile Organic Compounds*, contains a discussion of toluene contamination issues.

464
56

As shown in Table 3-6, TRPH was detected in soil samples at low levels. Analysis of samples for individual toxic components of TRPH (e.g., PAHs, BTEX) revealed no detectable levels of these compounds. Because of these results, together with the lack of odor or soil staining observed in soil borings, the reported concentrations of TRPH are not expected to be a threat to human health or the environment and should not require further action.

Adjacent to Carswell Field

As shown in Table 3-6, only calcium had a mean concentration that exceeds its $UTL_{95,95}$. This exceedance is less than twice the subsurface $UTL_{95,95}$ and is due to the decomposed limestone observed in the boreholes (see Section 3.2.3); it is therefore not attributable to activities associated with the railroad. Magnesium, considered an essential nutrient, is the only additiona compound with any individual soil sample concentrations above the $UTL_{95,95}$. It exceeds this value by less than 1.3 times at sample location DP05. This small exceedance suggests that the magnesium detects are part of natural background variation and are not attributable to railroad activities.

Methylene chloride and toluene were the only organic constituents detected in samples collected from this area. As indicated above, methylene chloride was detected in the laboratory blanks associated with the samples containing this compound. Therefore, the detects in soil samples are considered laboratory-related contamination and are not attributable to the study area. Similarly, detectable concentrations of toluene were reported for the ambient and equipment blank samples, indicating that the one detect is likely due to ambient air or laboratory-related contamination and is not attributable to the site. Section 3.2.2.1, *Volatile Organic Compounds*, contains a discussion toluene contamination issues. As shown in Table 3-6, TRPH was detected in two soil samples at low levels. Analysis of samples for individual toxic components of TRPH (e.g., PAHs, BTEX) revealed no detectable levels of these compounds. Because of these results, together with the lack of odor or soil staining observed in soil borings, the reported concentrations of TRPH are not expected to be a threat to human health or the environment and should not require further action.

Adjacent to Ridgmar Mall

Four of the 18 inorganic compounds detected in the two subsurface soil samples collected from the RRRW area adjacent to Ridgmar Mall had mean and individual concentrations that were above the respective $UTLs_{95,95}$. These compounds include barium, chromium, magnesium, and potassium. Both the means and the individual sample concentrations of all four of these compounds were less than 1.5 times greater than the respective

$UTLs_{95,95}$ and were either well within regional background levels (EPA, 1996) or are considered to be essential nutrients (magnesium and potassium). The small magnitude in the $UTL_{95,95}$ exceedances, the comparability of the RRRW study area concentrations with regional background levels, and the generally congruent concentrations along the RRRW study area suggest that detected concentrations are likely to be a part of natural background variation and are not attributable to activities associated with the railroad.

Methylene chloride was the only organic compound detected in samples collected from this area. As indicated above, methylene chloride was detected in the laboratory blanks associated with the samples containing this compound. Therefore, the detects in soil samples are considered laboratory contamination and are not attributable to the study area. No TRPH was detected in the borehole drilled in this area.

TAB

4

4.0 CONCLUSIONS AND RECOMMENDATIONS

The study found no evidence indicating that contamination is present at the RRRW. The results of the SA demonstrate that none of the RRRW areas investigated were adversely impacted by railroad activities. There were no reports of historic spills to the surface and no potential impacts were noted during the visual inspection of the entire RRRW. Although variations in soil gas results were identified, the masses reported were low and are not indicative of a contaminant source area.

Results of the SI provided definitive data that support the conclusions reached in the SA. Although a number of samples contained inorganics with concentrations slightly greater (less than two times) than background levels established for NAS Fort Worth (Jacobs, 1998), the levels of these inorganics are believed to be representative of natural background variation and are not attributable to activities associated with the railroad. The two volatile organics detected are common laboratory contaminants and are also not attributable to the study area.

Three site categories are identified in AFCEE guidance with respect to further action at a site. These categories are defined below.

- Category 1 - No further action because no significant impact to human health or the environment exists.
- Category 2 - Further study is required to categorize the site.
- Category 3 - Remedial action is required.

Based on the results of this investigation, it is recommended that the RRRW be managed under AFCEE Category 1: No further action.

TAB

5

5.0 REFERENCES

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DRAFT

APPENDIX A

PROPERTY DESCRIPTION

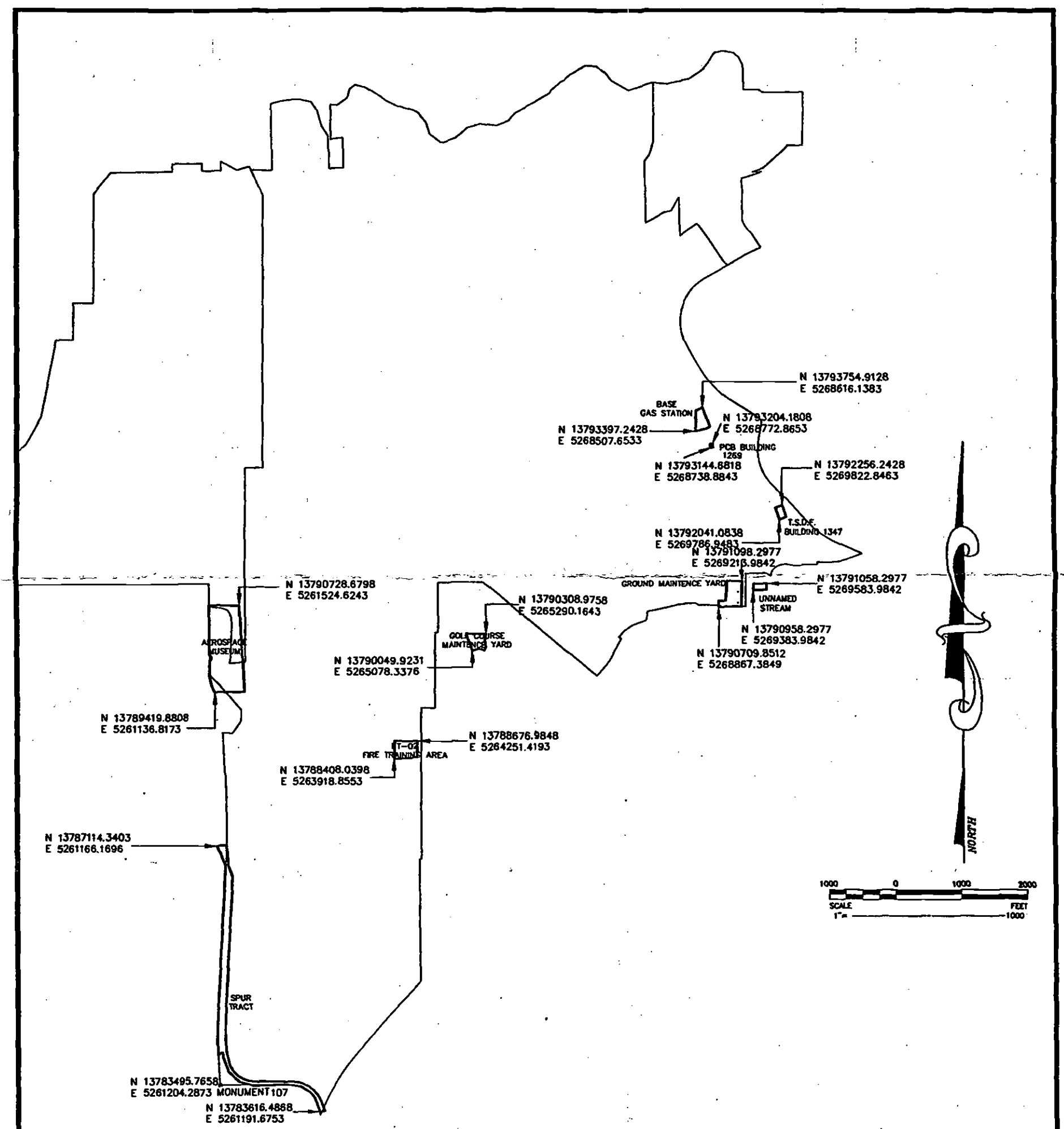
SPUR TRACT
DESCRIPTION

PROPERTY DESCRIPTION

BEING A 11.45 ACRE TRACT OF LAND AT THE JOINT
RESERVE BASE AT CARSWELL FIELD.
COMENCEING AT THE SOUTH WEST CORNER OF THE JOINT
RESERVE BASE AT CARSWELL FIELD.SAID COMMENCING POINT BEING
A CORPS OF ENGINEER'S MONUMENT BRASS DISK IN CONCRETE AND
MARKED 106.
THENCE SOUTH 415.15'
THENCE EAST 1562.43' TO THE POINT OF BEGINNING.
THENCE N19°02'23"W A DISTANCE OF 98.70' TO A POINT.
THENCE N17°04'21"W A DISTANCE OF 51.80' TO A POINT..
THENCE N22°00'29"W A DISTANCE OF 81.60' TO A POINT.
THENCE N43°17'09"W A DISTANCE OF 99.51' TO A POINT.
THENCE N61°49'59"W A DISTANCE OF 220.24' TO A POINT.
THENCE N83°27'44"W A DISTANCE OF 142.39' TO A POINT.
THENCE N89°51'21"E A DISTANCE OF 140.68' TO A POINT.
THENCE S89°22'36"W A DISTANCE OF 70.41' TO A POINT.
THENCE S87°53'52"W A DISTANCE OF 175.70' TO A POINT.
THENCE S88°17'17"W A DISTANCE OF 140.96' TO A POINT.
THENCE N86°10'55"W A DISTANCE OF 25.62' TO A POINT.
THENCE N74°52'10"W A DISTANCE OF 221.92' TO A POINT.
THENCE N49°19'00" W A DISTANCE OF 237.81' TO A POINT.
THENCE N23°29'33"W A DISTANCE OF 221.87' TO A POINT.
THENCE N07°25'06"W A DISTANCE OF 72.53' TO A POINT.
THENCE S70°26'48"W A DISTANCE OF 71.06' TO A POINT.
THENCE N02°22'32"W A DISTANC OF 178.01' TO A POINT.
THENCE N00°08'26"W A DISTANCE OF 225.85' TO A POINT.
THENCE N02°00'11"E A DISTANCE OF 211.68' TO A POINT.
THENCE N03°05'50"E A DISTANCE OF 158.03' TO A POINT.
THENCE N03°18'55"E A DISTANCE OF 571.79' TO A POINT
THENCE N03°09'20"E A DISTANCE OF 530.41' TO A POINT.
THENCE N03°12'18"E A DISTANCE OF 574.72' TO A POINT.
THENCE N03°11'58"E A DISTANCE OF 385.86' TO A POINT.
THENCE N21°12'15"W A DISTANCE OF 359.91' TO A POINT.
THENCE N86°11'46"E A DISTANCE OF 152.16' TO A POINT.
THENCE S03°40'30"E A DISTANCE OF 319.68' TO A POINT.
THENCE S22°01'34"E A DISTANCE OF 188.06' TO A POINT.
THENCE S02°22'25"W A DISTANCE OF 222.47' TO A POINT.
THENCE S03°14'02"W A DISTANCE OF 147.01' TO A POINT.
THENCE S03°20'32"W A DISTANCE OF 578.48' TO A POINT.
THENCE S03°13'41"W A DISTANCE OF 457.60' TO A POINT.
THENCE S03°15'50"W A DISTANCE OF 354.73' TO A POINT.
THENCE S03°16'37"W A DISTANCE OF 320.33' TO A POINT.
THENCE S01°38'02"W A DISTANCE OF 203.35' TO A POINT.
THENCE S01°25'59"E A DISTANCE OF 202.33' TO A POINT.
THENCE S03°26'15"E A DISTANCE OF 181.25' TO A POINT.
THENCE S15°45'30"E A DISTANCE OF 184.71' TO A POINT.
THENCE S33°25'58"E A DISTANCE OF 96.66' TO A POINT.
THENCE S45°45'02"E A DISTANCE OF 96.30' TO A POINT.
THENCE S57°54'04"E A DISTANCE OF 95.35' TO A POINT.
THENCE S69°33'40"E A DISTANCE OF 89.38' TO A POINT.
THENCE S81°33'00"E A DISTANCE OF 99.79' TO A POINT.
THENCE S89°43'49"E A DISTANCE OF 102.44' TO A POINT;
THENCE N89°52'14"E A DISTANCE OF 102.34' TO A POINT.
THENCE N89°55'42"E A DISTANCE OF 90.50' TO A POINT.
THENCE N89°54'20"E A DISTANCE OF 89.79' TO A POINT.
THENCE S89°53'41"E A DISTANCE OF 95.90' TO A POINT.
THENCE S12°07'46"E A DISTANCE OF 14.70' TO A POINT.
THENCE N81°47'33"E A DISTANCE OF 100.75' TO A POINT.
THENCE S84°41'49"E A DISTANCE OF 96.03' TO A POINT..
THENCE S69°30'27"E A DISTANCE DF 94.92' TO A POINT.
THENCE S66°26'40"E A DISTANCE OF 92.28' TO A POINT.
THENCE S52°30'38"E A DISTANCE OF 97.40' TO A POINT.
THENCE S41°21'59"E A DISTANCE OF 96.30' TO A POINT.
THENCE S30°58'56"E A DISTANCE OF 99.85' TO A POINT.
THENCE S20°02'28"E A DISTANCE OF 101.95' TO A POINT.
THENCE S24°26'06"E A DISTANCE OF 68.50' TO A POINT.
THENCE S82°52'47"W A DISTANCE OF 82.14' TO THE POINT OF BEGINNING.
AND CONTAINING 11.45 ACRES OR 498,761 SQ.FEET MORE OR LESS.

DUNAWAY ASSOCIATES, Inc.

ENGINEERS - PLANNERS - SURVEYORS
1501 MERRIMAC CIRCLE, SUITE 100
FORT WORTH, TEXAS 76107
PH.(817)335-1121 METRO(817)429-2135
FAX(817)335-7437



AN EXHIBIT SHOWING NINE TRACTS AT THE JOINT RESERVE BASE AT CARSWELL FIELD

DUNAWAY ASSOCIATES, Inc.

ENGINEERS - PLANNERS - SURVEYORS
1501 MERRIMAC CIRCLE, SUITE 100
FORT WORTH, TEXAS 76107
PH.(817)335-1121 METRO(817)429-2135
FAX(817)335-7437

APPENDIX B

SITE INVESTIGATION SAMPLE LOCATION SURVEYING DATA

THE ENVIROMENTAL COMPANY, INC.

AFCEE CONTRACT F41624-95-D-8002
Subcontract NO. 9724-3109, TEC P3103

SUBCONTRACTOR
Baird, Hampton & Brown, Inc.

NAS FORT WORTH JRB

DESCRIPTION	NORTH	EAST	ELEVATION
DP01	6962963.78	2291134.89	649.29
DP02	6962376.55	2291363.85	642.92
DP03	6961794.32	2291607.82	642.19
DP04	6956720.01	2292791.79	685.67
DP05	6956469.76	2292781.56	688.19
DP06	6956221.54	2292782.82	687.28
DP07	6955545.36	2293708.19	667.19
DP08	6954440.31	2294440.72	657.12
FENCE1	6956715.95	2292826.13	682.49
FENCE2	6955581.71	2293703.13	666.46
FENCE3	6955529.11	2293709.01	669.44
CREEK1	6962999.48	2291073.07	649.13
CREEK2	6962369.59	2291341.92	638.36
CREEK3	6961772.50	2291568.22	632.28
CREEK4	6954413.33	2294519.80	636.86
CREEK5	6954563.10	2294398.26	639.50
HARWLS	6962464.73	2291327.25	644.28
HARWLN	6962496.89	2291314.19	644.52
CLIFFN	6963073.91	2291090.21	651.15
CLIFFS	6963012.74	2291115.99	650.70
JFS	6961688.86	2291715.09	635.57
JFN	6962126.57	2291533.61	639.68
SWITCH	6958298.95	2292903.95	661.99
MALL1	6954122.03	2294442.93	658.82
RR183	6954915.42	2294386.62	658.59

NOTE: All coordinate values are NAD83 State Plane Coordinates, North Central Zone, Texas.

APPENDIX C

PHOTOGRAPHIC LOG

Photographic Record

Client: USAF AFCEE ERB/AFBCA
Location: AFP4 Railroad Right-of-Way
Job Number: P3103
Date: February 1998

Photo No: 1

Caption: View of DP01 looking north to AFP 4 across Clifford Street. The borehole is in the middle of the railroad tracks and is marked by the orange stake with pink flagging. The culvert in the far left of the photograph runs roughly parallel to the railroad tracks south towards Farmer's Branch Creek. Note the gentle slope from the tracks down to the culvert. Red flags indicate soil gas locations.

Photo No: 2

Caption: View of DP01 looking south-southeast along the tracks. Note the proximity of the vehicles to the drill site. The culvert, which leads to Farmers Branch Creek, runs between the white pickup truck and the utility pole in the right-central portion of the photograph. Note that the culvert or drainage ditch in this area is swampy and generally marked by thicker vegetation. Red flags indicate soil gas locations.

Photographic Record

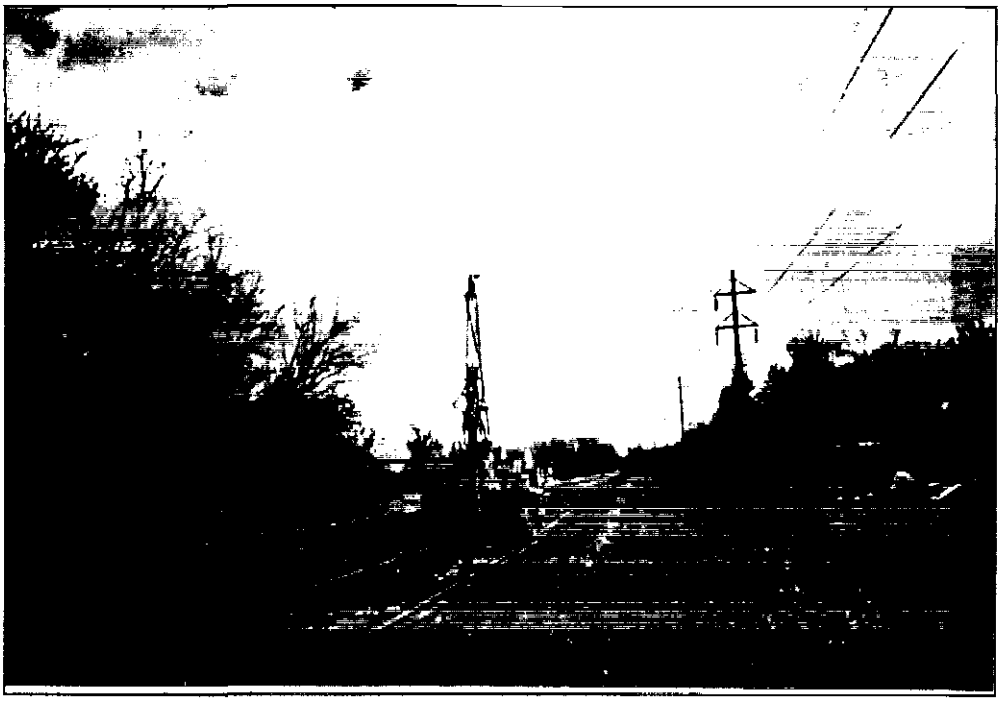
Client: USAF AFCEE ERB/AFBCA
Location: AFP4 Railroad Right-of-Way
Job Number: P3103
Date: February 1998

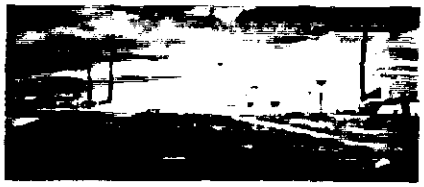
Photo No: 3

Caption: View of DP02 and the drill rig looking south across Harwell Avenue. Note the proximity of housing and the drainage ditch/ culvert to the drill site. Red flags indicate soil gas locations.

Photo No: 4

Caption: View of DP02 and the drill rig looking south-southeast. The drainage ditch is visible in the lower right-hand cornerof the photograph. Note the drop in elevation from the drill site to the drainage ditch.





Photographic Record

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Location: AFP4 Railroad Right-of-Way
Job Number: P3103
Date: February 1998

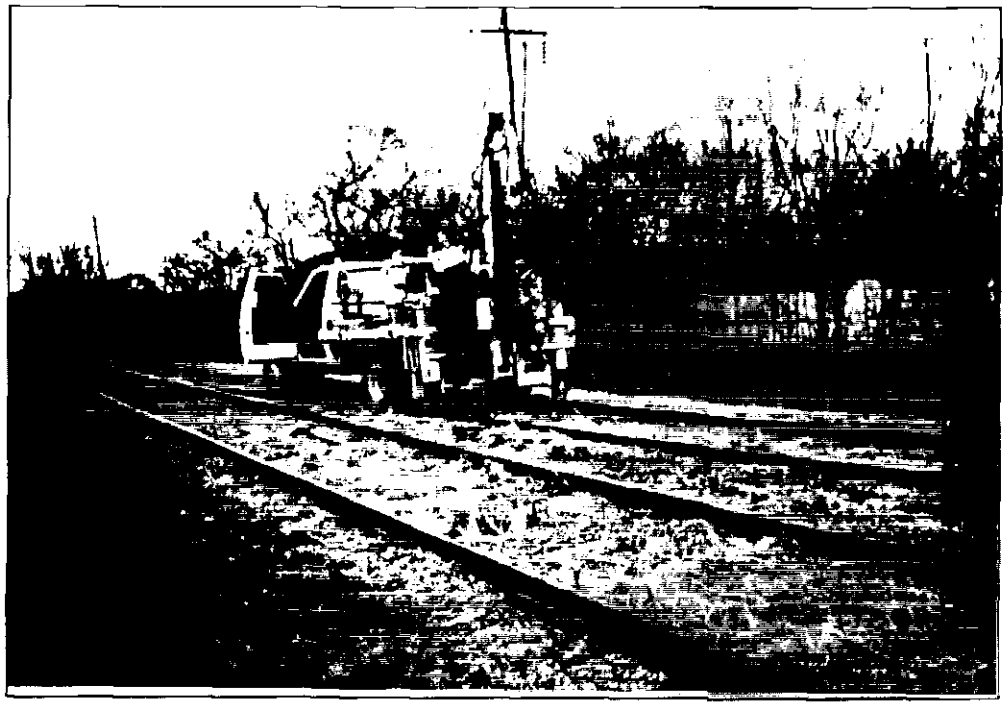


Photo No: 5

Caption: Drill rig at DP03, view looking southwest. The drainage ditch runs between the drill rig and the white trailer visible in the background. Red flags indicate soil gas locations.

Photo No: 6

Caption: View of DP04 looking north adjacent to the west side of Carswell Field. The borehole is located at the wooden stake with the red flag to the left of the railroad tracks. Red flags indicate soil gas locations.

Photographic Record

Client: USAF AFCEE ERB/AFBCA
Location: AFP4 Railroad Right-of-Way
Job Number: P3103
Date: February 1998

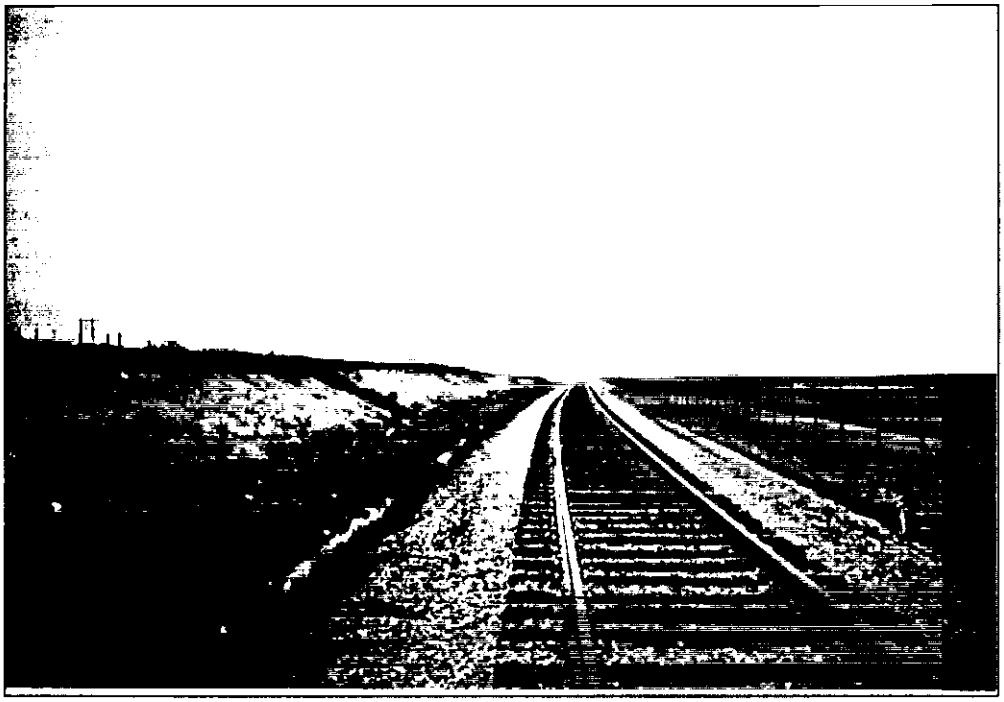


Photo No: 7

Caption: View of DP05 looking north. The borehole is located at the orange stake with pink flagging to the left of the tracks near the center of the photograph. Standing water is in the ditch south and west of the borehole location. Note the white stake with pink flagging on the opposite side of the tracks, which marks the location of soil-gas survey point RR-GS-SG49. Also note the decrease in elevation from the railroad track to the soil gas survey point. Red flags indicate soil gas locations.

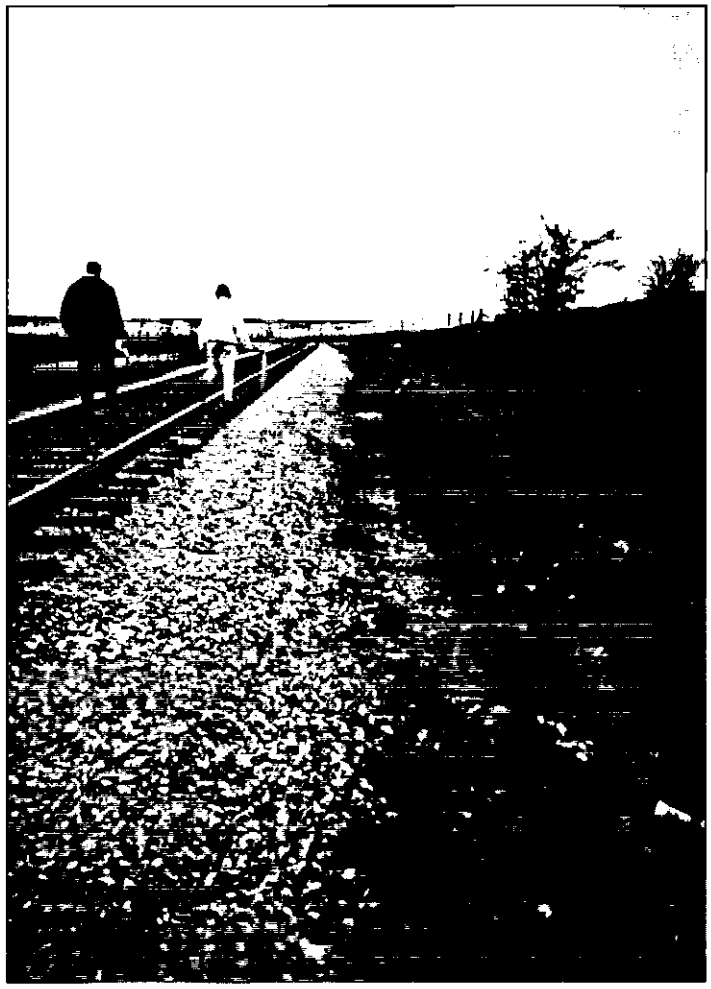


Photo No: 8

Caption: View of DP06 looking south. The borehole location is marked by the orange stake with the pink flagging. Red flags indicate soil gas locations.

Photographic Record

Client: USAF AFCEE ERB/AFBCA
Location: AFP4 Railroad Right-of-Way
Job Number: P3103
Date: February 1998

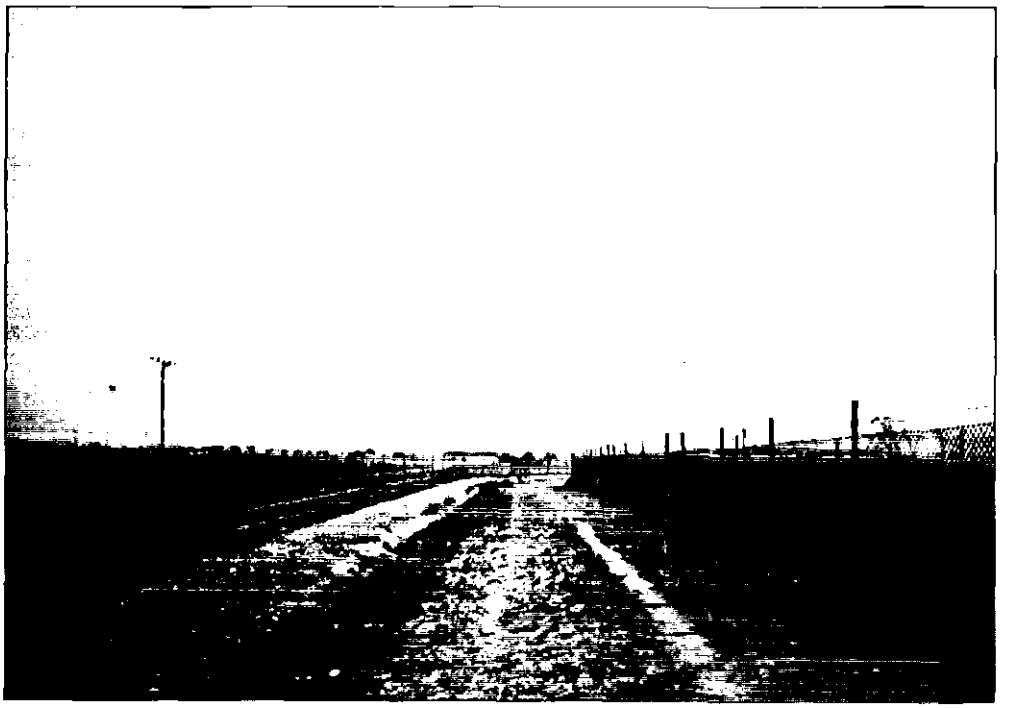
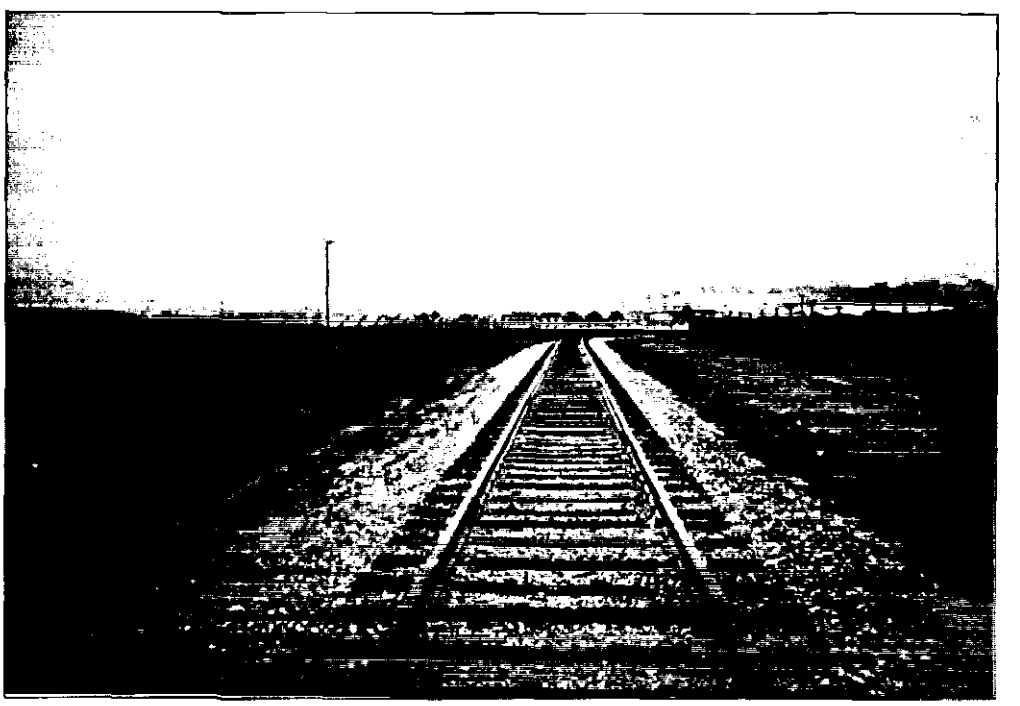


Photo No: 9

Caption: View of DP07 looking east. The borehole location is marked by the orange stake with pink flagging in the drainage ditch to the right (south) of the tracks. Soil-gas survey point RR-GS-SG51 is located approximately 5 feet to the left (north) of the borehole location, between the railroad track and the stake/flagging. The approximate location of the Lone Star gas pipeline is shown by the yellow flags in the right of the photograph near the fence. Red flags indicate soil gas locations.

Photo No: 10

Caption: View of DP07 looking east. Note the steep grade on the north side of the tracks opposite the borehole location (south side of tracks). Red flags indicate soil gas locations.



Photographic Record

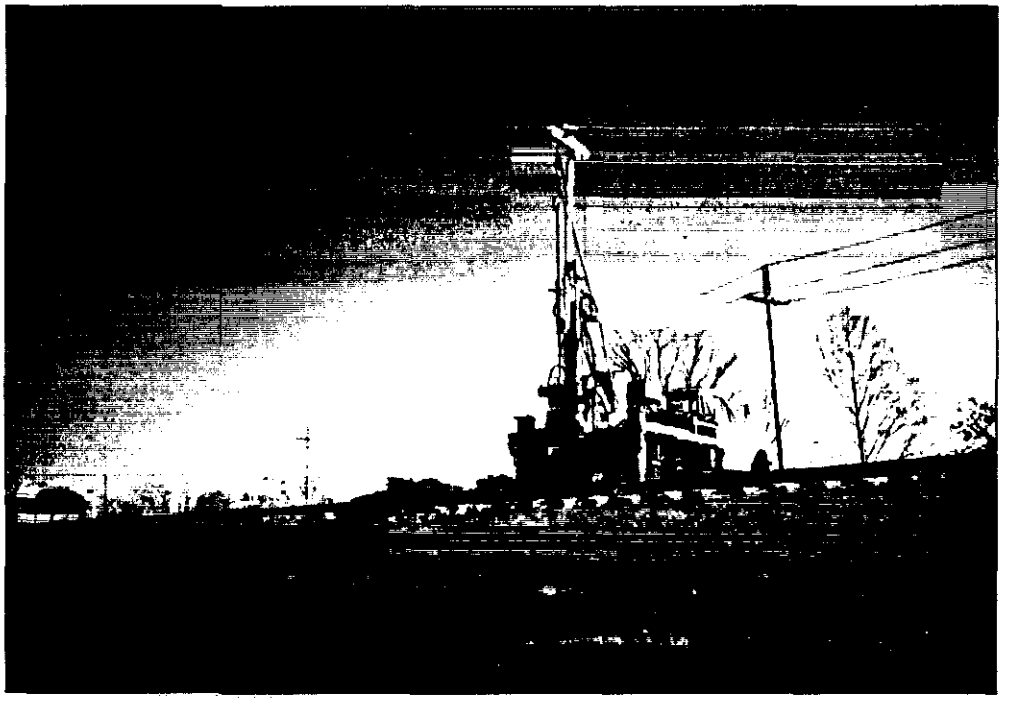
Client: USAF AFCEE ERB/AFBCA
Location: AFP4 Railroad Right-of-Way
Job Number: P3103
Date: February 1998

Photo No: 11

Caption: View of the drill rig at DP08 looking north. The wooden trestle on the north side of the drill rig crosses Kings Branch. This stream veers to the north and passes under the bridge in the right portion of the photograph. Route 183 is visible in the left portion of the photograph. Red flags indicate soil gas locations.

Photo No: 12

Caption: View of the drill rig at DP08 looking east. The photograph was taken near the sampling area. Note the rise in elevation towards the drill rig and railroad tracks.



APPENDIX D

LIST OF ANALYTICAL PARAMETERS

GORE-SORBER® Screening Survey

KEY TO DATA TABLE

UNITS	
µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect
ANALYTES	
BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
NAPH&2-MN	combined masses of naphthalene and 2-methyl naphthalene
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
11DCA	1,1-dichloroethane
$CHCl_3$	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CCl_4	carbon tetrachloride
TCE	trichloroethene
OCT	octane
PCE	tetrachloroethene
ClBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene
BLANKS	
TBn	unexposed trip blanks, travels with the exposed modules
method blank	QA/QC module, documents analytical conditions during analysis

Table D-1. List of Analytical Parameters			
Volatile Organic Compounds - Method SW8260A		**Semivolatile Organics - Method SW8270B**	
1,1,1,2-Tetrachloroethane	Chlorobenzene	1,2,4-Trichlorobenzene	Dibenzofuran
1,1,1-TCA	Chloroethane	1,2-DCB	Diethyl phthalate
1,1,2,2-Tetrachloroethane	Chloroform	1,3-DCB	Dimethly phthalate
1,1,2-TCA	Chloromethane	1,4-DCB	Fluoranthene
1,1-DCA	Cis-1,2-DCE	2,4-DNT	Fluorene
1,1-DCE	Cis-1,3-Dichloropropene	2,6-DNT	Hexachlorobenzene
1,1-Dichloropropene	Dibromochloromethane	2-Chloronaphthalene	
1,2,3-Trichlorobenzene	Dibromomethane	2-Methylnaphthalene	Hexachlorobutadiene
1,2,3-Trichloropropane	Dichlorodifluoromethane	2-Nitroaniline	Hexachlorocyclopentadiene
1,2,4-Trichlorobenzene	Ethylbenzene	3-Nitroaniline	Hexachloroethane
1,2,4-Trimethylbenzene	Hexachlorobutadiene	3,3'-Dichlorobenzidine	Indeno (1,2,3-cd) pyrene
1,2-DCA	Isopropylbenzene	4-Bromophenyl phenyl ether	Isophorone
1,2-DCB	m-Xylene	4-Chloroaniline	n-Nitrosodiphenylamine
1,2-Dibromo-3-chloropropane	Methylene chloride	4-Chlorophenyl phenyl ether	n-Nitrosodi-n-propylamine
1,2-Dichloropropane	n-Butylbenzene	4-Nitroaniline	Naphthalene
1,2-EDB	n-Propylbenzene	Acenaphthylene	Nitrobenzene
1,3,5-Trimethylbenzene	Naphthalene	Acenapthene	Phenanthrene
1,3-DCB	o-Xylene	Anthracene	Pyrene
1,3-Dichloropropane	p-Isopropyltoluene	Benz (a) anthracene	2,4,5-Trichlorophenol
1,4-DCB	p-Xylene	Benzo (a) pyrene	2,4,6-Trichlorophenol
1-Chlorohexane	Sec-Butylbenzene	Benzo (b) fluoranthene	2,4-Dichlorophenol
2,2-Dichloropropane	Styrene	Benzo (g,h,i) perylene	2,4-Dimethylphenol
2-Chlorotoluene	TCE	Benzyl alcohol	2,4-Dinitrophenol
4-Chlorotoluene	Tert-Butylbenzene	Bis (2-chloroethoxy) methane	2-Chlorophenol
Benzene	Tetrachloroethene	Bis (2-chlorethyl) ether	2-Methylphenol
Bromobenzene	Toluene	Bis (2-chloroisopropyl) ether	2-Nitrophenol
Bromochloromethane	Trans-1,2-DCE	Bis (2-ethylhexyl) phthalate	4,6-Dinitro-2-methylphenol
Bromodichloromethane	Trans-1,3-Dichloropropene	Butyl benzylphthalate	4-Chloro-3-methylphenol
Bromoform	Trichlorofluoromethane	Chrysene	4-Methylphenol
Bromomethane	Vinyl chloride	Di-n-butylphthalate	4-Nitrophenol
Carbon tetrachloride		Di-n-octylphthalate	Benzoic acid
		Dibenz (a,h) anthracene	Pentachlorophenol
			Phenol

Trace Elements (Metals) by Inductively Coupled Plasma Atomic Emission Spectroscopy - Method SW6010A (groundwater samples only)	
Aluminum	Magnesium
Antimony	Manganese
Arsenic	Molybdenum
Barium	Nickel
Beryllium	Potassium
Cadmium	Selenium
Calcium	Silver
Chromium	Sodium
Cobalt	Thallium
Copper	Vanadium
Iron	Zinc
Lead	

Mercury Manual Cold-Vapor Technique - Method SW7470A/SW7471A
Mercury

Total Petroleum Hydrocarbons Moethod 418.8
Total petroleum hydrocarbons

Pesticides and PCBs Method 8080	
Alpha-BHC	Endosulfan sulfate
Beta-BHC	4,4'-DDT
Delta-BHC	Methoxychlor
Gamma-BHC (Lindane)	Endrin aldehyde
Heptachlor	Toxaphene
Aldrin	Chlordane
Heptachlor epoxide	Aroclor 1016
Endosulfan I	Aroclor 1221
Dieldrin	Aroclor 1232
4,4'-DDE	Aroclor 1242
Endrin	Aroclor 1248
Endodulfan II	Aroclor 1254
4,4'-DDD	Aroclor 1260

APPENDIX E

FIELD SAMPLING REPORTS

FIELD SAMPLING REPORT

LOCATION: DP01 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP01-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 2' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 4' YES: ___ NO: ✓

GRAB: X COMPOSITE: ___ DATE: 2/17/98 TIME: 11:55

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
8 oz	Brass	1	Ice	SW5030	SW8260	Volatile Organics
	Sleeve					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 1044 ~~10.44~~	COLOR: tan to dk. brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ___ CLOUDY/RAIN ✓ WIND DIRECTION ___ TEMPERATURE ~45°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. Meyendorf OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: DP01 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP01-02

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 4' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 6' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/17/96 TIME: 12:00

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
8 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
8 oz	Glass	2x	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
8 oz	Brass	1	Ice	SW5030	SW8260	Volatile Organics
	Sleeve					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 176	COLOR: dk brown to black	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ CLOUDY/RAIN ✓ WIND DIRECTION ____ TEMPERATURE ~50°

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO:

COMMENTS:

SAMPLER: [illegible] OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: DP02 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP02-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 0' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 2' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/17/9 TIME: 15:30

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	Glass ~~Brass~~	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st Ø	COLOR: dk brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~33°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: L. McReynolds OBSERVER: L. Myers

464 84

FIELD SAMPLING REPORT

LOCATION: DP0 ~~1~~ 3 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP03-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 4' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 6' YES: ✓ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/17/98 TIME: 12:30

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 240	COLOR: dk brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~55°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. McLeod OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: DP03 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP03-02

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 6' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 8' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/17/98 TIME: 17:40

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	~~1~~ 2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 202	COLOR: brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~55°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. McLemore OBSERVER: L. Myers

464 86

FIELD SAMPLING REPORT

LOCATION: DP03 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP03-03

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF: RR-SO-DP03-01

BEGINNING DEPTH: 4' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 6' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/17/98 TIME: ~~17:40~~ 17:30 am

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 240	COLOR: dk brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ____ WIND DIRECTION ____ TEMPERATURE ~55°

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: ____

COMMENTS: ____

SAMPLER: D. Reynolds OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: DP04 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP04-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 0' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 2' YES: ✓ NO:

GRAB: X COMPOSITE: DATE: 2/10/98 TIME: 11:10

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	~~1~~ 2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 2.5	COLOR: tan to brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN___ WIND DIRECTION ___ TEMPERATURE ~55°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: C. McReynolds OBSERVER: L. Myers

464 88

FIELD SAMPLING REPORT

LOCATION: DP05 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP05-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 0' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 1.5' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/10/98 TIME: 11:35

CONTAINER			PRESERVATIVE/	EXTRACTION	ANALYTICAL	
SIZE	TYPE	#	PREPARATION	METHOD	METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	Sleeve					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 2.3	COLOR: tan to light brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~55°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. McKeymoles OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: DP0 6 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP0 6-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 0' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 0.5' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/18/98 TIME: 12:15

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2 ~~1~~	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	Glass ~~Brass~~	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 6.0	COLOR: lt gray to dark gray	
2nd	ODOR: none	
	OTHER: very rocky	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~~[illegible]~~

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. McReynolds OBSERVER: L. Myers

464 90

FIELD SAMPLING REPORT

LOCATION: DP07 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP07-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 0' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 2.' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/18/98 TIME: 12:30

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS		SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	0.0	COLOR: brown to tan	
2nd		ODOR: odor	
		OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~60°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO: ___

COMMENTS: ___

SAMPLER: R. McReynolds OBSERVER: L. Myers.

FIELD SAMPLING REPORT

LOCATION: DP08 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP08-01

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 1' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 3' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 8/18/98 TIME: 5:55

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 0.2	COLOR: brown to reddish brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~40°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. McNamee OBSERVER: L. Myers

464 92

FIELD SAMPLING REPORT

LOCATION: DP08 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: SO SAMPLE ID: RR-SO-DP08-02

SAMPLING METHOD: GP (Geoprobe) DUP./REP. OF:

BEGINNING DEPTH: 3' MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 5' YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/18/98 TIME: 9:50

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
4 oz	Glass	1	Ice	SW3050	SW6010	Metals
					SW7421/7471	Lead, Mercury
~~8~~ 4 oz	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
~~8~~ 4 oz	Glass	2 +	Ice	SW3550	SW8080	Pesticides/PCBs
				SW3550	SW8270	Semivolatile Organics
~~8~~ 4 oz	~~Brass~~ Glass	1	Ice	SW5030	SW8260	Volatile Organics
	~~Sleeve~~					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st 2.6	COLOR: brown to reddish brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~40°

SHIPMENT VIA: FED-X _X_ HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. Mitchell OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: FieldQC PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: WQ SAMPLE ID: RR-WQ-AB-01

SAMPLING METHOD: NA DUP./REP. OF:

BEGINNING DEPTH: 0.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 0.0 YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/18/98 TIME: 9:25

CONTAINER			PRESERVATIVE/	EXTRACTION	ANALYTICAL	
SIZE	TYPE	#	PREPARATION	METHOD	METHOD	ANALYSIS
40 mL	Glass	2	HCl to pH < 2, Ice	SW5030	SW8260	Volatile Organics
	Vial					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st —	COLOR: clear	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~~60~~ 50°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A. McReynolds OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: FieldQC PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: WQ SAMPLE ID: RR-WQ- AB-03

SAMPLING METHOD: NA DUP./REP. OF:

BEGINNING DEPTH: 0.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 0.0 YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/16/98 TIME: 13:45

CONTAINER			PRESERVATIVE/	EXTRACTION	ANALYTICAL	
SIZE	TYPE	#	PREPARATION	METHOD	METHOD	ANALYSIS
40 mL	Glass	2+	HCl to pH < 2, Ice	SW5030	SW8260	Volatile Organics
	Vial					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st	COLOR: clear	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN___ WIND DIRECTION ___ TEMPERATURE ~60

SHIPMENT VIA: FED-X _X_ HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO:

COMMENTS:

SAMPLER: A. McDonald OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: FieldQC PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: WQ SAMPLE ID: RR-WQ-EB-01

SAMPLING METHOD: NA DUP./REP. OF:

BEGINNING DEPTH: 0.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 0.0 YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 9/10/98 TIME: 14:10

CONTAINER SIZE	CONTAINER TYPE	CONTAINER #	PRESERVATIVE/ PREPARATION	EXTRACTION METHOD	ANALYTICAL METHOD	ANALYSIS
500 mL	Poly	1	HNO3 to pH < 2,	SW3015	SW6010	Metals
			Ice		SW7421/7470	Lead, Mercury
1 liter	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
1 liter	Glass	1	Ice	SW3520	SW8080	Pesticides/PCBs
1 liter	Glass	2	Ice	SW3520	SW8270	Semivolatile Organics
40 mL	Glass	2	HCl to pH < 2, Ice	SW5030	SW8260	Volatile Organics
	Vial					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st –	COLOR: clear	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ____ WIND DIRECTION ____ TEMPERATURE ~60°

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO:

COMMENTS:

SAMPLER: A. McReynolds OBSERVER: L. Myers

464 96

FIELD SAMPLING REPORT

LOCATION: FieldQC PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: WQ SAMPLE ID: RR-WQ-TB-01

SAMPLING METHOD: NA DUP./REP. OF:

BEGINNING DEPTH: 0.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 0.0 YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/17/96 TIME: 7:45

CONTAINER			PRESERVATIVE/	EXTRACTION	ANALYTICAL	
SIZE	TYPE	#	PREPARATION	METHOD	METHOD	ANALYSIS
40 mL	Glass	2	HCl to pH < 2, Ice	SW5030	SW8260	Volatile Organics
	Vial					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st —	COLOR: clear	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ____ CLOUDY/RAIN ✓ WIND DIRECTION ____ TEMPERATURE ~40°

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO:

COMMENTS:

SAMPLER: R. Middleton OBSERVER: L. Myers

FIELD SAMPLING REPORT

LOCATION: FieldQC PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: WQ SAMPLE ID: RR-WQ-TB-03

SAMPLING METHOD: NA DUP./REP. OF:

BEGINNING DEPTH: 0.0 MATRIX SPIKE MATRIX SPIKE DUPLICATE

END DEPTH: 0.0 YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 2/12/96 TIME: 7:25

CONTAINER			PRESERVATIVE/	EXTRACTION	ANALYTICAL	
SIZE	TYPE	#	PREPARATION	METHOD	METHOD	ANALYSIS
40 mL	Glass	2	HCl to pH < 2, Ice	SW5030	SW8260	Volatile Organics
	Vial					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st —	COLOR: clear	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ____ WIND DIRECTION ____ TEMPERATURE ~45°

SHIPMENT VIA: FED-X X HAND DELIVER ____ COURIER ____ OTHER ____

SHIPPED TO: ____

COMMENTS: ____

SAMPLER: [illegible] OBSERVER: L. Myers

464 98

FIELD SAMPLING REPORT

LOCATION: CS1 PROJECT: 3103-001

SITE: Carswell RRRW

SAMPLE INFORMATION

MATRIX: WG SAMPLE ID: RR-WG-DC01-01

SAMPLING METHOD: G DUP./REP. OF:

BEGINNING DEPTH: 0.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE

END DEPTH: 0.0 YES: ____ NO: ✓

GRAB: X COMPOSITE: ____ DATE: 21 10 98 TIME: 14:00

CONTAINER			PRESERVATIVE/	EXTRACTION	ANALYTICAL	
SIZE	TYPE	#	PREPARATION	METHOD	METHOD	ANALYSIS
500 mL	Poly	1	HNO3 to pH < 2,	SW3015	SW6010	Metals
			Ice		SW7421/7470	Lead, Mercury
1 liter	Glass	1	Ice		E418.1	Total Petroleum Hydrocarbons
1 liter	Glass	1	Ice	SW3520	SW8080	Pesticides/PCBs
1 liter	Glass	2	Ice	SW3520	SW8270	Semivolatile Organics
40 mL	Glass	2	HCl to pH < 2, Ice	SW5030	SW8260	Volatile Organics
	Vial					

NOTABLE OBSERVATIONS

PID READINGS	SAMPLE CHARACTERISTICS	MISCELLANEOUS
1st —	COLOR: lt brown	
2nd	ODOR: none	
	OTHER:	

GENERAL INFORMATION

WEATHER: SUN/CLEAR ✓ CLOUDY/RAIN ___ WIND DIRECTION ___ TEMPERATURE ~40°

SHIPMENT VIA: FED-X X HAND DELIVER ___ COURIER ___ OTHER ___

SHIPPED TO:

COMMENTS:

SAMPLER: A McReynolds OBSERVER: L. Myers

APPENDIX F

BOREHOLE LOGS

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP01

CRSWL	SiteID RRRW	Location Type BOREHOLE (BH)	
Location Description On railroad tracks approximately 90 ft south of Clifford Street			
Establishing Company The Environmental Co	Geologist L. Myers	Drilling Company Maxim	
Drilling Foreman F. Robinson	Ground Surface Elevation	Datum	
Sampling Device Splitspoon (SS)	Borehole Diameter (inches) 2"	Total Depth (Feet) 14	
Date/Time Drilling Started 2/17/98 9:10	Date/Time Total Depth Reached 2/17/98 10:45		

Depth (feet)	Sampling: % Recov	Sample Depth	Blow Counts	Head space PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
				60.6		OH	LOAM	0-0.1' Humic material, black, mixed w/grass		9:10
1	(20") 83%	0-2'	–	80		GC	FILL	0.1-1.7' Silty clay, mix of gravel, silt, & clay, moist, non plastic 1.7-2.0 2.5Y 3/2 Very dark grayish brown silty clay, moist, plastic to mod. plastic		
				sleeve						
2				23.4						
				–				2.0-4.0 2.5YR 3/3 (very dark olive brown) to 2.5YR (black) Silty Clay, moist, mod. plastic to plastic, some root material, trace coarser material (sand/gravel)		9:15
3	(18") 75%	2-4'	–	23.3						RR-SO-DP01-01 Redrilled at 12:15 to get enough material for sample
				sleeve						
4				1044						
				35		MLCL	CLAY	4-6 Black silty clay, same as above, but less plastic		9:33
5	(24") 100%	4-6'	–	176						RR-SO-DP01-02
				sleeve						
6				51.1						
				1.5				6-8 Same as above, plastic, stiff very difficult to remove from brass sleeves		9:45
7	(24") 100%	6-8'	–	13.2						
				sleeve						
8				36.0						

464 101

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP01

AFIID	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description					
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman		Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	14
Date/Time Drilling Started				Date/Time Total Depth Reached	

Depth (feet)	Sampling: % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
9	(24") 100%	8-10'	–	13.1		MLCL	CLAY	8-10 same as above some chunks of limestone, also some material from higher up in the hole		10:00
				Ø						
				sleeve						
				Ø						
10										
11	(24") 100%	10-12'	–	Ø				10-11.2 Same as above 11.2-12 2.5Y 6/8 olive yellow mottled w/ light gray silty clay, moist, plastic, hard to remove from sleeve, contains $CaCO_3$ concretions		10:15
				Ø						
				sleeve						
				0.5						
12										
13	(24") 100%	12-14'	–	Ø		MLCH	CLAY	12-14 Olive yellow silty clay as above, developing saprolitic textures (flaggy limestone textures)		10:45
				Ø						
				sleeve						
				Ø						
14						CM	LS	Refusal at 14', against limestone bedrock		
15										
16										

GEOLOGIC BOREHOLE LOG

464 102

Borehole (Location) ID: DP02

Site	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	south side of Harwell Street, western section of tracks				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2"	Total Depth (Feet)	12
Date/Time Drilling Started	2/17/98 13:30	Date/Time Total Depth Reached	2/17/98 14:50		

Depth (feet)	Sampling: % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
				0.0		GC	FILL	0-0.5 Dark brown silty clay mixed with rubbles, roots, & clover		13:30 RR-SO-DP02-01 Full suite of analyses 15:30
1	(20") 83%	0-2		0.0				0.5-2 2.5Y 3/2 (very dark grayish brown) silty clay, moderately plastic, moist, traces gravel from higher in the hole, some roots		
				0.7						
2				0.0						
		2-4				MLCL	CLAY	2-4 Same as above		13:35
3	(15") 62.5%			1.2						
4										
								4-6 same as above, trace fine gravel, trace concretions, some limestone chips in shoe, roots		14:15
5	(24") 100%	4-6		0.5						
6										
								6-6.2 Same as above		14:20
7	(24") 100%	6-8		Ø		MLCL	CLAY	6.2-8 Mottled pale gray & 2.5Y 8/4 (pale yellow) silt and clay, non-plastic to moderately plastic, crumbly, damp, mixed w/indurated patches of limestone		
8										

464 103

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP0 2

AFIID	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	South of Harwell Street, western section of tracks				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	12
Date/Time Drilling Started	2/17/98 13:30	Date/Time Total Depth Reached	2/17/98 14:50		

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
9	24" (100%)	8-10		Ø		MCL	CLAY	8-10 Same as above, except patches of indurated limestone are thicker and more frequent		14:35
10								10-12 same as above		14:50
11	24" (100%)	10-12		Ø						+ Water at 11 feet
12								Hole stopped because we hit water at 11 feet bgs		
13										
14										
15										
16										

GEOLOGIC BOREHOLE LOG

464 104

Borehole (Location) ID: DP0 3

CRSWL		SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	North of Farmers Branch, just north of convergence of track sections				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	12
Date/Time Drilling Started	2/17/98 15:45			Date/Time Total Depth Reached	2/17/98 17:10

Depth (feet)	Sampling: % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
1	(21") 87.5%	0-2		Ø		OH	LOAM	0-0.4' Organic clayd silt mixed with roots & plant material		15:45
						GM	FILL	0.4-1.1' Gravel, cobbles, silt, some roots -- material added for railroad track bed		
2								1.1-2.0 Silty clay, 2.5Y 5/3 (light olive brown), mod. plastic, stiff, trace gravel & root material, patches of white $CaCO_3$ (concretions); gravel fm up in the hole		
3	(18") 75%	2-4'		Ø		MLCL	CLAY	2-4 Same as above, except more gravel in with the silty clay -- less of the material seems to be fall fm above & is actually part of the in situ material, moist		16:00
4										
5	(24") 100%	4-6'		240				4-4.5' Same as above 4.5-6' Silty clay, 2.5Y 3/2 (very dark grayish brown) to black, stiff, mod. plastic to plastic, trace $CaCO_3$ concretions, very small, & roots (no cobbles or gravel), moist		16:20 RR-SO-DP02-01 RR-SO-DP02-03 (duplicate)
6						MLCL	CLAY			
7	(24") 100%	6-8'		202				6-8 Silty clay, similar to above, but lighter in color -- 2.5Y 4/4 (olive brown), moist, mod. plastic, contains very small $CaCO_3$ concretions, plus a high volume % of limestone fragments, most angular		16:40 RR-SO-DP02-02
8										

464 105

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP03

AFIID	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	North of Farmers Branch, just north of convergence of track sections				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	12
Date/Time Drilling Started	2/17/98 15:45	Date/Time Total Depth Reached	2/17/98 17:10		

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
9	(24") 100%	8-10'		Ø		MLCL	CLAY	8-9' Same as above, although color becomes light olive brown 9-10 chunks of limestone held together with silty clay, pale gray to pale yellow or orange in color, limestone fragments over 50% of the material		16:55
10										
11	(24") 100%	10-12'		4.5		MLCL	CLAY	10-12 Pale gray to pale orange silty clay, with zones of more indurated limestone; some patches of the clay have the texture of flaggy limestone plus remnants of ls structures; some darker zones near 10' with $CaCO_3$ concretions		17:10
12						CM	LS	Refusal at 12' bgs against limestone bedrock		
13										
14										
15										
16										

GEOLOGIC BOREHOLE LOG

464 106

Borehole (Location) ID: DP04

CRSWL		SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	West side of Carswell AFB runway, northernmost borehole				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	3
Date/Time Drilling Started	2/18/98 10:45	Date/Time Total Depth Reached	2/18/98 10:50		

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/ lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
1	(24") 100%	0-2'		25		MLCL	CLAY	0-3' Silty clay, 2.5 Y 7/4 (pale yellow), dry, all fines (no coarse material), has flaggy limestone texture and some remnants of limestone structures, very stiff, non-plastic -- often breaks or crumbles		10:45, more material for MS/MSD collected at 11:05 RR-SO-DP04-01 plus MS/MSD
2										10:50
3	(12") 100%	2-3'		3.3						
4						CM	LS	Refusal against bedrock at 3' (limestone)		
5										
6										
7										
8										

464 107

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP05

AFIID	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	West side of Carswell AFB runway, middle borehole				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman		Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	1.5
Date/Time Drilling Started	2/18/98 11:30	Date/Time Total Depth Reached	2/18/98 11:35		

Depth (feet)	Sampling: % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
1	(18") 100%	0-1.5'		2.3		MLCL	CLAY	0-1.5' Pale gray to pale brown silty Clay, wet (water in ditch to south), mod. plastic, contains chunks of limestone & patches w/ limestone texture. Upper 1" contains humic material		11:30 RR-SO-DP05-01
2						CM	LS	Hit refusal against limestone bedrock. Felton drilled twice to get enough material for a sample		11:35
3										
4										
5										
6										
7										
8										

GEOLOGIC BOREHOLE LOG

464 108

Borehole (Location) ID: DP06

A. CRSWL	SiteID RRRW	Location Type BOREHOLE (BH)	
Location Description West side of Carswell AFB runway, southernmost borehole			
Establishing Company The Environmental Co	Geologist L. Myers	Drilling Company Maxim	
Drilling Foreman F. Robinson	Ground Surface Elevation	Datum	
Sampling Device Splitspoon (SS)	Borehole Diameter (inches) 2"	Total Depth (Feet) 0.75	
Date/Time Drilling Started 2/18/98 11:55	Date/Time Total Depth Reached 2/18/98 12:05		

Depth (feet)	Sampling: % Recov	Sampling: Sample Depth	Sampling: Blow Counts	Sampling: PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
	(9") 100%	0 - 0.75'		Ø initial		MLCL	STCL	Pale yellow to pale gray silt and clay mixed with chunks of limestone; upper 1" has some humic material		11:55, more material at 12:05
1						CM	LS	Refusal at 0.75' against bedrock		RR-SO-DPØ6-Ø1
2										
3										
4										
5										
6										
7										
8										

464 179

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP07

AFIID	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	South side of Carswell AFB runway				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	2
Date/Time Drilling Started	2/18/98 12:20	Date/Time Total Depth Reached	2/18/98 12:25		

Depth (feet)	Sampling: % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
	(24") 100%	0-2'		Ø initial		OH	LOAM	0-0.75 Organic silt & clay, dark brown to black with grass & roots		12:25 RR-SO-DPØ7-Ø1
1						MLCL	CLAY	0.75-2.0 Pale yellow to light brown silty clay, moist, moderately plastic, zones of more indurated material mixed in, but few chunks of rock		
2						CM	LS	Hit refusal at 2.0' bgs -- limestone bedrock		
3								* Had to place sample in the ditch between railroad tracks and dirt road -- couldn't get the rig any closer to the tracks, & the Lone Star Gas pipeline ran along the dirt road		
4										
5										
6										
7										
8										

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP08

AF	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	West of Ridgmar Mall, on spur leading off to AFP4				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2	Total Depth (Feet)	14
Date/Time Drilling Started	2/18/98 8:00	Date/Time Total Depth Reached	2/18/98 9:15		

Depth (feet)	Sampling: % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description: SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability/fracturing	Strat-order	Remarks: Drilling Problems, Equipment, Water levels, Samples, Weather, Time
1								Roadbed gravel from railroad -- removed w/shovel		
2	(15") 62.5%	1-3'		0.2		MLCL	CLAY	Silty clay, 2.5Y 5/4 (light olive brown), moist, mod. plastic to plastic, not stiff, mixed with gravel & cobbles from the RR road bed		8:00 RR-SO-DP08-01
3										
4	(24") 100%	3-5'		2.6				3-5 Clayey Silt, N5 (gray) to 5B 5/1 (bluish gray), silt w/some clay, moist, some fine gravel, some cobbles/gravel fall up in the hole, non-plastic but soft		8:05 RR-SO-DP08-02
5										
6	(24") 100%	5-7"		4.0		MLCL	STCL	5-7 Silty Clay, N5 (gray) to N7 (light gray) silt and clay mix, up to 50% of the material can be patches of black material which may be organics or burned material, some fine gravel, minor $CaCO_3$ concretions		8:15
7										
8	(24") 100%	7-9'		2.5				7-8.5 Same as above, some zones of solid black material		8:30

464 111

GEOLOGIC BOREHOLE LOG

Borehole (Location) ID: DP08

ID	CRSWL	SiteID	RRRW	Location Type	BOREHOLE (BH)
Location Description	West of Ridamar Mall, on spur leading off to AFP4				
Establishing Company	The Environmental Co	Geologist	L. Myers	Drilling Company	Maxim
Drilling Foreman	F. Robinson	Ground Surface Elevation		Datum	
Sampling Device	Splitspoon (SS)	Borehole Diameter (inches)	2"	Total Depth (Feet)	14'
Date/Time Drilling Started	2/18/98 8:00	Date/Time Total Depth Reached	2/18/98 9:15		

Depth (feet)	Sampling % Recov	Sample Depth	Blow Counts	PID	USCS	ASTM CODE	Lithologic Codes	Lithology Description SOIL TYPE, modifiers/grain size, sorting, color, cement/lithification, moisture content, porosity, permeability fracturing	Strat-order	Remarks, Drilling Problems, Equipment, Water levels, Samples, Weather, Time
						MLCL	STCL	8.5-9 Dark gray to dark brown silty clay, traces fine gravel, no black patches		
9	(24") 100%	9-11'		2.9				9-11 Silty Clay 2.5Y 3/2 (very dark grayish brown), moist, stiff, mod. plastic, traces fine gravel, traces $CaCO_3$ concretions & streaks of carbonate		8:45
10										
11						MLCL	CLAY			
12	(24") 100%	11-13'		2.2				11-13 Same as above, with color varying to dark gray, chunks of limestone present, also $CaCO_3$ concretions which can get up to 2 mm across		9:00
13										
14	(12") 100%	13-14'		1.6				13-14 Same as above		9:15
15						CM	LS	Refusal at 14' at limestone		
16										

DRAFT

464 112

APPENDIX G

CONTACT REPORTS

The Environmental Company, Inc.

CONTACT REPORT

464 113

Project Name: Carswell Field RRRW Project No.: F3103_1

Person Contacted: Olen Long

Title: Installation Management Officer

Agency: AFBCA

Address:

Telephone No.: (817) 731-8284 Facsimile No.:

Contacted By: Deborah Petrak Date Contacted: 3 Sept 1997

Telephone: [ ] Personal Visit: [X]

Summary of Contact: Carswell Field Railroad Right of Way History and Background Survey

Additional Detailes: Shipments included TCE, cleaning fluids, dry cleaning fluids, metal parts, raw materials and "tremendous amounts" of jet and diesel fuel. Acids for plating and anodizing as well as scrap metal and filings for out-shipping were delivered to SysCom (AFF4). Some acids were also shipped to Carswell. Staging of railroad cars containing fuels, etc occurred along 183, runway and south of AFF4. Switching of cars occurred south of AFF4, ~~and~~ along Vickery Blvd. and between Route 183 and Highway 30 (north of Mall area). Mr. Long didn't anticipate contamination along 183 or between 183/30 switching area and Vickery Blvd.

464 114

The Environmental Company, Inc.

CONTACT REPORT

Project Name: Carswell Field RRRW Project No.: F3103-1

Person Contacted: Travis Rainwater

Title: Longtime Lockheed Employee

Agency: AF Plant 4

Address:

Telephone No.: Facsimile No.:

Contacted By: Deborah Petrak Date Contacted: 3 Sept 1997

Telephone: ☐ Personal Visit: ☒

Summary of Contact: Carswell Field Railroad Right of Way History and Background Survey

Additional Detailes: No spills occurred from Clifford to Vickery. Shipments included No. 2 fuel oil and jet fuel.

The Environmental Company, Inc.

CONTACT REPORT

464 115

Project Name: Carswell Field RRRW Project No.: f3103-1

Person Contacted: Gerald Cumby

Title: Director of Transportation

Agency: Lockheed

Address:

Telephone No.: (817) 777-6893 Facsimile No.:

Contacted By: Deborah Petrak Date Contacted: 3 Sept 1997

Telephone: [X] Personal Visit: [ ]

Summary of Contact: Carswell Field Railroad Right of Way History and Background Survey

Additional Detailes: Shipments included waste metal and possibly metal filings. Contractors would pick up material in trucks.

The Environmental Company, Inc.

CONTACT REPORT

Project Name: Carswell Field RRRW Project No.: P3103_1

Person Contacted: Ed Daniels

Title: Environmental/Spill Coordinator

Agency: Lockheed

Address:

Telephone No.: (817) 777-6951 Facsimile No.:

Contacted By: Deborah Petrak Date Contacted: 3-4 Sept 1997

Telephone: [X] Personal Visit: [ ]

Summary of Contact: Carswell Field Railroad Right of Way History and Background Survey

Additional Detailes: Last 13 years no "environmental" concerns (ie. spills). 1990 last of fuel oil sold. Lockheed only responsible for tracks within fenced Lockheed area (AFPA) - 3 Sept 1997

Last train to enter property was 6-7 years ago (~1990-1991). Shipments would be unloaded ~~and~~ immediately and train would leave. There were no overnight stays. Shipments included bulk chemicals (Sodium Hydroxide - 50% solution; sulfuric acid; nitric acid; TCE - 4 Sept 1997

DRAFT

APPENDIX H

SOIL GAS ANALYSIS REPORT

W. L. GORE & ASSOCIATES, INC.

Creative Technologies Worldwide

100 CHESAPEAKE BLVD., P.O. BOX 10 • ELKTON, MARYLAND 21922-0010 • PHONE: 410/392-7600
FAX: 410/506-4780

GORE-SORBER® EXPLORATION SURVEY
GORE-SORBER® SCREENING SURVEY

GORE-SORBER® Screening Survey
Final Report

Ft. Worth NAS
Ft. Worth, TX

February 23, 1998

Gore Production Order No. 092673

Prepared For:
The Environmental Company
710 Northwest Juniper St., Suite 208
Issaquah, WA 98027

W.L. Gore & Associates, Inc.

Written/Submitted by:
Jay W. Hodny, M.S., Project Manager

Reviewed/Approved by:
Ray F. Fenstermacher, P.G., Project Manager

Analytical Data Reviewed by:
Jim E. Whetzel, Chemist

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GORE-SORBER® Screening Survey
Final Report

REPORT DATE: February 23, 1998 **AUTHOR:** JWH

SITE INFORMATION

Site Reference: Ft. Worth NAS, Ft. Worth, TX
Customer Purchase Order Number: Verbal
Gore Production Order Number: 092673 **Gore Site Code:** AJT

FIELD PROCEDURES

 # Modules shipped: 85
Installation Date(s): 12/3,4,5/97 **# Modules Installed:** 80
Field work performed by: The Environmental Company

Retrieval date(s): 12/17,18/97 **Exposure Time:** 14 [days]
 # Modules Retrieved: 80 **# Trip Blanks Returned:** 5
 # Modules Lost in Field: 0 **# Unused Modules Returned:** 0

Date/Time Received by Gore: 12/19/97 @ 12:30 PM **By:** TS
Recorded Cooler/Water Temperature Control Blank temperature: 4.2 [°C]
Chain of Custody Form attached: √
Chain of Custody discrepancies: None
Comments:
Module #149564 had a piece of adhesive tape attached to the insertion pocket in the module cord. Volatile organic compounds present in the tape adhesive may have impacted the the soil gas results.

GORE-SORBER® Screening Survey
Final Report

ANALYTICAL PROCEDURES

W.L. Gore & Associates' Screening Module Laboratory operates under the guidelines of its Quality Assurance Manual, Operating Procedures and Methods. The quality assurance program is consistent with Good Laboratory Practices (GLP) and ISO Guide 25, "General Requirements for the Competence of Calibration and Testing Laboratories", third edition, 1990. The Laboratory is audited regularly by a quality system design, development and auditing company.

Instrumentation consists of state of the art gas chromatographs equipped with mass selective detectors, coupled with automated thermal desorption units. Sample preparation simply involves cutting the tip off the bottom of the sample module and transferring one or more exposed sorbent containers (sorbers, each containing 40mg of a suitable granular adsorbent) to a thermal desorption tube for analysis. Sorbers remain clean and protected from dirt, soil, and ground water by the insertion/retrieval cord, and require no further sample preparation. Samples remain frozen until analysis and unanalyzed sorbers are archived in the freezer for potential future analysis.

Analytical Method Quality Assurance:
The analytical method employed is a modified EPA method 8260A/8270B. Before each run sequence, two instrument blanks, a sorber containing 5µg BFB (Bromofluorobenzene), and a method blank are analyzed. The BFB mass spectra must meet the criteria set forth in the method before samples can be analyzed. A method blank and a sorber containing BFB is also analyzed after every 30 samples and/or trip blanks. Standards containing the selected target compounds at three calibration levels of 5, 20, and 50µg are analyzed at the beginning of each run. The criterion for each target compound is less than 35% RSD (relative standard deviation). If this criterion is not met for any target compound, the analyst has the option of generating second- or third-order standard curves, as appropriate. A second-source reference standard, at a level of 20µg per target compound, is analyzed after every ten samples and/or trip blanks, and at the end of the run sequence. Positive identification of target compounds is determined by 1) the presence of the target ion and at least two secondary ions; 2) retention time versus reference standard; and, 3) the analyst's judgment.

NOTE: All data have been archived. Any replicate sorbers not used in the initial analysis will be discarded fifteen (15) days from the date of analysis.

Laboratory analysis: thermal desorption, gas chromatography, mass selective detection
Quality Assurance Level: 2 (ANA-4/A1)
Instrument ID: # 3 **Chemist:** JW **Data Subdirectory:** 092673
Compounds/mixtures requested: Gore Standard VOC/SVOC Target Compounds (A1)
Deviations from Standard Method: None
Comments: Soil vapor analytes and abbreviations are tabulated in the Data Table Key (page 6).

GORE-SORBER® Screening Survey
Final Report

DATA TABULATION

 # CONTOUR MAPS ENCLOSED: Two (2) B-sized proportional symbol plots
LIST OF MAPS ENCLOSED:

- Benzene, Toluene, Ethyl benzene, and total Xylenes (BTEX)
- Undecane, Tridecane, and Pentadecane (C11,C13&C15)

NOTE: All data values presented in Appendix A represent masses of compound(s) desorbed from the GORE-SORBER Screening Modules received and analyzed by W.L. Gore, as identified in the Chain of Custody (Appendix A). The measurement traceability and instrument performance are reproducible and accurate for the measurement process documented. Semi-quantitation of the compound mass is based on either a single-level (QA Level 1) or three-level (QA Level 2) standard calibration.

General Comments:

- This survey reports soil gas mass levels present in the vapor phase. Vapors are subject to a variety of attenuation factors during migration away from the source concentration to the module. Thus, mass levels reported from the module will often be less than concentrations reported in soil and groundwater matrix data. In most instances, the soil gas masses reported on the modules compare favorably with concentrations reported in the soil or groundwater (e.g., where soil gas levels are reported at greater levels relative to other sampled locations on the site, matrix data should reveal the same pattern, and vice versa). However, due to a variety of factors, a perfect comparison between matrix data and soil gas levels can rarely be achieved.
- Soil gas signals reported by this method cannot be identified to soil adsorbed, groundwater, and/or free-product contamination. The soil gas signal reported from each module can evolve from all of these sources. Differentiation between soil and groundwater contamination can only be achieved with prior knowledge of the site history (i.e., the site is known to have groundwater contamination only).
- Currently, soil gas surveys are not designed to replace soil or groundwater matrix sampling. Following a soil gas survey, matrix sampling is recommended in select areas to establish the nature of the contamination (i.e., soil, groundwater, or both), and the relationship to the soil gas levels.

GORE-SORBER® Screening Survey
Final Report

- QA/QC trip blank modules were provided to document contamination occurring that was not part of the soil gas signal of interest (i.e., impact during module shipment, installation and retrieval, and storage). The trip blanks are identically manufactured and packaged soil gas modules to those modules placed in the subsurface. However, the trip blanks remain unopened during all phases of the soil gas survey. Levels reported on the trip blanks may indicate potential impact to modules other than the contaminant source of interest.
- Unresolved peak envelopes (UPEs) are represented as a series of compound peaks clustered together around a central GC elution time in the total ion chromatogram. Typically, UPEs are indicative of complex fluid mixtures that are present in the subsurface. UPEs observed early in the chromatogram are considered to indicate the presence of more volatile fluids, while UPEs observed later in the chromatogram may indicate the presence of less volatile fluids. Multiple UPEs may indicate the presence of multiple complex fluids. Attenuation of the VOC/SVOC soil gas components may suggest the presence of a less volatile fluid, when in fact, a more volatile fluid existed but the volatile components have weathered away.

Project Specific Comments:

- A piece of duct tape had been attached to the insertion pocket on module #149564. The presence of volatile organic compounds in the adhesive may have contributed some vapor signal to the vapor results. This is unfortunate as the highest levels of BTEX were reported in this module.
- Stacked total ion chromatograms (TICs) are included in Appendix A. The last three digits of each module number are incorporated into the TIC identification (e.g.: AJT514TC.D represents module #149514).
- No trip or method blank levels were reported for any target compounds.
- The soil gas masses were reported in low or non-detect levels for all of the target compounds.
- The soil gas sampling was largely performed in linear transects that are not conducive to contour plotting. Therefore, proportional symbol plots of for BTEX and the diesel range alkanes (undecane, tridecane, and pentadecane) were generated.

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GORE-SORBER® Screening Survey
Final Report

KEY TO DATA TABLE
Ft. Worth NAS, Ft. Worth, TX

UNITS

µg	micrograms (per sorber), reported for compounds
MDL	method detection limit
bdl	below detection limit
nd	non-detect

ANALYTES

BTEX	combined masses of benzene, toluene, ethylbenzene and total xylenes (Gasoline Range Aromatics)
BENZ	benzene
TOL	toluene
EtBENZ	ethylbenzene
mpXYL	m-, p-xylene
oXYL	o-xylene
C11,C13&C15	combined masses of undecane, tridecane, and pentadecane (C11+C13+C15) (Diesel Range Alkanes)
UNDEC	undecane
TRIDEC	tridecane
PENTADEC	pentadecane
TMBs	combined masses of 1,3,5-trimethylbenzene and 1,2,4-trimethylbenzene
135TMB	1,3,5-trimethylbenzene
124TMB	1,2,4-trimethylbenzene
ct12DCE	cis- & trans-1,2-dichloroethene
t12DCE	trans-1,2-dichloroethene
c12DCE	cis-1,2-dichloroethene
NAPH&2-MN	combined masses of naphthalene and 2-methyl naphthalene
NAPH	naphthalene
2MeNAPH	2-methyl naphthalene
MTBE	methyl t-butyl ether
11DCA	1,1-dichloroethane
$CHCl_3$	chloroform
111TCA	1,1,1-trichloroethane
12DCA	1,2-dichloroethane
CCl_4	carbon tetrachloride
TCE	trichloroethene
OCT	octane
PCE	tetrachloroethene
ClBENZ	chlorobenzene
14DCB	1,4-dichlorobenzene

BLANKS

TBn	unexposed trip blanks, travels with the exposed modules
method blank	QA/QC module, documents analytical conditions during analysis

APPENDIX A:

1. CHAIN OF CUSTODY
2. DATA TABLE
3. STACKED TOTAL ION CHROMATOGRAMS
4. COLOR SYMBOL MAPS

464 125

GORE-SORBER® Screening Survey Chain of Custody

For W.L. Gore & Associates use only
Production Order # 092673

W. L. Gore & Associates, Inc., Environmental Products Group
101 Lewisville Road • Elkton, Maryland 21921 • Tel: (410) 392-3300 • Fax (410) 996-3325

Instructions: Customer must complete ALL shaded cells

Customer Name: The Environmental Company	Site Name: Ft. Worth NAS
Address: 710 Northwest Juniper St. Suite 208 Issaquah, WA 98027	Site Address: Ft. Worth, TX
	Project Manager: ~~Alan Flots~~ Bob Duffner
Phone: (425) 557-7899	Customer Project No.: P3103-S22
FAX: (425) 557-7878	Customer P.O. #: Verbal Quote #: BK

Serial # of Modules Shipped					
# 149514	through	# 149518	# of Modules for Installation 80	# of Trip Blanks 5	
# 149521	through	# 149571	Total Modules Shipped: 85		Pieces
149577	through	# 149605	Total Modules Received: 85		Pieces (DLP)
			Total Modules Installed: 80 5 trip blanks		Pieces
#	through	#	Serial # of Trip Blanks (*Client Decides*)		#
#	through	#	# 149535	# 149538	#
GORE ANALYTICAL OPTION: [A A7]			# 149536	# 149539	#
			# 149537	#	#

Installation Performed By:	Installation Method(s) (circle those that apply):
Name (*please print*): D. PETRAK + J. GREEN	Slide Hammer (Hammer Drill) Auger
Company/Affiliation: THE ENVIRONMENTAL CO., INC. (TEC)	Other:

Installation Start Date and Time:	12 / 3 / 97	10:00	(AM) PM
Installation Complete Date and Time:	12 / 5 / 97	12:10	AM (PM)

Retrieval Performed By:	Total Modules Retrieved: 80 + 5 Trip Blanks Pieces
Name (*please print*): J. GREEN	Total Modules Lost in Field: 0 Pieces
Company/Affiliation: THE ENVIRONMENTAL CO., INC.	Total Unused Modules Returned: 0 Pieces

Retrieval Start Date and Time:	12 / 17 / 97	4:20	AM (PM)
Retrieval Complete Date and Time:	12 / 18 / 97	1:45	AM (PM)

Relinquished By John Luckin Affiliation: W.L. Gore & Associates, Inc.	Date 11/26/97	Time 13:00	Received By: D.L. Petrak Affiliation: TEC	Date 12/2/97	Time 1530
Relinquished By Jeff Green Affiliation: TEC	Date 12/18/97	Time 5:00pm	Received By: Affiliation:	Date	Time
Relinquished By Affiliation	Date	Time	Received By: Terry Shelupet Affiliation: W.L. Gore & Associates, Inc.	Date 12/19/97	Time 12:30
	Temperature of Samples When Received By Gore			4.2	°C

#97086837

GORE-SORBER® Screening Survey Installation and Retrieval Log

Page 1 of 2

SITE NAME & LOCATION
Railroad - Right-Of-Way
NAS Ft Worth JRB
Carswell Field, Texas

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate)			MODULE IN WATER (check one)		COMMENTS
				LPH	ODOR	NONE	YES	NO	
1.	149564	12-3-97 1000	12/17/97 1624			X	X		RR-GS-SG01-01
2.	149565	12-3-97 1020	12/17/97 1630			X		X	RR-GS-SG02-01
3.	149566	12-3-97 1030	12/17/97 1633			X		X	RR-GS-SG03-01
4.	149567	12-3-97 1038	12/17/97 1636			X	X		RR-GS-SG04-01
5.	149568	12-3-97 1045	12/17/97 1639			X		X	RR-GS-SG05-01
6.	149569	12-3-97 1051	12/17/97 1642			X		X	RR-GS-SG06-01
7.	149570	12-3-97 1058	12/17/97 1644			X		X	RR-GS-SG07-01
8.	149571	12-3-97 1105	12/17/97 1647			X		X	RR-GS-SG08-01
9.	149577	12-3-97 1114	12/17/97 1650			X		X	RR-GS-SG09-01
10.	149578	12-3-97 1123	12/17/97 1653			X		X	RR-GS-SG10-01
11.	149579	12-3-97 1130	12/17/97 1655			X		X	RR-GS-SG11-01
12.	149580	12-3-97 1154	12/17/97 1657			X		X	RR-GS-SG12-01
13.	149581	12-3-97 1218	12/17/97 1700			X		X	RR-GS-SG13-01
14.	149582	12-3-97 1230	12/17/97 1702			X		X	RR-GS-SG14
15.	149583	12-3-97 1237	12/17/97 1705			X		X	RR-GS-SG15-
16.	149584	12-3-97 1300	12/17/97 1708			X		X	RR-GS-SG16-01
17.	149585	12-3-97 1335	12/17/97 1710			X		X	RR-GS-SG17-01
18.	149586	12-3-97 1344	12/17/97 1713			X		X	RR-GS-SG18-01
19.	149587	12-3-97 1349	12/17/97 1716			X		X	RR-GS-SG19-01
20.	149588	12-3-97 1355	12/17/97 1719			X		X	RR-GS-SG20-01
21.	149589	12-3-97 1402	12/17/97 1721			X		X	RR-GS-SG21-01
22.	149590	12-3-97 1409	12/17/97 1724			X	X		RR-GS-SG22-01
23.	149591	12-3-97 1415	12/17/97 1727			X		X	RR-GS-SG23-01
24.	149592	12-3-97 1425	12/17/97 1730			X		X	RR-GS-SG24-01
25.	149593	12-3-97 1540	12/18/97 0917			X		X	RR-GS-SG25-01
26.	149594	12-3-97 1600	12/18/97 0921			X		X	RR-GS-SG26-01
27.	149595	12-3-97 1611	12/18/97 0925			X		X	RR-GS-SG27-0
28.	149596	12-3-97 1620	12/18/97 0928			X		X	RR-GS-SG28-0
29.	149597	12-3-97 1628	12/18/97 0930			X		X	RR-GS-SG29-0
30.	149598	12-3-97 1640	12/18/97 0937			X		X	RR-GS-SG30-0
31.	149599	12-3-97 1704	12/18/97 0942			X		X	RR-GS-SG31-0
32.	149600	12-3-97 1715	12/18/97 0945			X		X	RR-GS-SG32-0
33.	149601	12-3-97 1722	12/18/97 0948			X		X	RR-GS-SG33-0
34.	149602	12-4-97 0924	12/18/97 1010			X		X	RR-GS-SG34-0
35.	149603	12-4-97 0935	12/18/97 1013			X		X	RR-GS-SG35-0
36.	149604	12-4-97 0945	12/18/97 1016			X		X	RR-GS-SG3
37.	149605	12-4-97 0952	12/18/97 1018			X		X	RR-GS-SG37-0
38.	149540	12-4-97 1002	12/18/97 1026			X		X	RR-GS-SG38-0
39.	149541	12-4-97 1020	12/18/97 1030			X		X	RR-GS-SG39-0
40.	149542	12-4-97 1032	12/18/97 1034			X		X	RR-GS-SG40-0
41.	149543	12-4-97 1045	12/18/97 1037			X		X	RR-GS-SG41-0

GORE-SORBER® Screening Survey Installation and Retrieval Log

Page 2 of 2

SITE NAME & LOCATION
Railroad-Right-Of-Way
NAS Ft Worth JRB
Carswell Field, Texas

LINE #	MODULE #	INSTALLATION DATE/TIME	RETRIEVAL DATE/TIME	EVIDENCE OF LIQUID HYDROCARBONS (LPH) or HYDROCARBON ODOR (Check as appropriate) LPH	ODOR	NONE	MODULE IN WATER (check one) YES	NO	COMMENTS
42.	149544	12-4-97 1055	12/18/97 1042			X		X	RR-GS-SG42-
43.	149545	12-4-97 1115	12/18/97 1045			X		X	RR-GS-SG43-
44.	149546	12-4-97 1135	12/18/97 1048			X		X	RR-GS-SG44-
45.	149547	12-4-97 1200	12/18/97 1059			X		X	RR-GS-SG45-
46.	149548	12-4-97 1250	12/18/97 1102			X		X	RR-GS-SG46-
47.	149549	12-4-97 1303	12/18/97 1105			X		X	RR-GS-SG47-
48.	149550	12-4-97 1353	12/18/97 1110			X		X	RR-GS-SG48-
49.	149551	12-4-97 1411	12/18/97 1113			X		X	RR-GS-SG49-
50.	149552	12-4-97 1427	12/18/97 1116			X		X	RR-GS-SG50-
51.	149553	12-4-97 1437	12/18/97 1119			X		X	RR-GS-SG51-
52.	149554	12-4-97 1453	12/18/97 1122			X		X	RR-GS-SG52-
53.	149555	12-4-97 1505	12/18/97 1125			X		X	RR-GS-SG53-
54.	149556	12-4-97 1515	12/18/97 1128			X		X	RR-GS-SG54-
55.	149557	12-4-97 1525	12/18/97 1138			X		X	RR-GS-SG55-
56.	149558	12-4-97 1537	12/18/97 1140			X		X	RR-GS-SG56-
57.	149559	12-4-97 1545	12/18/97 1145			X		X	RR-GS-SG57-
58.	149560	12-4-97 1553	12/18/97 1148			X		X	RR-GS-SG58-
59.	149561	12-4-97 1602	12/18/97 1152			X		X	RR-GS-SG59-
60.	149562	12-4-97 1615	12/18/97 1159			X		X	RR-GS-SG60-
61.	149563	12-4-97 1630	12/18/97 1204			X		X	RR-GS-SG61-
62.	149514	12-4-97 1647	12/18/97 1247			X		X	RR-GS-SG62-
63.	149515	12-4-97 1720	12/18/97 1218			X		X	RR-GS-SG63-
64.	149516	12-4-97 1738	12/18/97 1223			X		X	RR-GS-SG64-
65.	149517	12-5-97 0845	12/18/97 1232			X		X	RR-GS-SG65-
66.	149518	12-5-97 0853	12/18/97 1235			X		X	RR-GS-SG66-
67.	149521	12-5-97 0902	12/18/97 1237			X		X	RR-GS-SG67-
68.	149522	12-5-97 0911	12/18/97 1240			X		X	RR-GS-SG68-
69.	149523	12-5-97 0920	12/18/97 1243			X		X	RR-GS-SG69-
70.	149524	12-5-97 0942	12/18/97 1303			X		X	RR-GS-SG70-
71.	149525	12-5-97 0955	12/18/97 1306			X		X	RR-GS-SG71-
72.	149526	12-5-97 1010	12/18/97 1311			X		X	RR-GS-SG72-
73.	149527	12-5-97 1020	12/18/97 1314			X		X	RR-GS-SG73-
74.	149528	12-5-97 1046	12/18/97 1317			X		X	RR-GS-SG74-
75.	149529	12-5-97 1100	12/18/97 1327			X		X	RR-GS-SG75-
76.	149530	12-5-97 1110	12/18/97 1331			X		X	RR-GS-SG76-
77.	149531	12-5-97 1116	12/18/97 1335			X		X	RR-GS-SG77-
78.	149532	12-5-97 1125	12/18/97 1339			X		X	RR-GS-SG78-
79.	149533	12-5-97 1153	12/18/97 1345			X		X	RR-GS-SG79-
80.	149534	12-5-97 1210	12/18/97 1252			X		X	RR-GS-SG80-
81.									
82.									
83.									

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GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

DATE ANALYZED	MODULE NUMBER	BTEX, ug	BENZ, ug	EtBENZ, ug	TOL, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	PENTADEC, ug	UNDEC, ug	TRIDEC, ug
	MDL=	0.02	0.03	0.02	0.03	0.02	0.03	0.02	0.03	0.04	0.02
01/16/98	149514	1.09	nd	0.21	0.31	0.36	0.21	0.23	nd	0.22	bdl
01/16/98	149515	0.52	nd	0.14	0.14	0.16	0.09	0.17	nd	0.17	bdl
01/16/98	149516	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149517	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149518	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149521	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149522	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149523	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149524	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149525	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149526	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149527	0.03	nd	nd	nd	0.03	nd	0.62	0.09	0.13	0.40
01/16/98	149528	0.02	nd	nd	nd	0.02	nd	nd	nd	nd	nd
01/16/98	149529	bdl	nd	nd	nd	bdl	nd	nd	nd	nd	nd
01/16/98	149530	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149531	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149532	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149533	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149534	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149540	0.19	nd	0.06	nd	0.09	0.05	bdl	nd	bdl	nd
01/16/98	149541	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149542	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149543	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149544	0.03	nd	nd	nd	0.03	nd	nd	nd	nd	nd
01/16/98	149545	0.03	nd	nd	nd	0.03	nd	nd	nd	nd	nd
01/16/98	149546	0.05	nd	nd	nd	0.03	bdl	nd	nd	nd	nd
01/16/98	149547	0.32	nd	0.04	0.07	0.13	0.08	0.06	nd	0.06	nd
01/16/98	149548	0.63	nd	0.10	0.16	0.23	0.14	0.09	nd	0.09	nd
01/16/98	149549	1.17	nd	0.15	0.28	0.46	0.27	0.18	nd	0.18	nd
01/16/98	149550	0.43	nd	0.09	0.12	0.14	0.09	0.07	nd	0.08	nd
01/16/98	149551	1.01	nd	0.14	0.23	0.39	0.24	0.09	nd	0.09	nd
01/16/98	149552	0.75	0.04	0.16	0.19	0.22	0.14	0.06	nd	0.06	nd
01/16/98	149553	1.39	nd	0.14	0.60	0.40	0.24	0.16	nd	0.16	nd
01/16/98	149554	0.33	nd	0.07	0.08	0.11	0.07	0.03	nd	bdl	nd
01/16/98	149555	0.09	nd	nd	nd	0.06	0.03	bdl	nd	bdl	nd
01/16/98	149556	0.22	nd	0.03	0.06	0.08	0.05	bdl	nd	bdl	nd

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

DATE ANALYZED	MODULE NUMBER	BTEX, ug	BENZ, ug	EtBENZ, ug	TOL, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	PENTADEC, ug	UNDEC, ug	TRIDEC, ug
01/16/98	149557	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149558	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149559	0.15	nd	nd	0.07	0.04	0.03	nd	nd	nd	nd
01/16/98	149560	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149561	0.55	nd	0.12	0.18	0.16	0.09	0.05	nd	0.05	nd
01/16/98	149562	0.66	nd	0.17	0.19	0.19	0.11	0.05	nd	0.05	nd
01/16/98	149563	1.10	nd	0.24	0.32	0.34	0.20	0.14	nd	0.14	nd
01/15/98	149564	6.47	nd	0.81	1.29	2.48	1.89	0.48	0.12	0.16	0.20
01/15/98	149565	0.18	nd	nd	0.06	0.08	0.05	nd	nd	nd	nd
01/15/98	149566	0.28	nd	nd	0.09	0.12	0.08	bdl	nd	bdl	nd
01/15/98	149567	bdl	nd	nd	nd	nd	bdl	nd	nd	nd	nd
01/15/98	149568	0.30	nd	0.03	0.09	0.12	0.07	nd	nd	nd	nd
01/15/98	149569	0.57	nd	0.06	0.14	0.24	0.14	0.02	nd	bdl	nd
01/15/98	149570	0.07	nd	nd	nd	0.04	bdl	nd	nd	nd	nd
01/15/98	149571	0.30	nd	nd	0.08	0.14	0.08	bdl	nd	bdl	nd
01/15/98	149577	0.06	nd	nd	nd	0.04	bdl	nd	nd	nd	nd
01/15/98	149578	0.05	nd	nd	nd	0.03	bdl	nd	nd	nd	nd
01/15/98	149579	0.42	nd	0.05	0.12	0.17	0.09	0.05	nd	0.05	nd
01/15/98	149580	0.12	nd	nd	nd	0.07	0.05	bdl	nd	bdl	nd
01/15/98	149581	0.13	nd	nd	0.05	0.05	bdl	0.02	nd	bdl	nd
01/15/98	149582	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149583	0.24	nd	0.03	0.06	0.10	0.05	0.04	nd	0.04	nd
01/15/98	149584	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149585	0.24	nd	0.03	nd	0.12	0.09	0.04	nd	0.04	nd
01/15/98	149586	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149587	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149588	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149589	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149590	0.20	nd	nd	nd	0.11	0.09	nd	nd	nd	nd
01/15/98	149591	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149592	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149593	0.21	nd	nd	nd	0.14	0.08	bdl	bdl	nd	nd
01/16/98	149594	0.08	nd	nd	nd	0.05	0.03	nd	nd	nd	nd
01/16/98	149595	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149596	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149597	0.03	nd	nd	nd	0.03	nd	0.02	nd	bdl	nd
01/16/98	149598	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

464 129

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

464 130

DATE ANALYZED	MODULE NUMBER	BTEX, ug	BENZ, ug	EtBENZ, ug	TOL, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	PENTADEC, ug	UNDEC, ug	TRIDEC, ug
01/16/98	149599	0.03	nd	nd	nd	0.03	nd	0.02	nd	bdl	nd
01/16/98	149600	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149601	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149602	0.02	nd	nd	nd	bdl	nd	nd	nd	nd	nd
01/16/98	149603	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149604	bdl	nd	nd	nd	bdl	nd	nd	nd	nd	nd
01/16/98	149605	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149535	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149536	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149537	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149538	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149539	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	NUMBER	BTEX, ug	BENZ, ug	EtBENZ, ug	TOL, ug	mpXYL, ug	oXYL, ug	C11, C13, &C15, ug	PENTADEC, ug	UNDEC, ug	TRIDEC, ug
	Maximum	6.47	0.04	0.81	1.29	2.48	1.89	0.62	0.12	0.22	0.40
	Standard Dev.	0.77	0.00	0.10	0.17	0.29	0.22	0.10	0.02	0.05	0.05
	Mean	0.26	0.00	0.04	0.06	0.10	0.06	0.03	0.00	0.02	0.01

GORE SORBER SCREENING ıVEY ANALYTICAL RESULTS
THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

DATE ANALYZED	MODULE NUMBER	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug
	MDL=	0.02	0.02	0.02	0.02	0.05	0.02	0.03	0.03	0.03
01/16/98	149514	0.18	0.14	0.05	nd	nd	nd	0.11	0.05	0.06
01/16/98	149515	0.04	0.03	bdl	nd	nd	nd	0.03	bdl	bdl
01/16/98	149516	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149517	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149518	nd	nd	nd	nd	nd	nd	bdl	nd	bdl
01/16/98	149521	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149522	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149523	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149524	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149525	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149526	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149527	bdl	bdl	nd	nd	nd	nd	0.11	bdl	0.09
01/16/98	149528	bdl	bdl	nd	nd	nd	nd	nd	nd	nd
01/16/98	149529	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149530	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149531	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149532	bdl	bdl	nd	nd	nd	nd	nd	nd	nd
01/16/98	149533	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149534	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149540	0.02	bdl	bdl	nd	nd	nd	0.03	bdl	bdl
01/16/98	149541	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149542	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149543	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149544	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149545	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149546	nd	nd	nd	nd	nd	nd	nd	nd	bdl
01/16/98	149547	nd	nd	nd	nd	nd	nd	bdl	nd	bdl
01/16/98	149548	bdl	bdl	nd	nd	nd	nd	bdl	nd	bdl
01/16/98	149549	0.04	0.02	bdl	nd	nd	nd	bdl	nd	bdl
01/16/98	149550	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149551	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149552	0.02	0.02	nd	nd	nd	nd	bdl	nd	bdl
01/16/98	149553	0.02	0.02	nd	nd	nd	nd	0.03	nd	bdl
01/16/98	149554	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149555	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149556	nd	nd	nd	nd	nd	nd	nd	nd	nd

464 131

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

DATE ANALYZED	MODULE NUMBER	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug
01/16/98	149557	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149558	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149559	nd	nd	nd	nd	nd	nd	bdl	nd	bdl
01/16/98	149560	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149561	0.09	0.07	0.02	nd	nd	nd	0.03	bdl	bdl
01/16/98	149562	0.07	0.06	bdl	nd	nd	nd	0.04	bdl	bdl
01/16/98	149563	0.06	0.05	bdl	nd	nd	nd	0.04	bdl	bdl
01/15/98	149564	0.17	0.10	0.07	nd	nd	nd	0.30	0.18	0.12
01/15/98	149565	nd	nd	nd	nd	nd	nd	bdl	nd	bdl
01/15/98	149566	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149567	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149568	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149569	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149570	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149571	bdl	nd	bdl	nd	nd	nd	nd	nd	nd
01/15/98	149577	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149578	nd	nd	nd	nd	nd	nd	bdl	nd	bdl
01/15/98	149579	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149580	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149581	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149582	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149583	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149584	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149585	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149586	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149587	nd	nd	nd	nd	nd	nd	bdl	nd	bdl
01/15/98	149588	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149589	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149590	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149591	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149592	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149593	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149594	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149595	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149596	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149597	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149598	nd	nd	nd	nd	nd	nd	nd	nd	nd

464 132

GORE SORBER SCREENING 'VEY ANALYTICAL RESULTS
THE ENVIRONMENTAL . .MPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

DATE ANALYZED	MODULE NUMBER	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug
01/16/98	149599	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149600	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149601	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149602	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149603	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149604	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149605	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149535	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149536	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149537	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149538	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149539	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd
	NUMBER	TMBs, ug	124TMB, ug	135TMB, ug	ct12DCE, ug	t12DCE, ug	c12DCE, ug	NAPH&2-MN, ug	NAPH, ug	2MeNAPH, ug
	Maximum	0.18	0.14	0.07	0.00	0.00	0.00	0.30	0.18	0.12
	Standard Dev.	0.03	0.02	0.01	0.00	0.00	0.00	0.04	0.02	0.02
	Mean	0.01	0.01	0.00	0.00	0.00	0.00	0.01	0.00	0.01

464 133

GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

DATE ANALYZED	MODULE NUMBER	MTBE, ug	11DCA, ug	CHCl3, ug	111TCA, ug	12DCA, ug	CCl4, ug	TCE, ug	OCT, ug	PCE, ug	ClBENZ, ug	14DCB, ug
01/16/98	149557	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149558	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149559	bdl	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149560	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149561	0.23	nd	0.11	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149562	bdl	nd	0.10	nd	nd	nd	nd	0.11	nd	nd	nd
01/16/98	149563	bdl	nd	nd	nd	nd	nd	nd	0.19	nd	nd	nd
01/15/98	149564	nd	nd	nd	nd	nd	nd	nd	0.27	nd	nd	bdl
01/15/98	149565	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149566	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149567	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149568	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149569	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149570	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149571	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149577	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149578	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149579	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149580	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149581	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149582	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149583	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149584	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149585	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149586	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149587	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149588	nd	nd	nd	nd	nd	nd	nd	nd	0.13	nd	nd
01/15/98	149589	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149590	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149591	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149592	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149593	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149594	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149595	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149596	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149597	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149598	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd

464 134

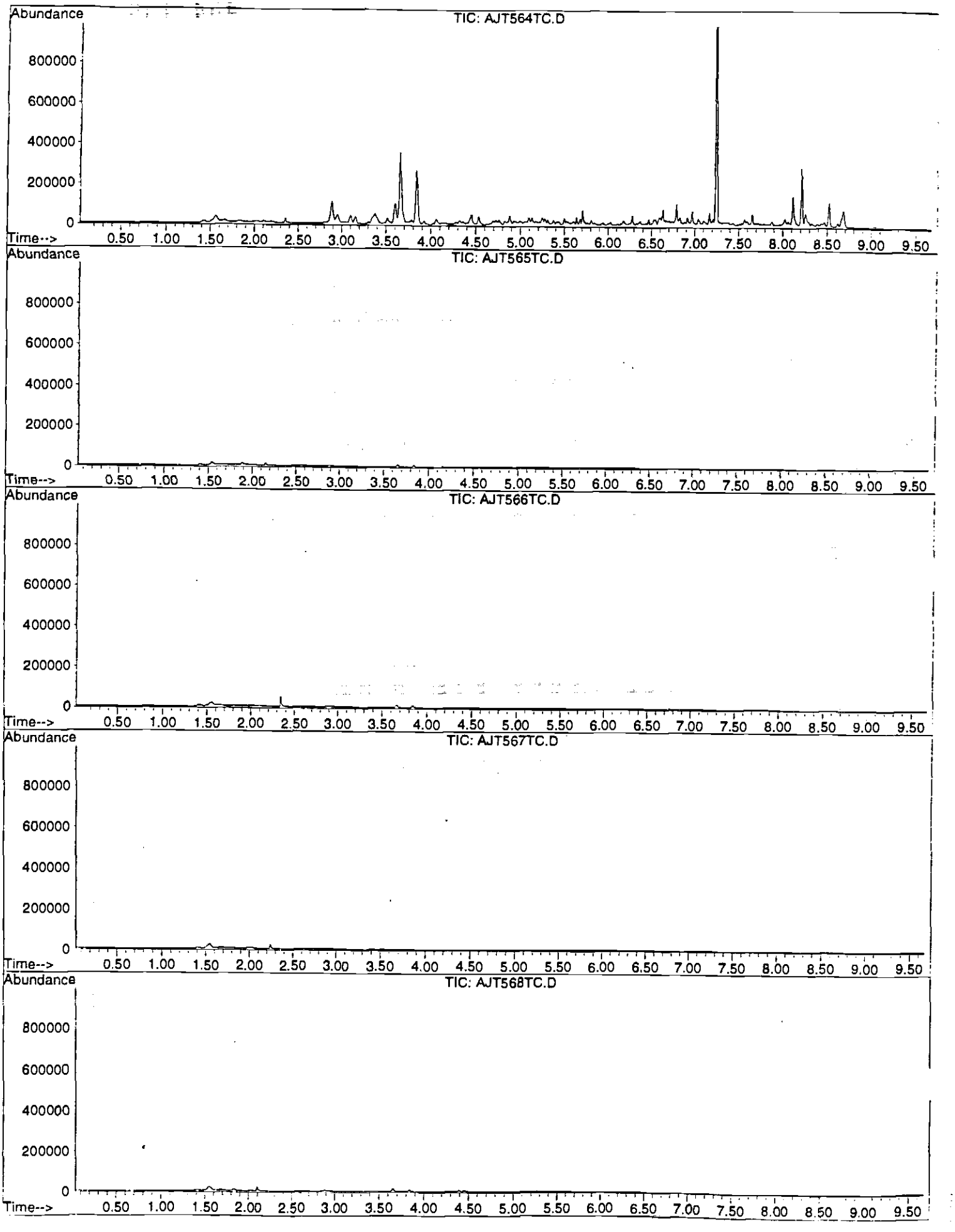
GORE SORBER SCREENING SURVEY ANALYTICAL RESULTS
THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA
GORE STANDARD TARGET VOCs/SVOCs (A1)
FT. WORTH NAS, FT. WORTH, TX
SITE AJT - PRODUCTION ORDER #092673

DATE ANALYZED	MODULE NUMBER	MTBE, ug	11DCA, ug	CHCl3, ug	111TCA, ug	12DCA, ug	CCl4, ug	TCE, ug	OCT, ug	PCE, ug	ClBENZ, ug	14DCB, ug
01/16/98	149599	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149600	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149601	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149602	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149603	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149604	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149605	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149535	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	149536	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149537	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149538	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	149539	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/15/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
01/16/98	method blank	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd	nd
	NUMBER	MTBE, ug	11DCA, ug	CHCl3, ug	111TCA, ug	12DCA, ug	CCl4, ug	TCE, ug	OCT, ug	PCE, ug	ClBENZ, ug	14DCB, ug
	Maximum	0.23	0.00	0.11	0.00	0.00	0.00	0.00	0.27	0.13	0.00	0.02
	Standard Dev.	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.05	0.01	0.00	0.00
	Mean	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00

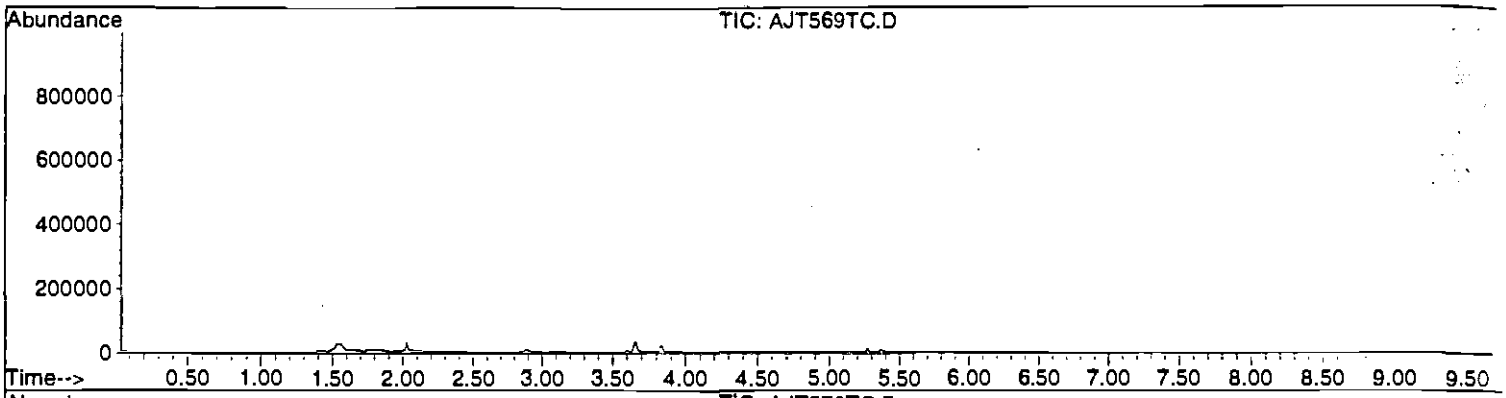
464 135

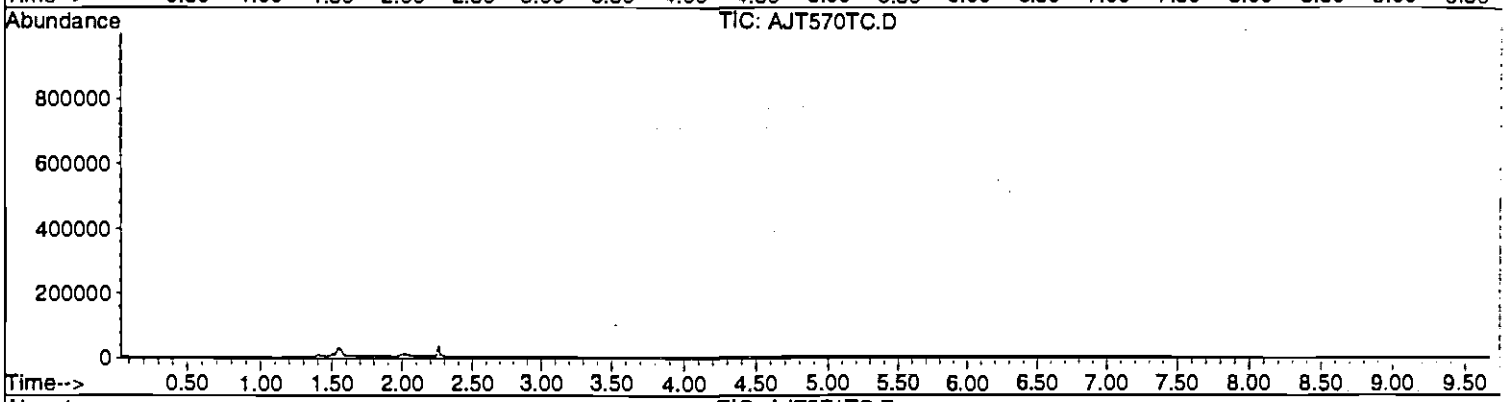
TIC - SITE AJT - PRODUCTION ORDER #092673
In Sequence Order

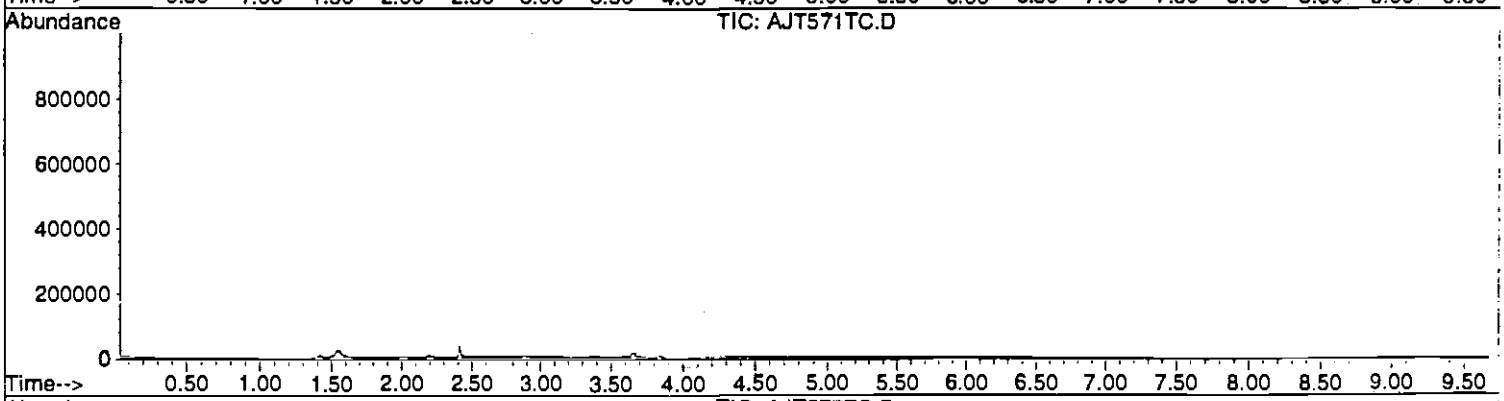
464 136

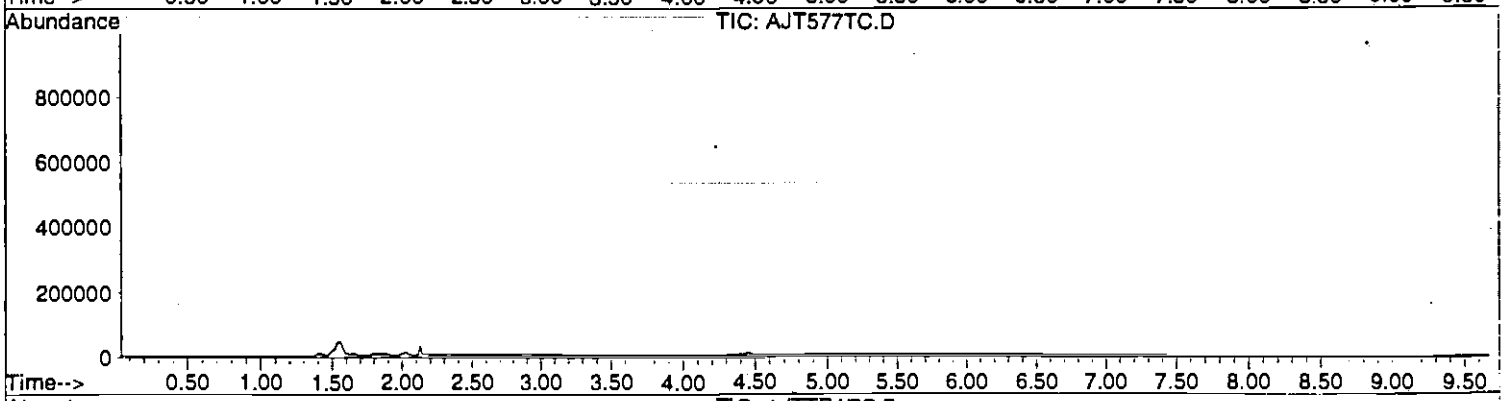


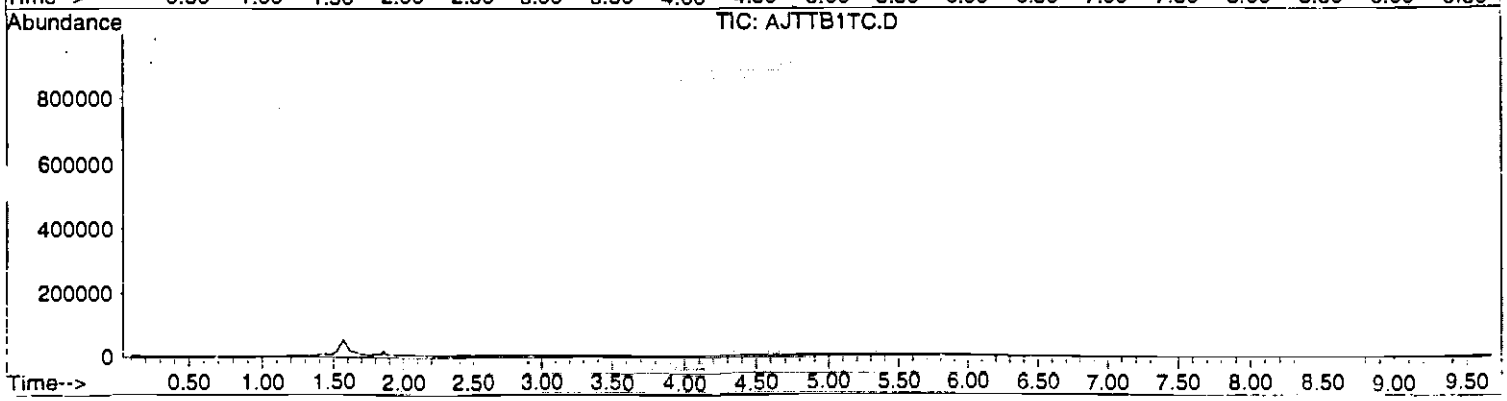
TIC - SITE AJT - PRODUCTION ORDER #092673
In Sequence Order











TIC - SITE AJT - PRODUCTION ORDER #092673
In Sequence Order

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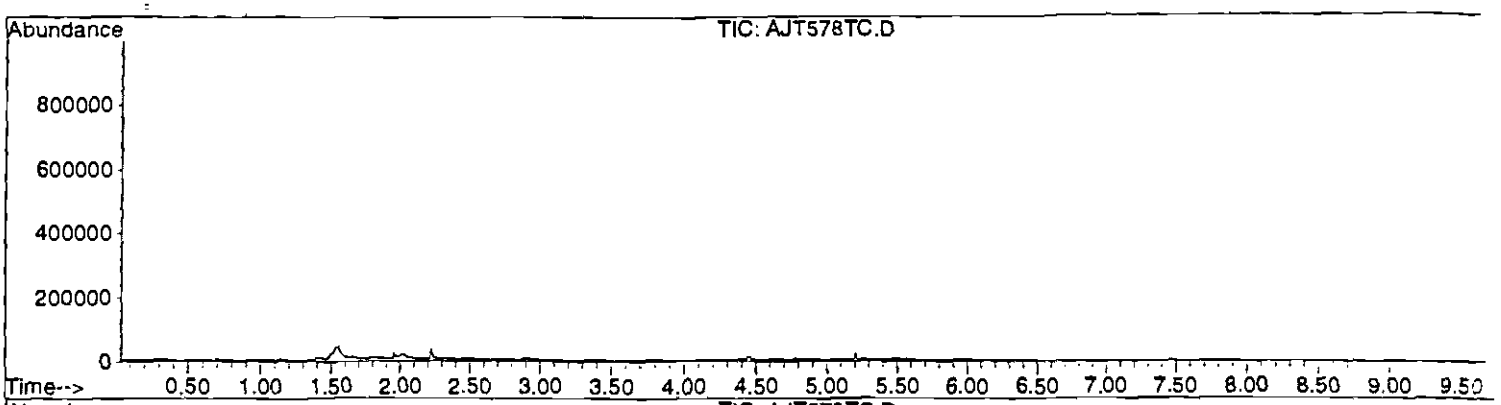
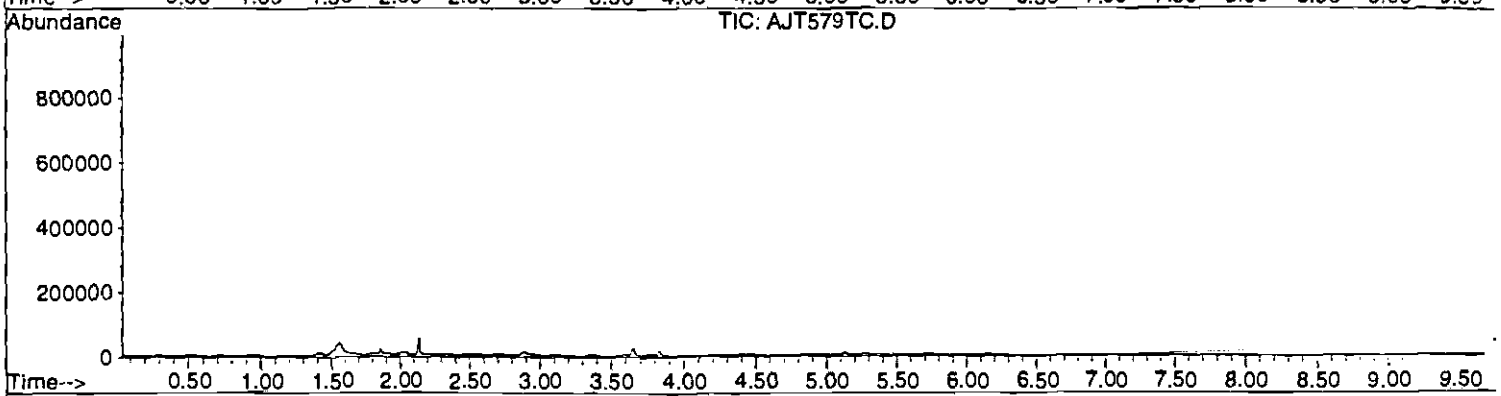
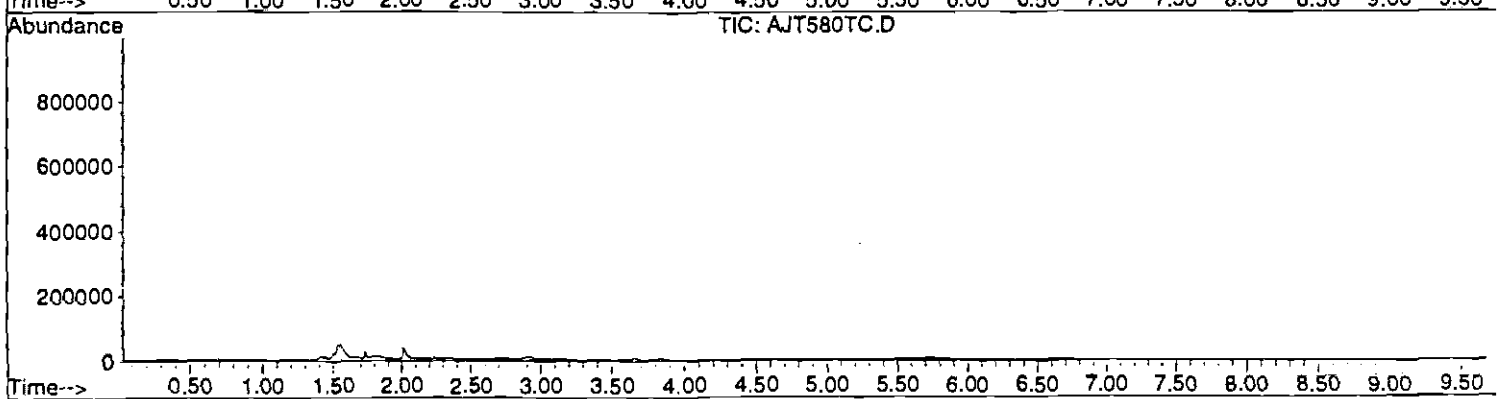
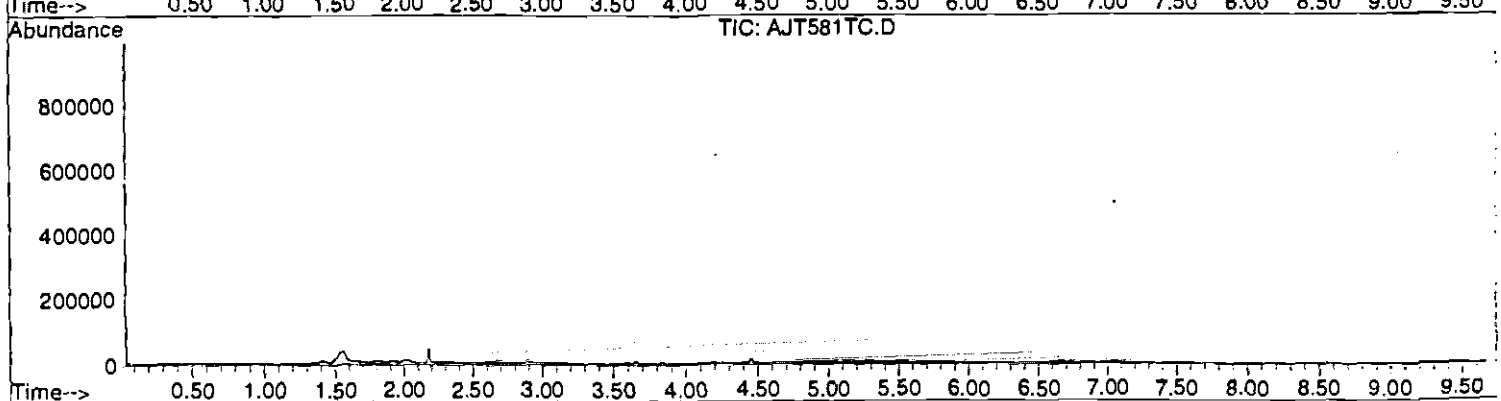
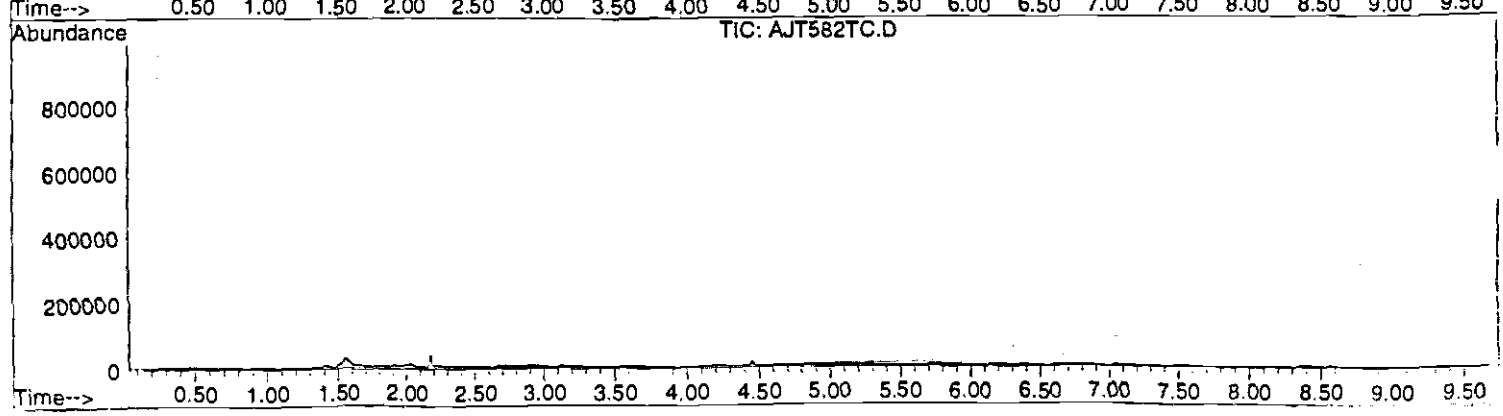


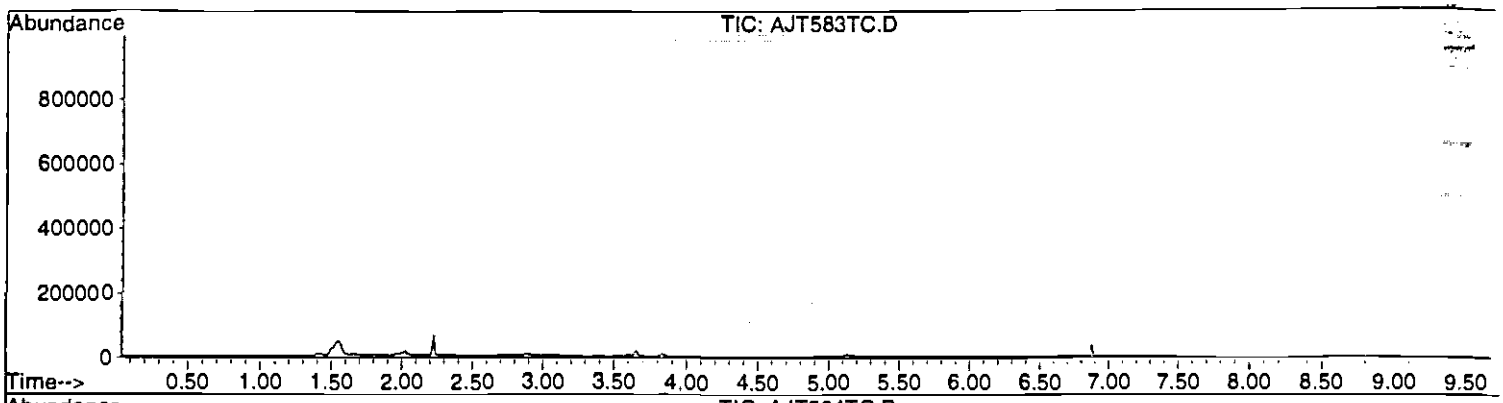


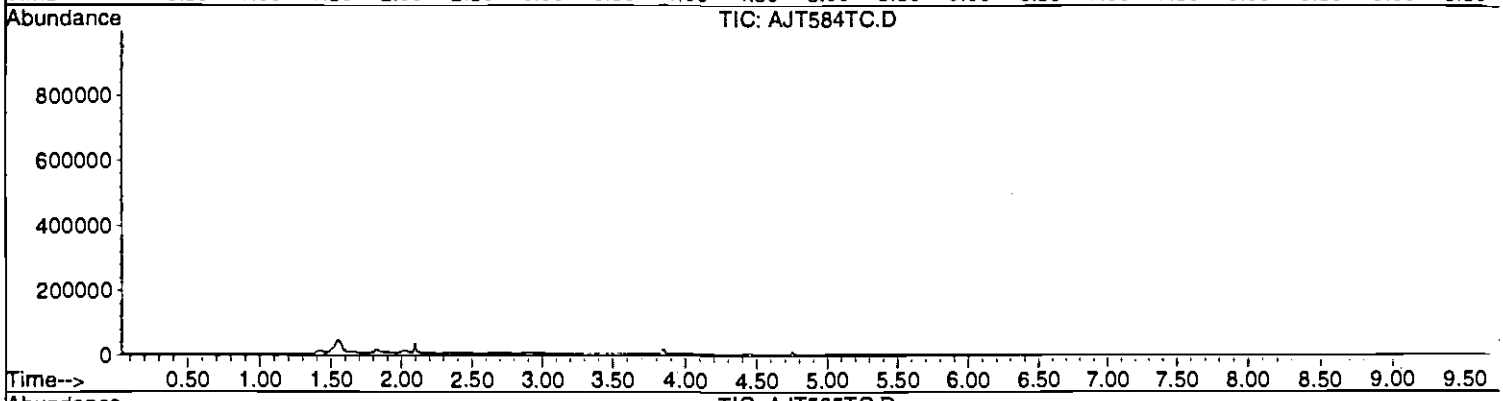


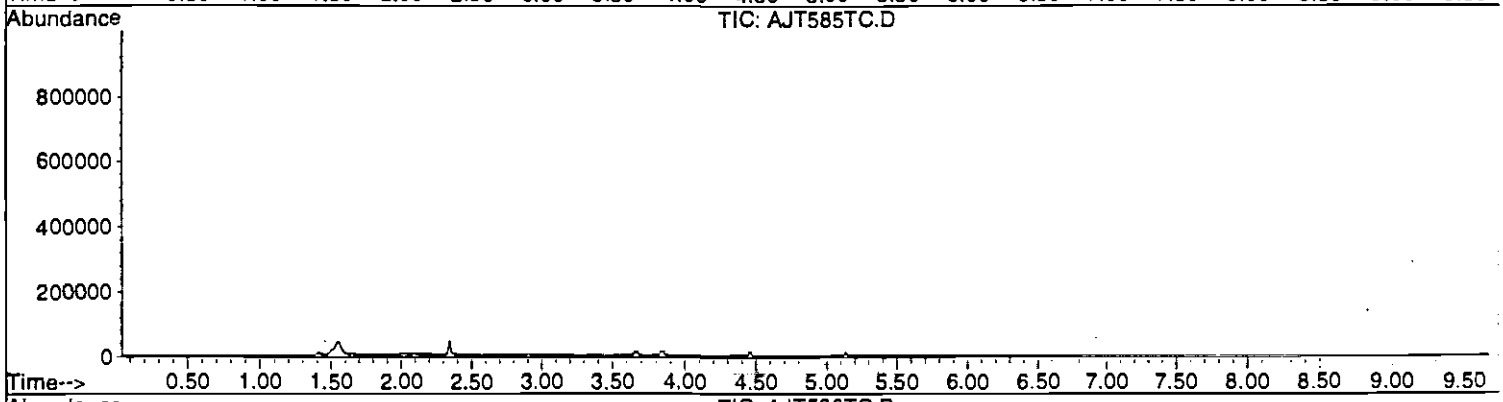


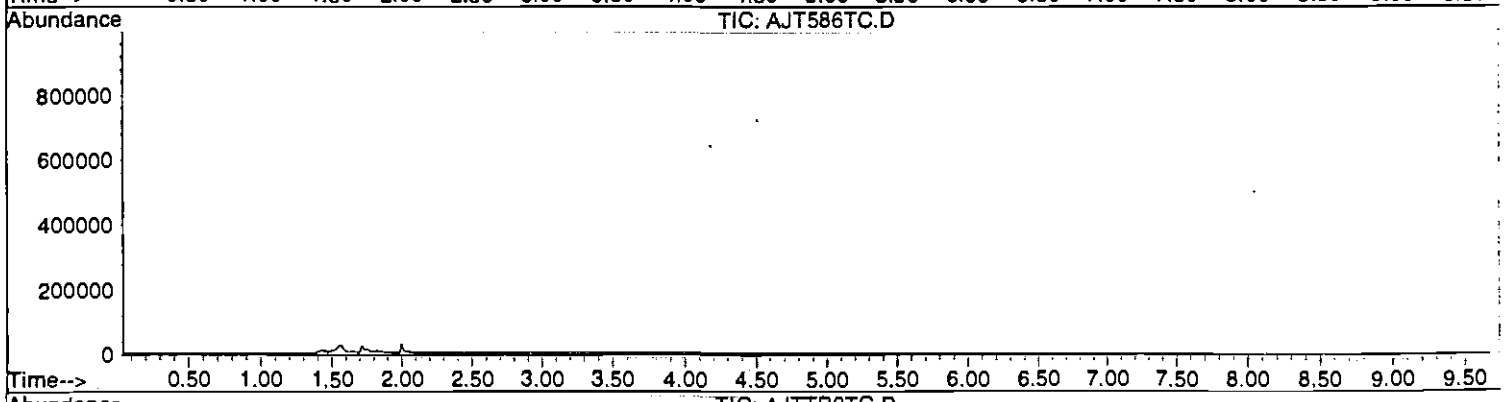


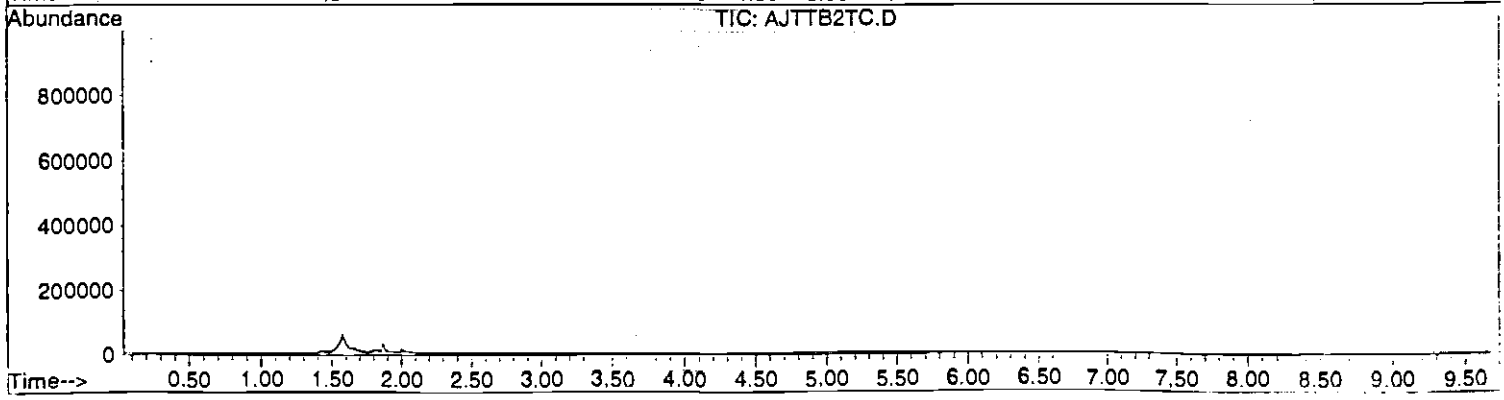
TIC - SITE AJT - PRODUCTION ORDER #092673
In Sequence Order











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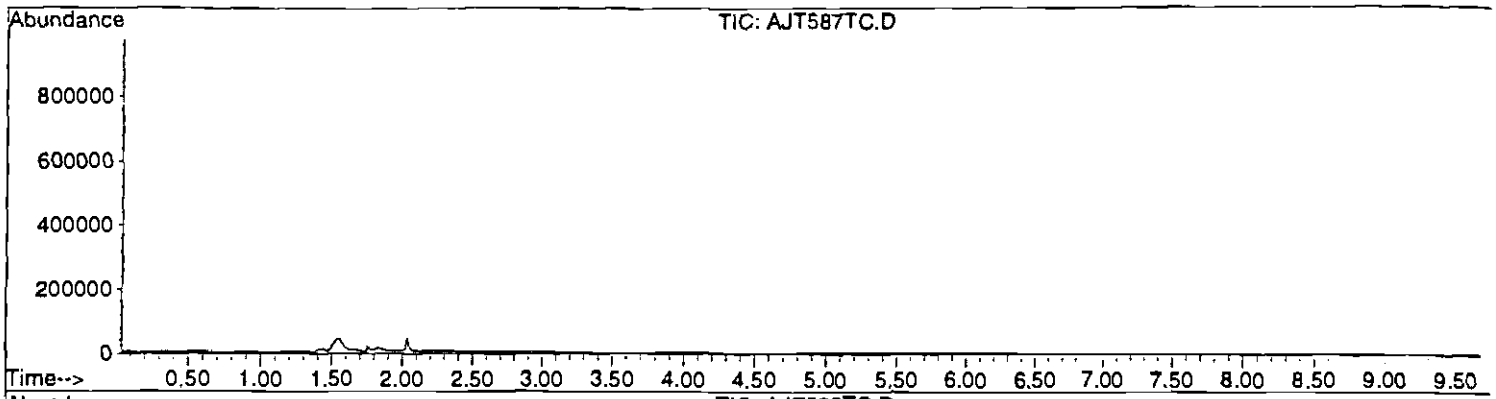
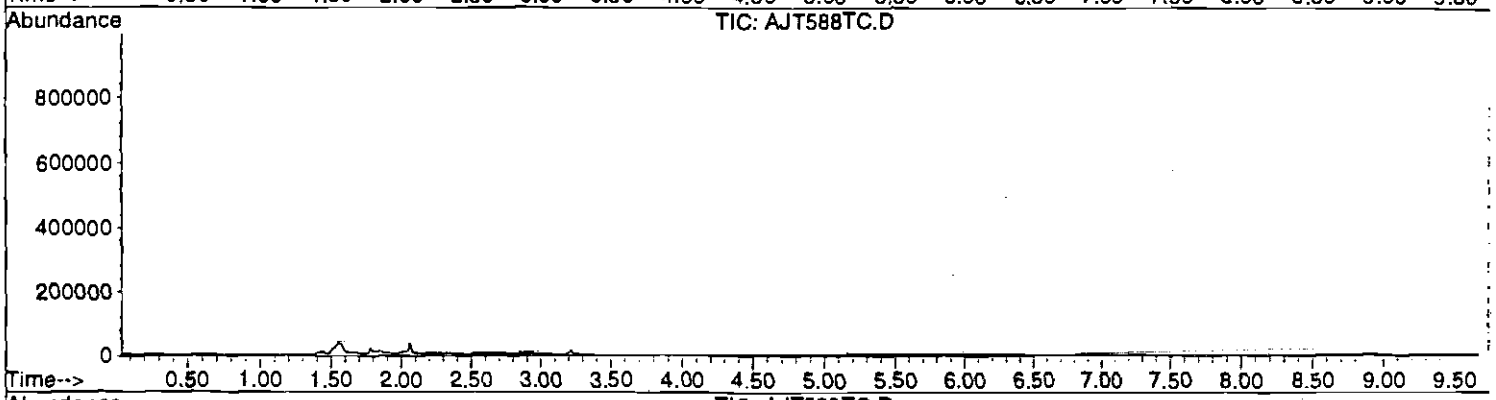
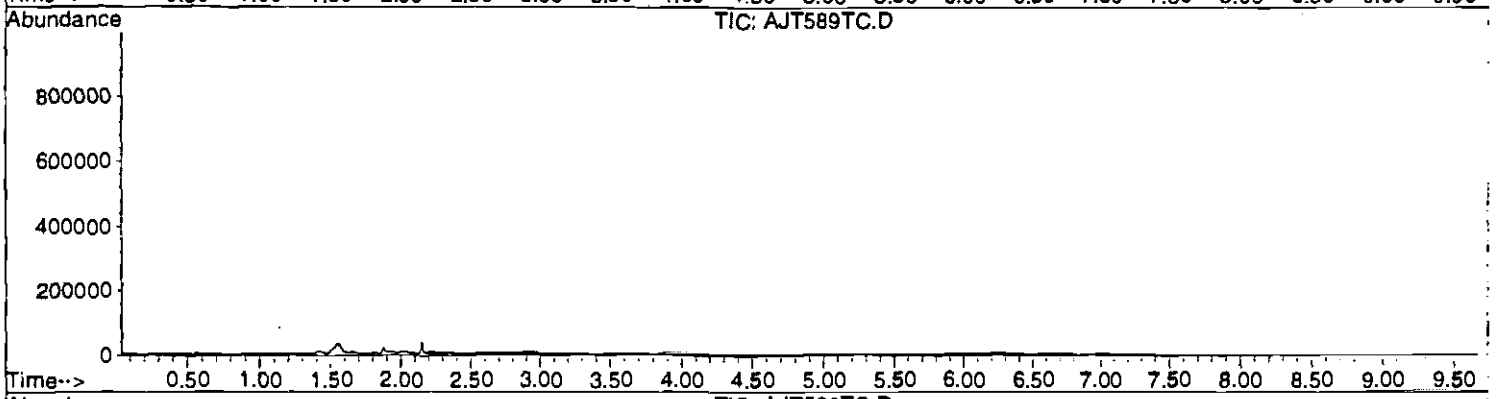
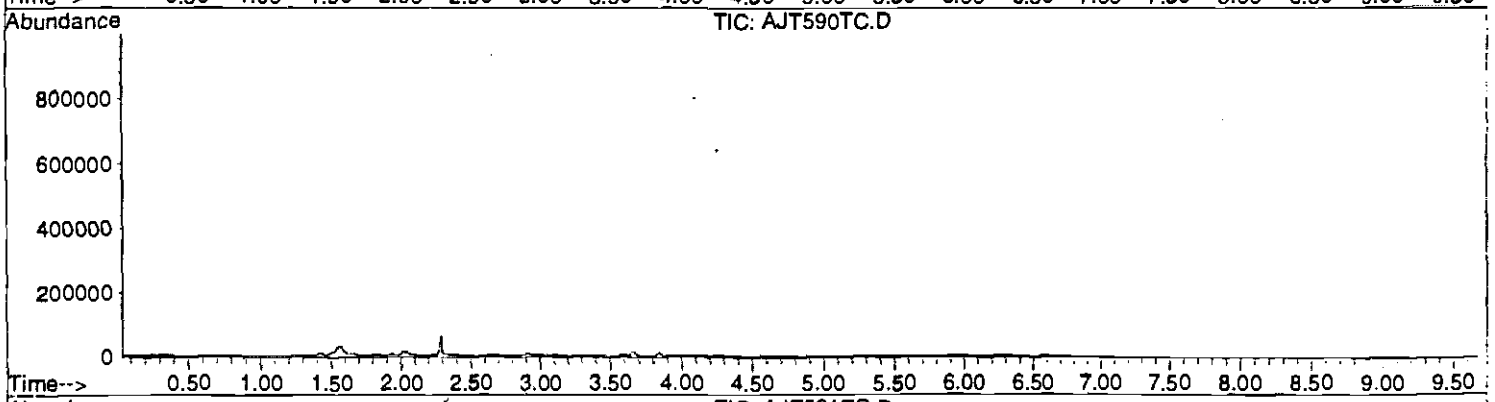
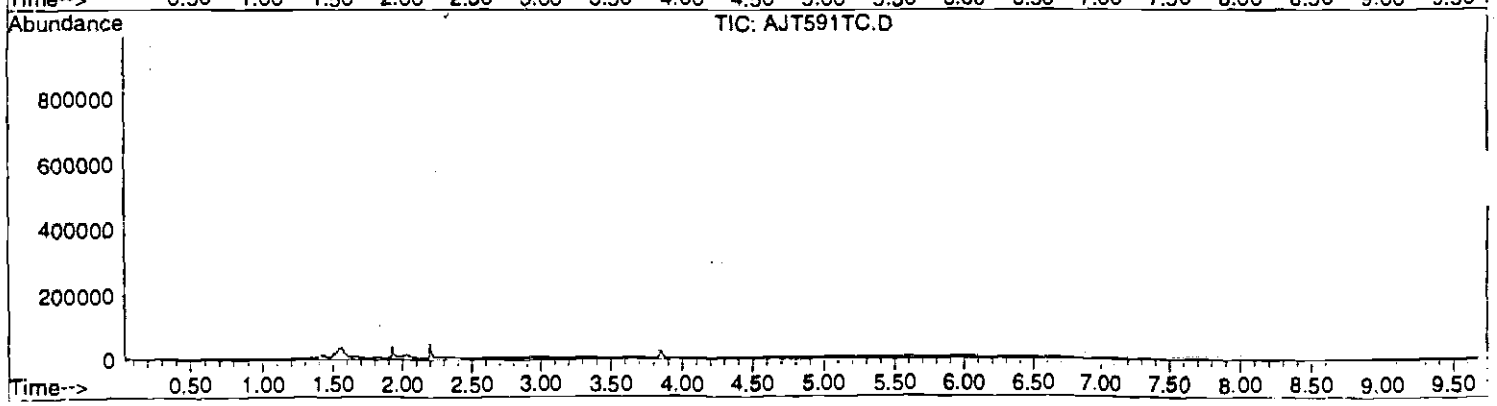
In Sequence Order











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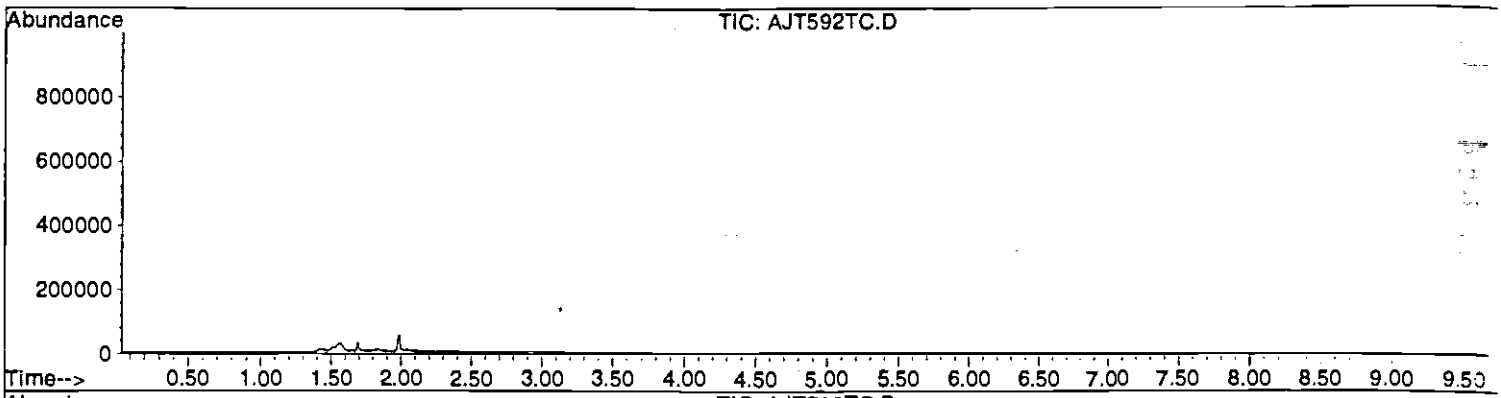
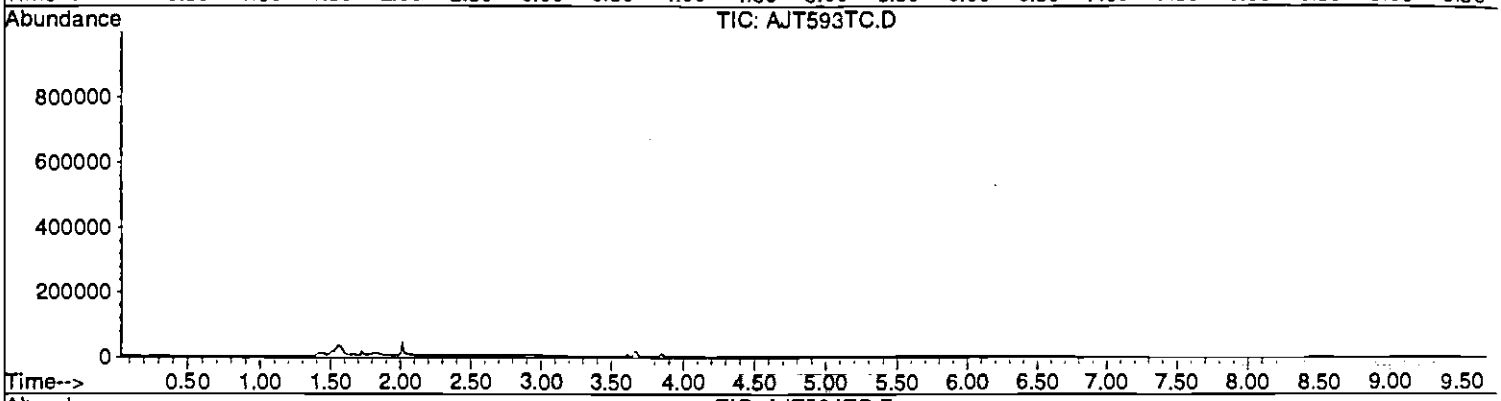
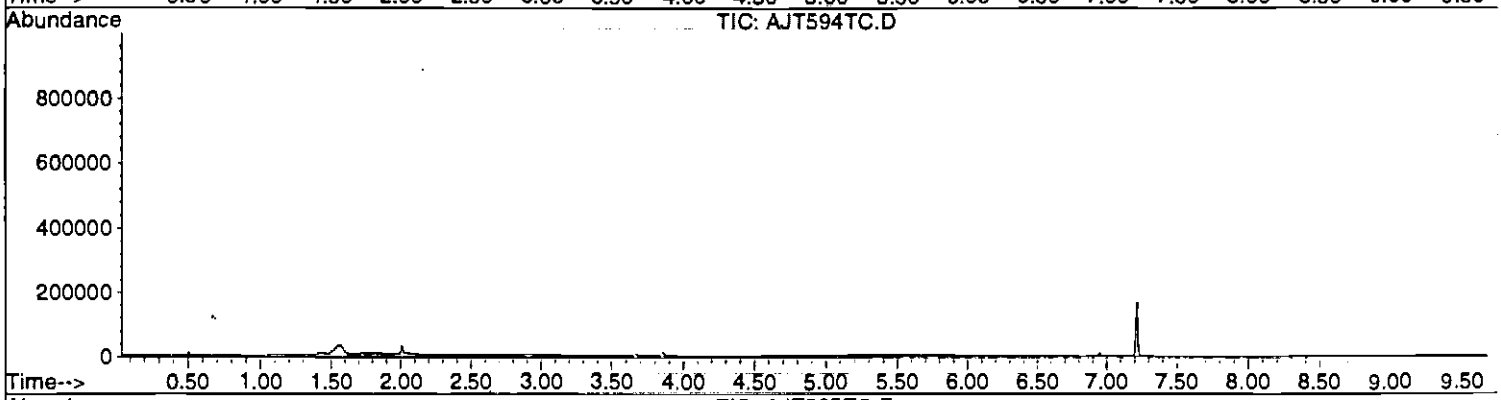
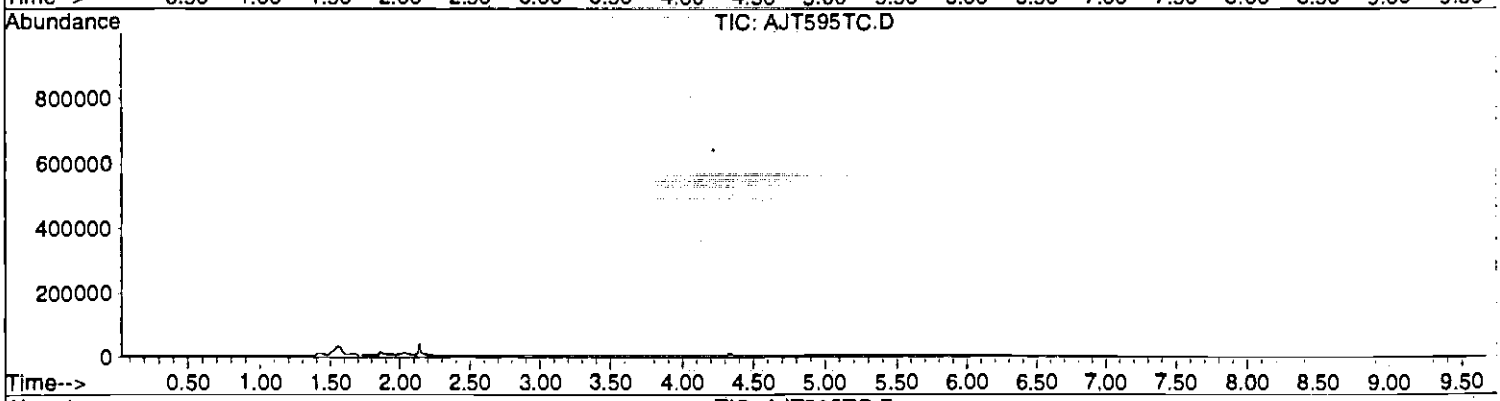
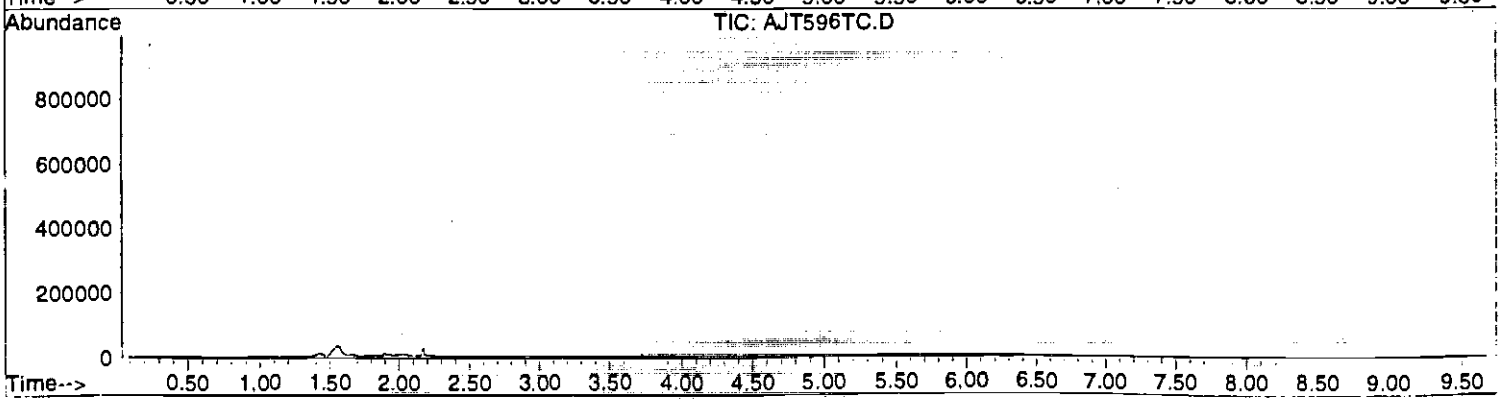




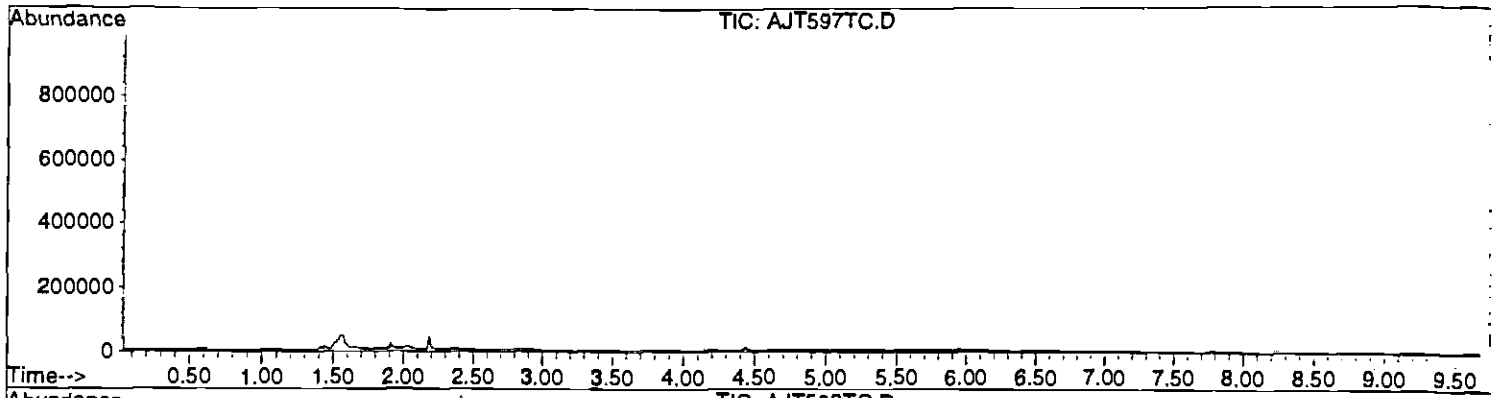


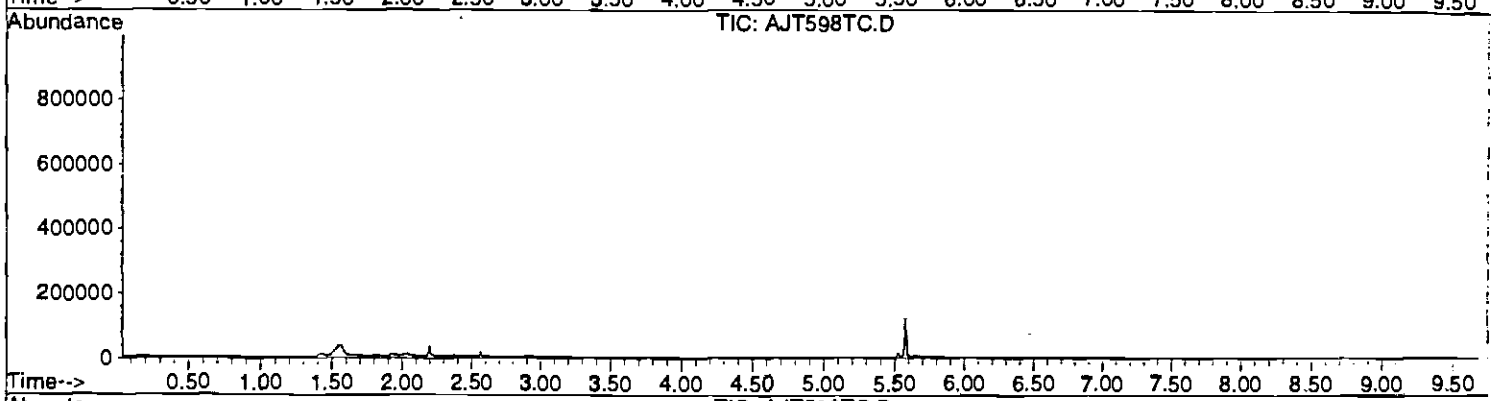


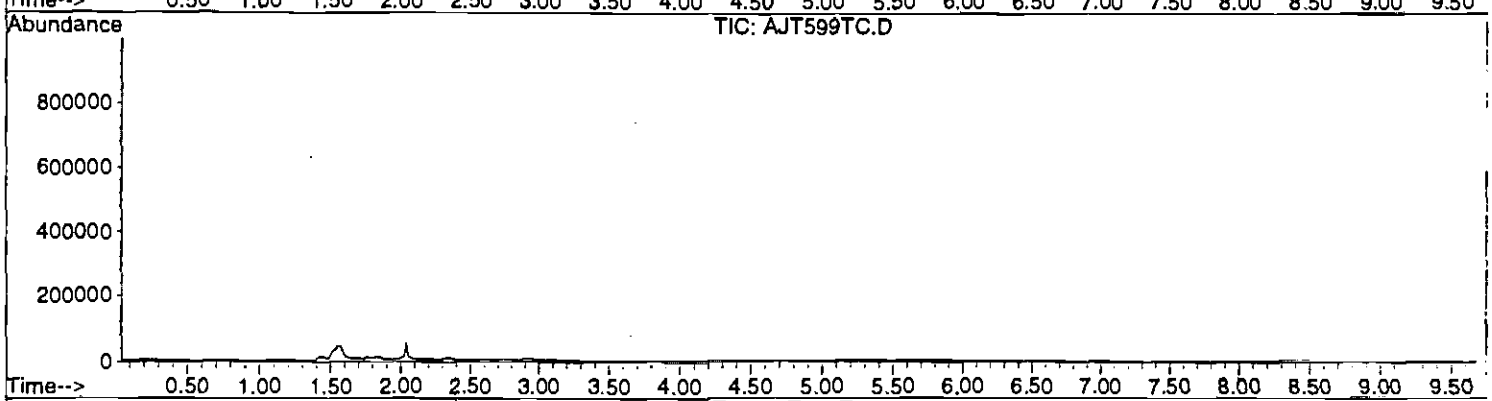


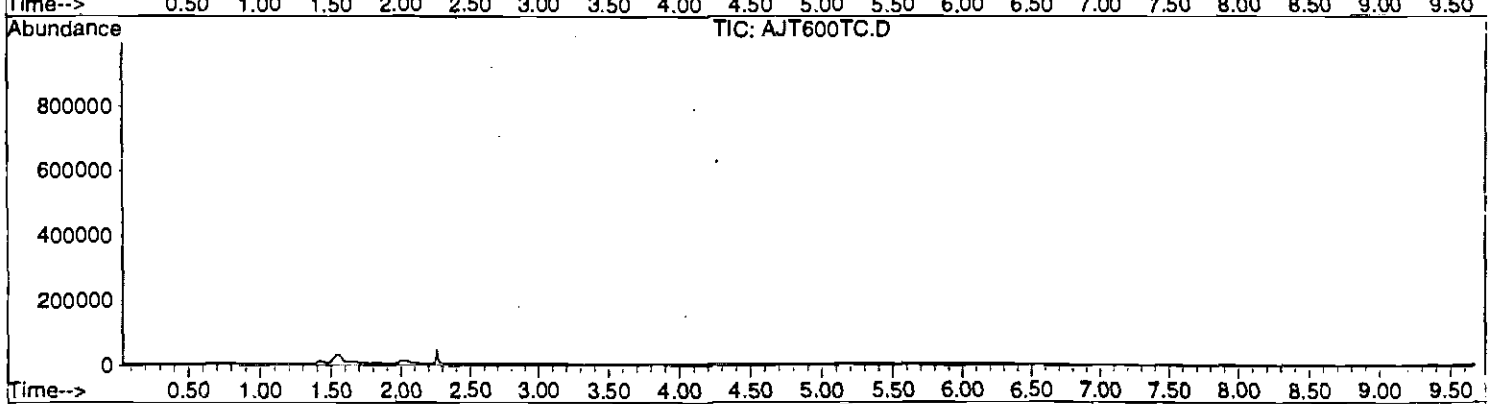
TIC - SITE AJT - PRODUCTION ORDER #092673
In Sequence Order

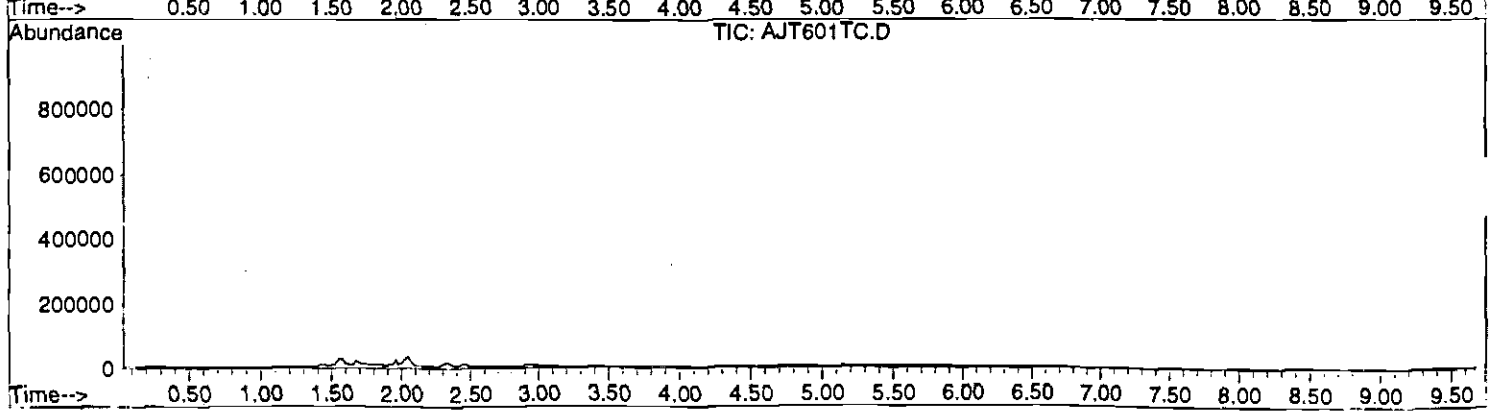
464 142











TIC - SITE AJT - PRODUCTION ORDER #092673
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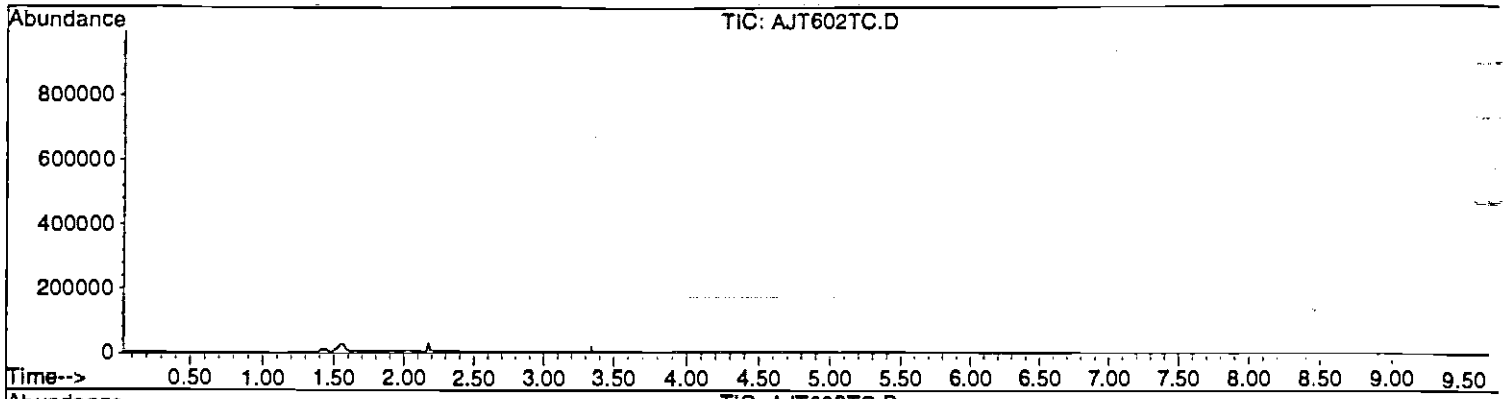

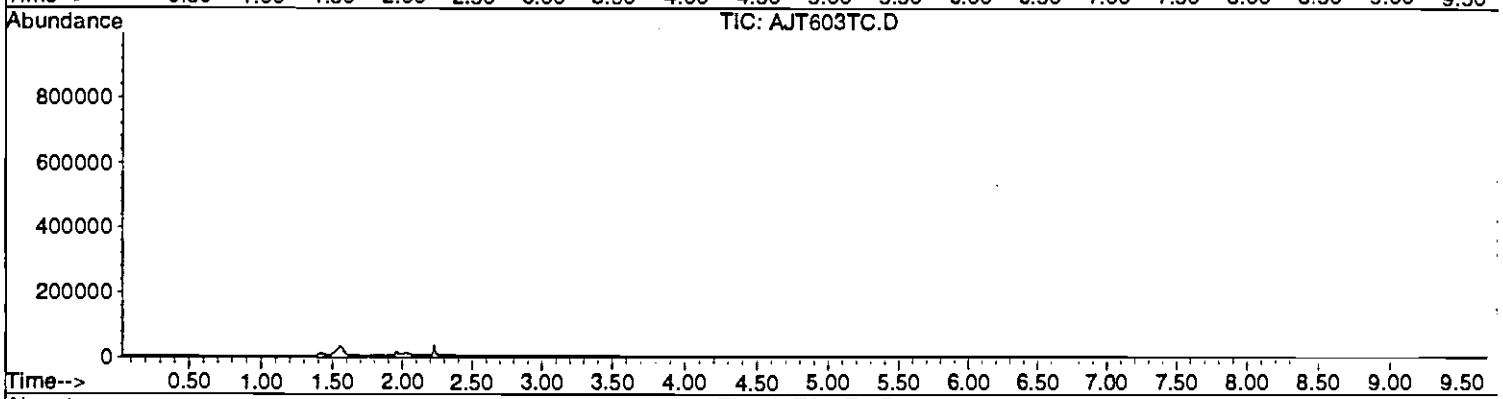

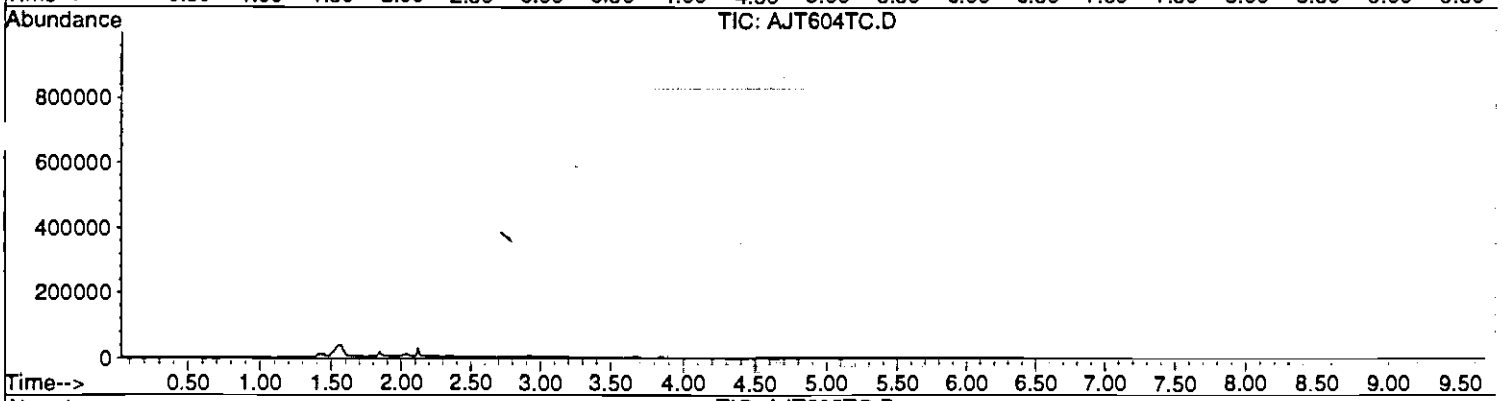

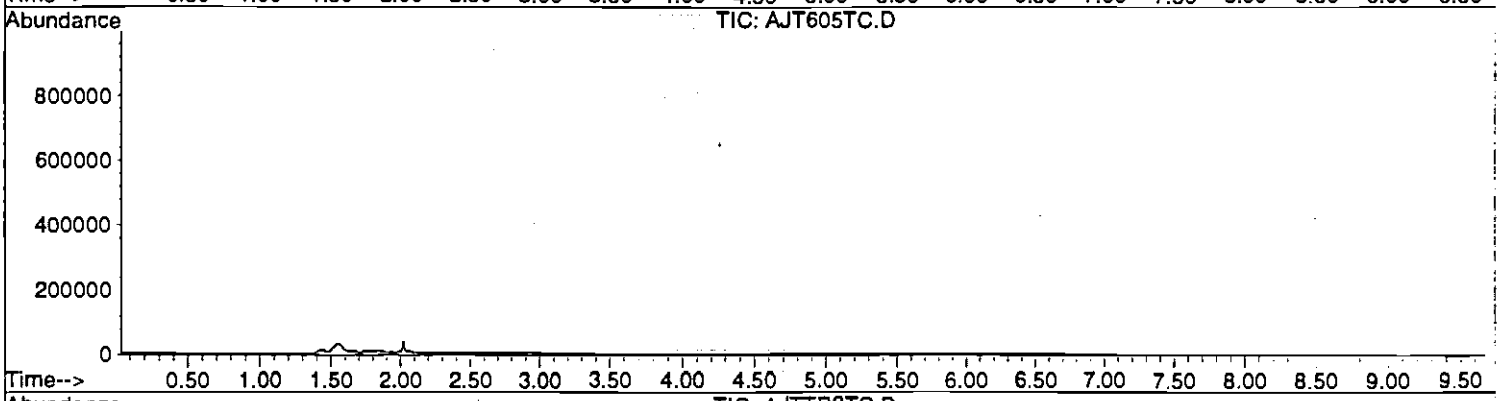

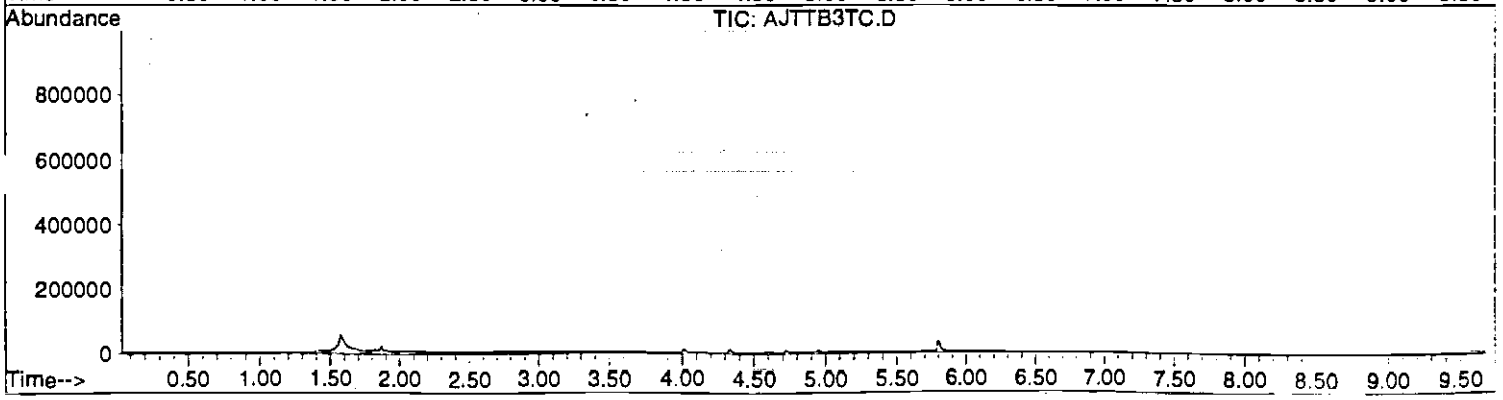

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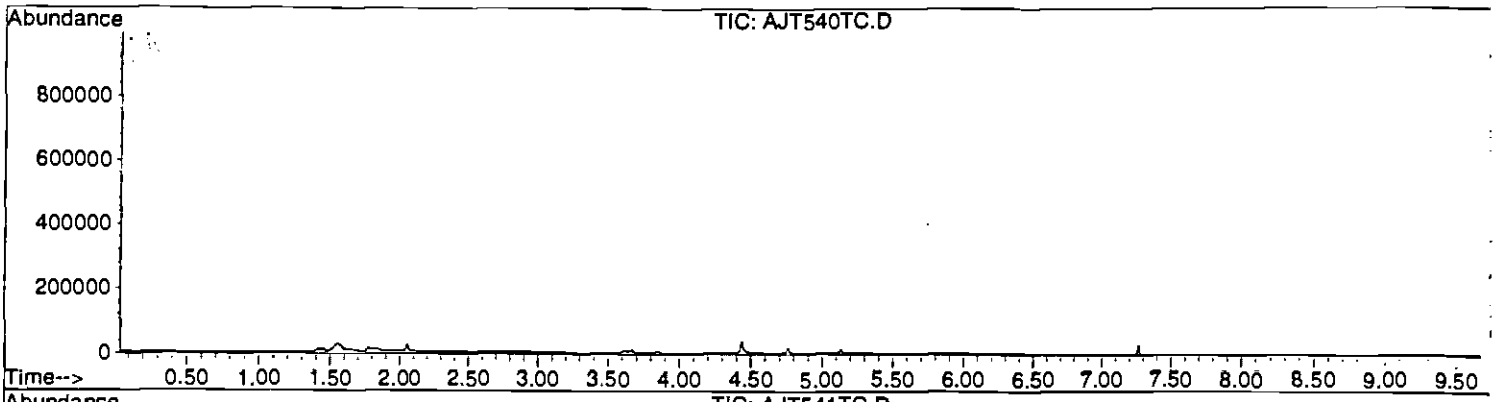

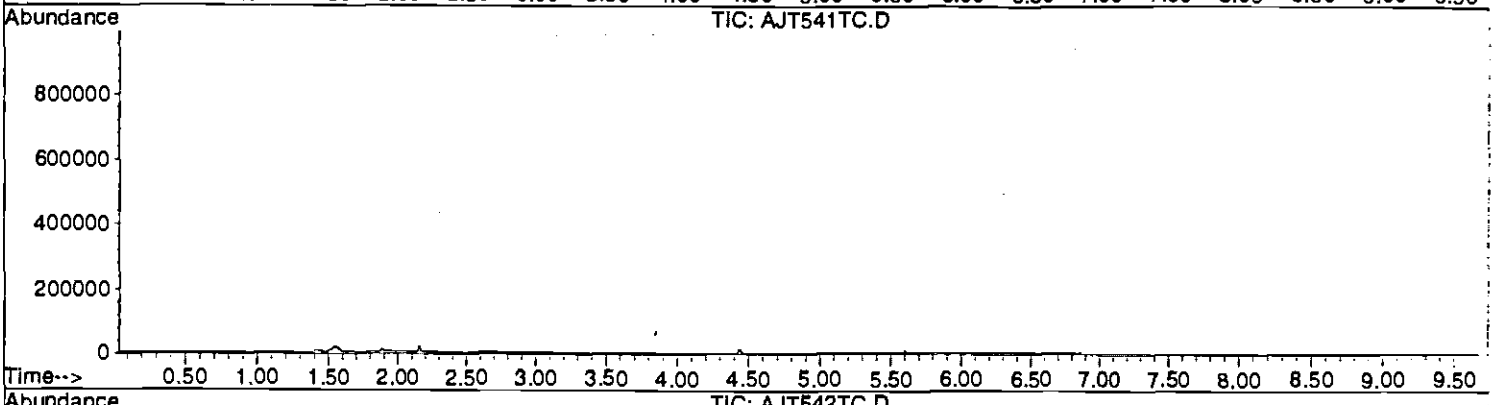

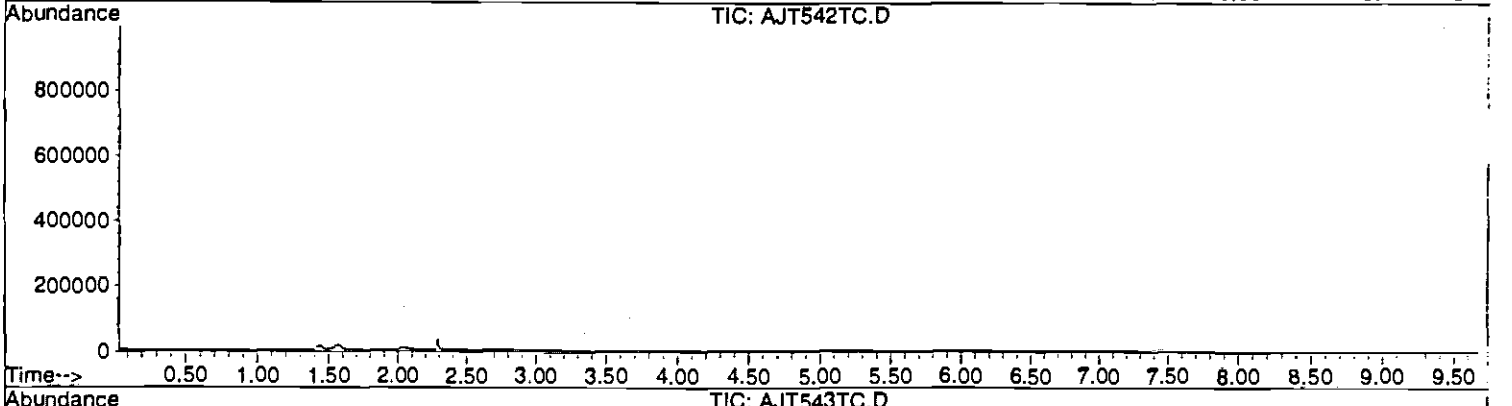

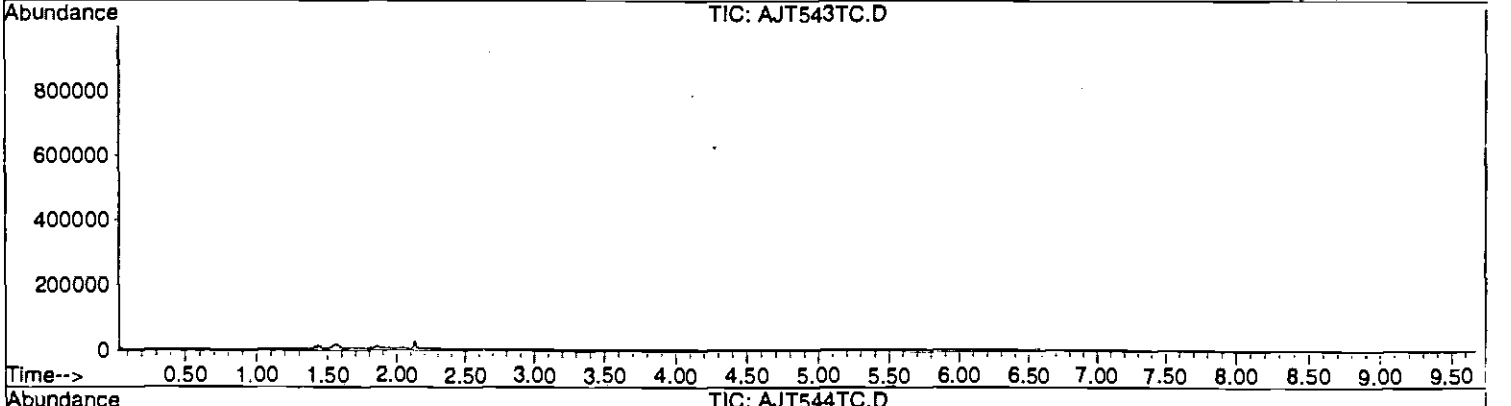

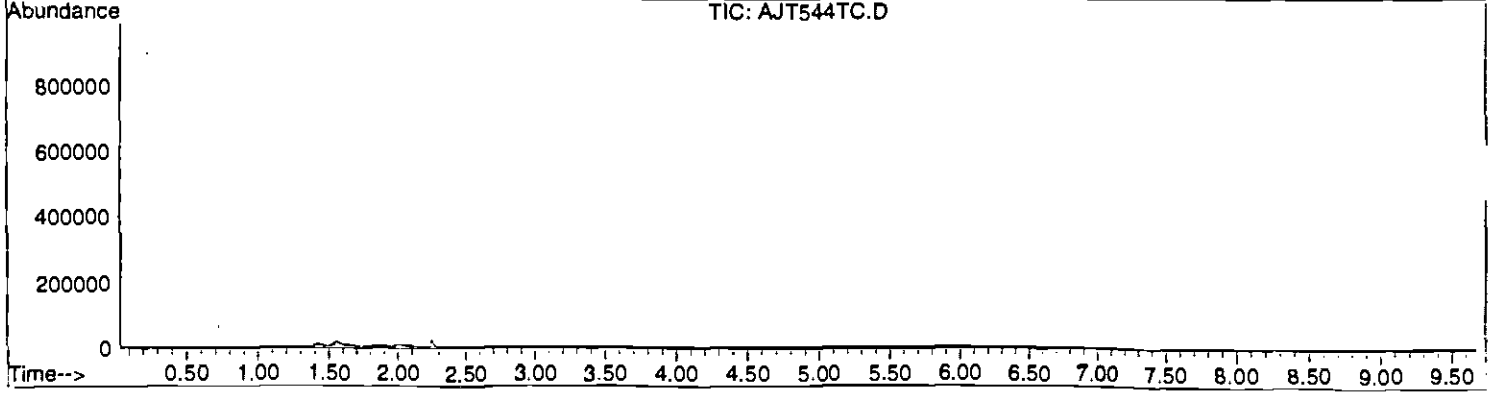

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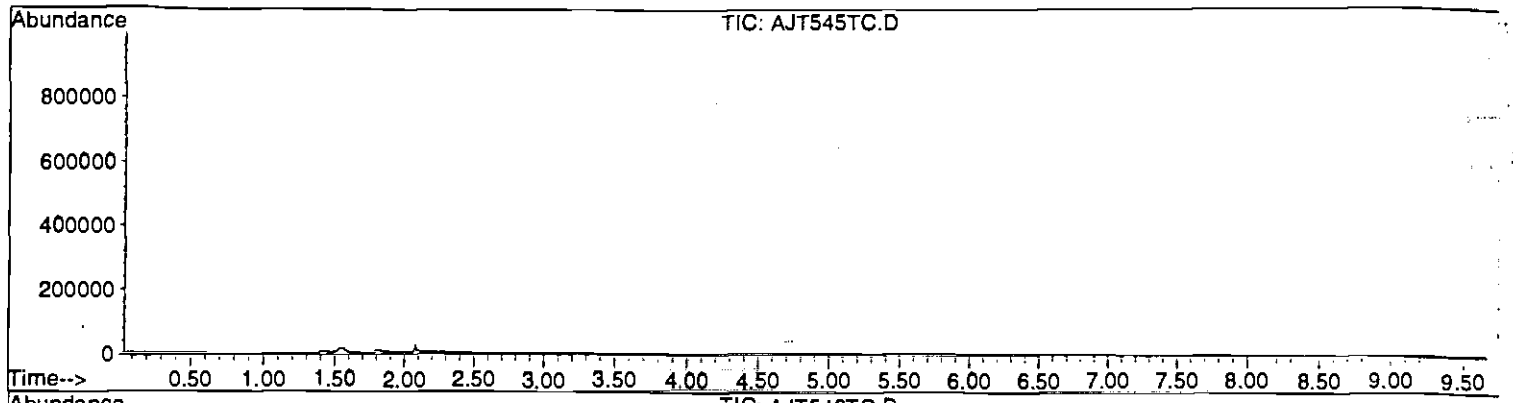

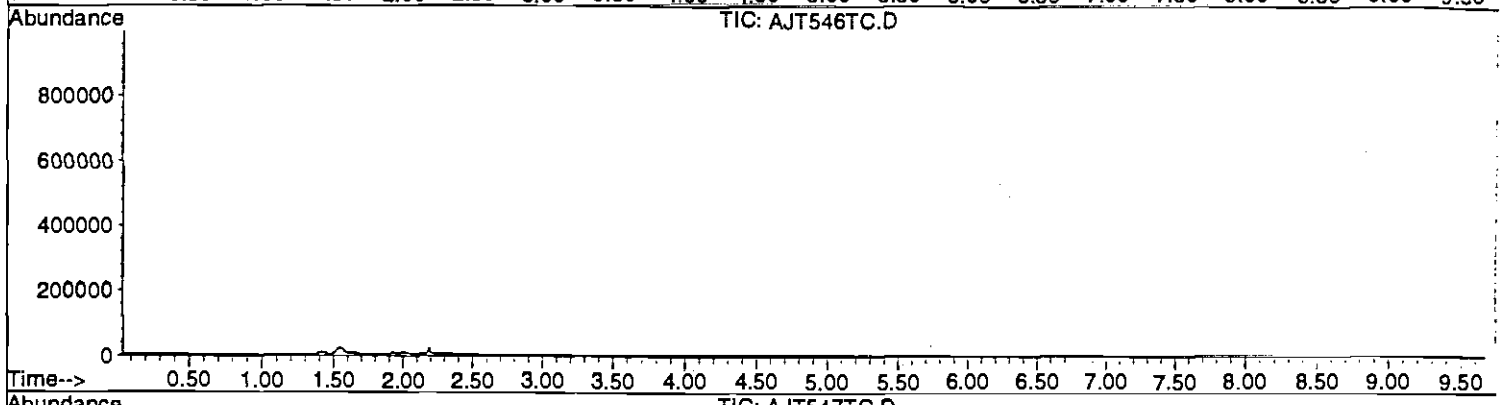

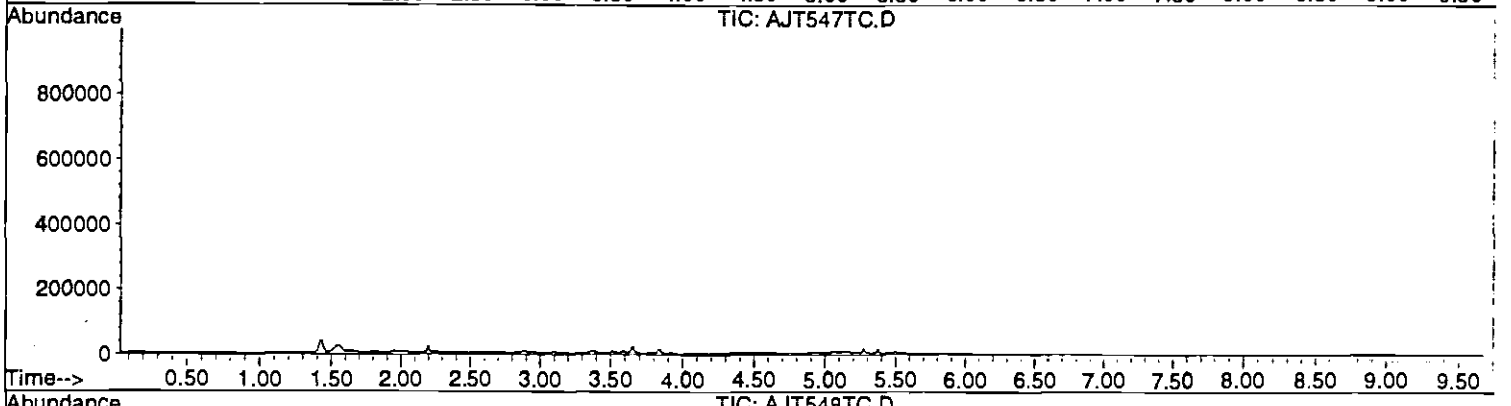

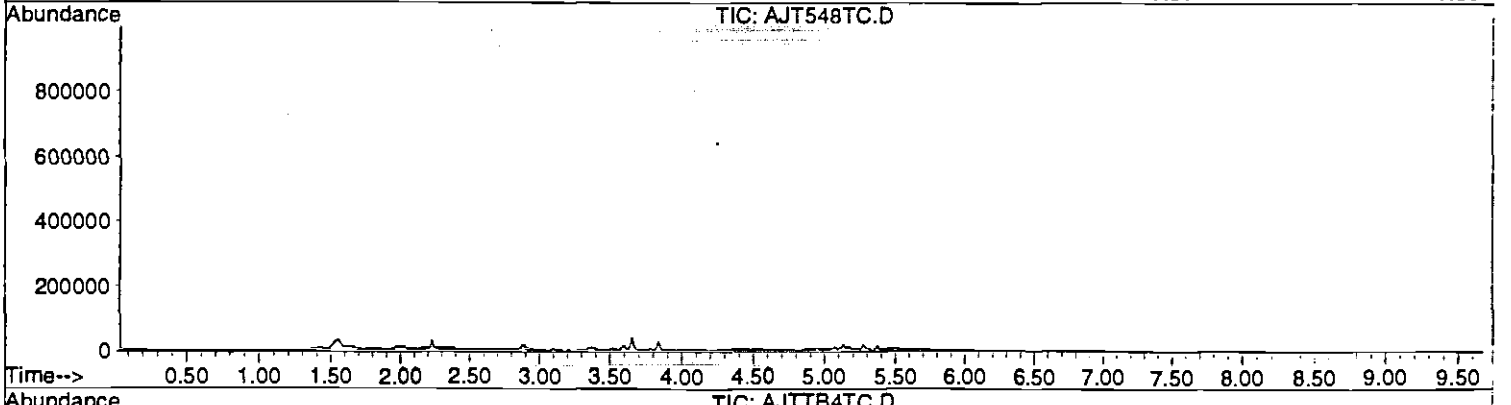

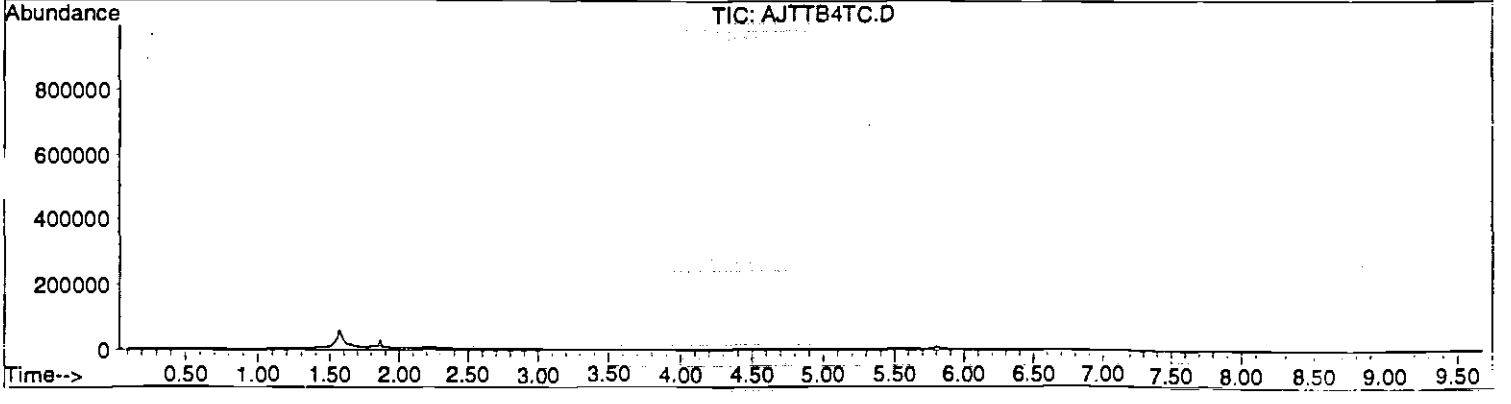

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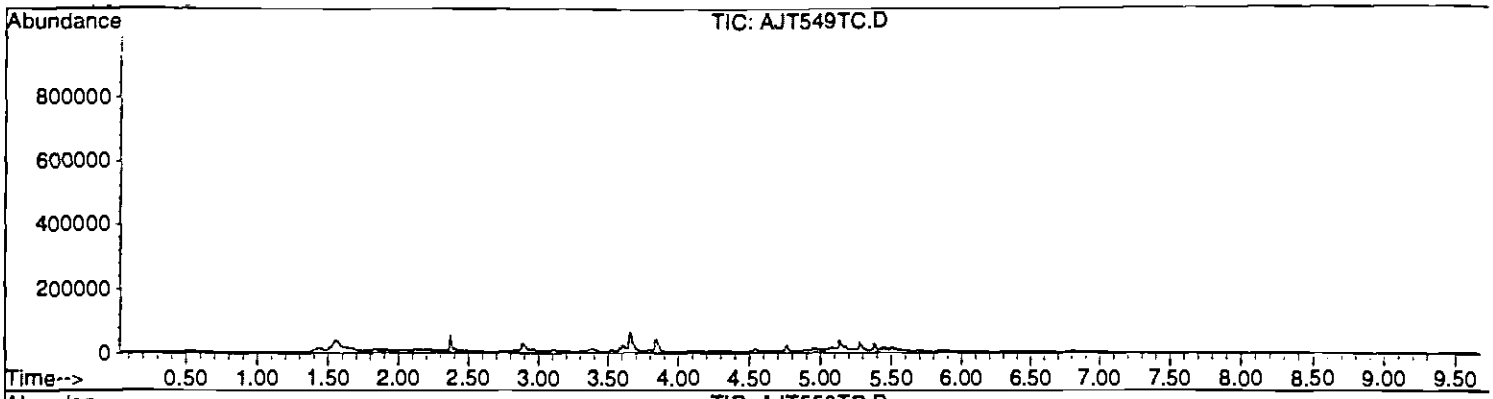

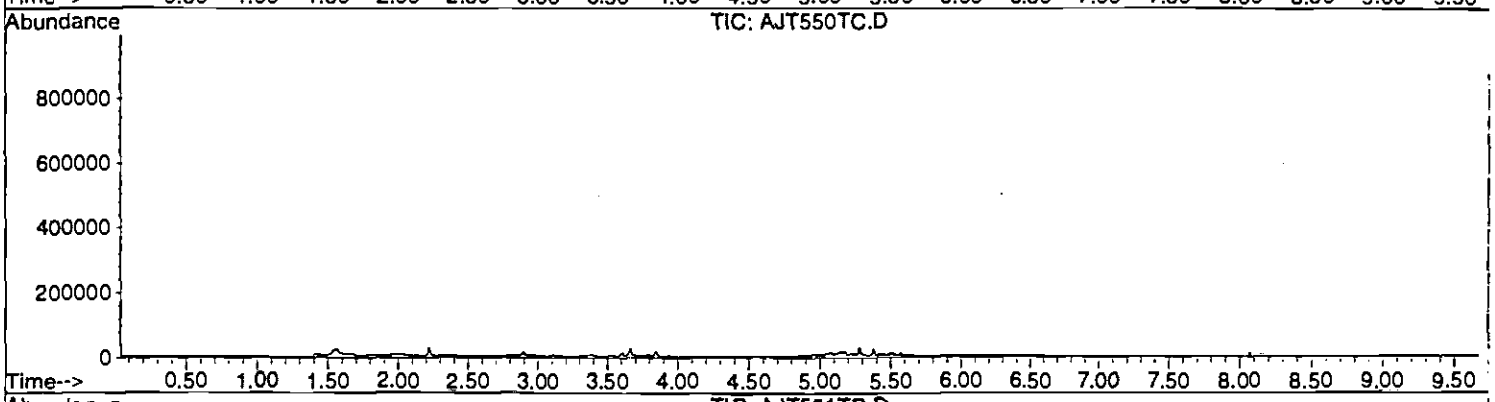

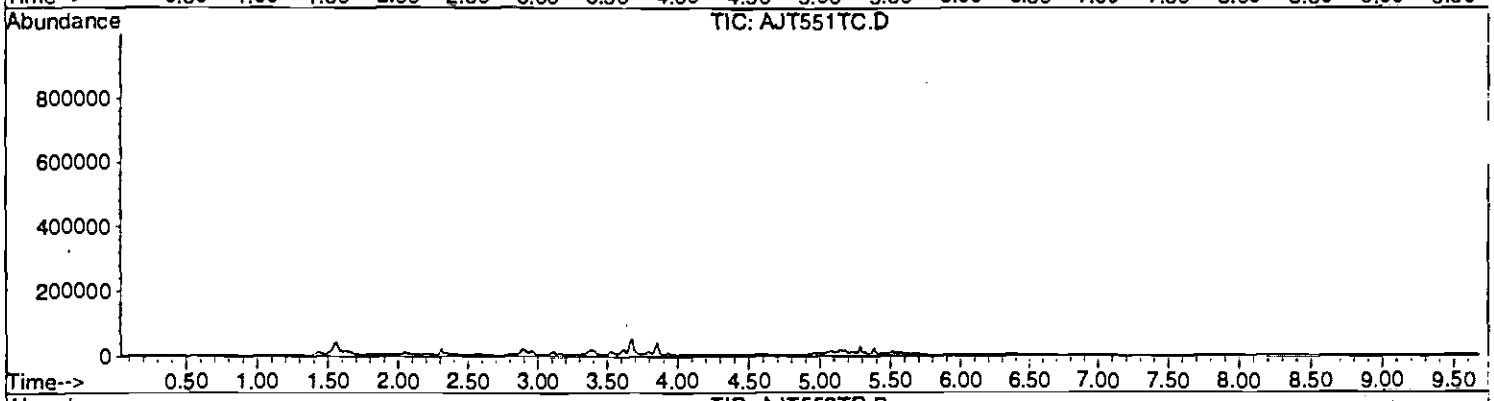

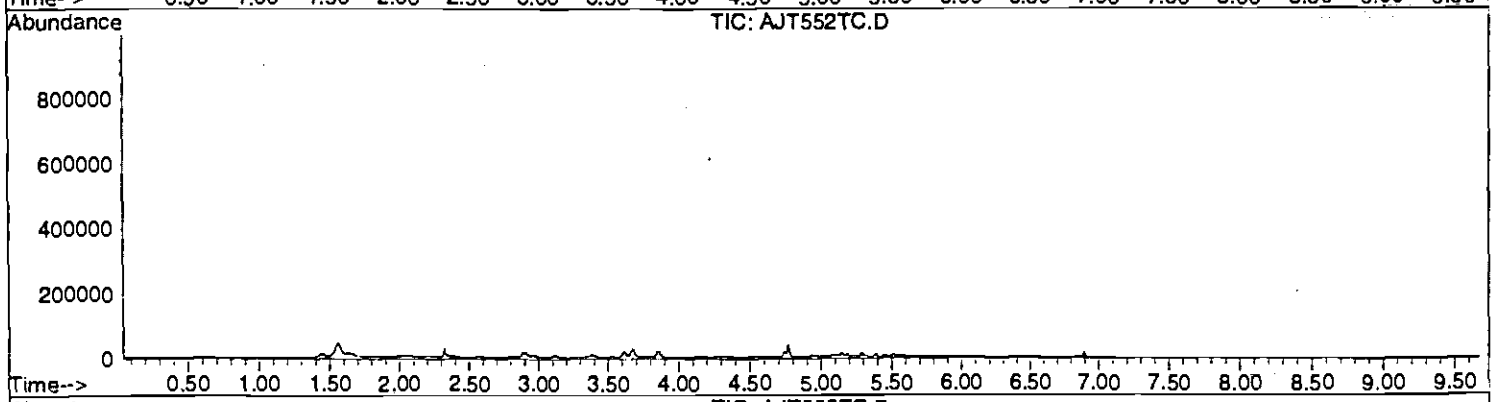

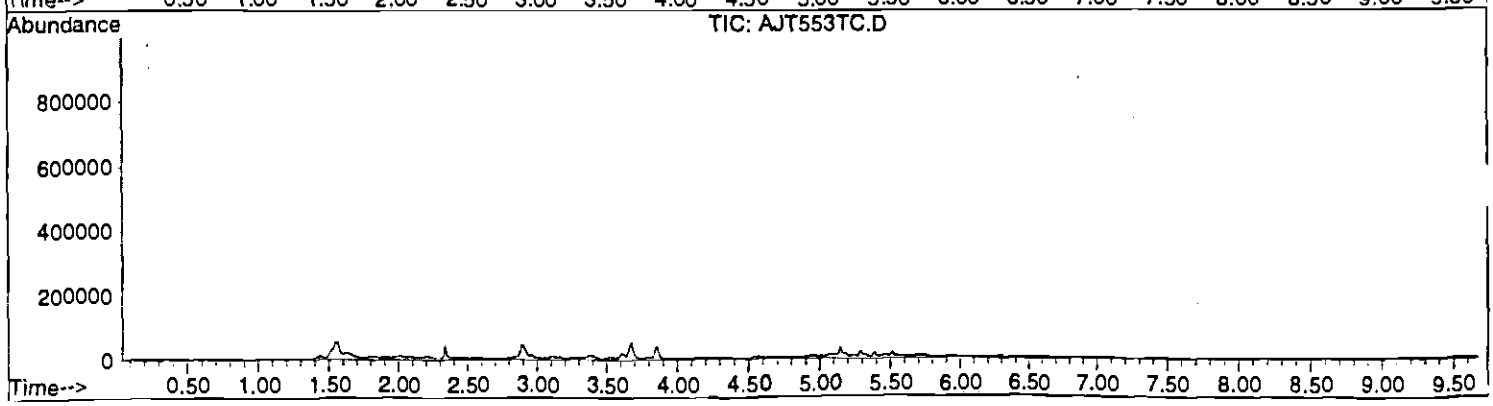

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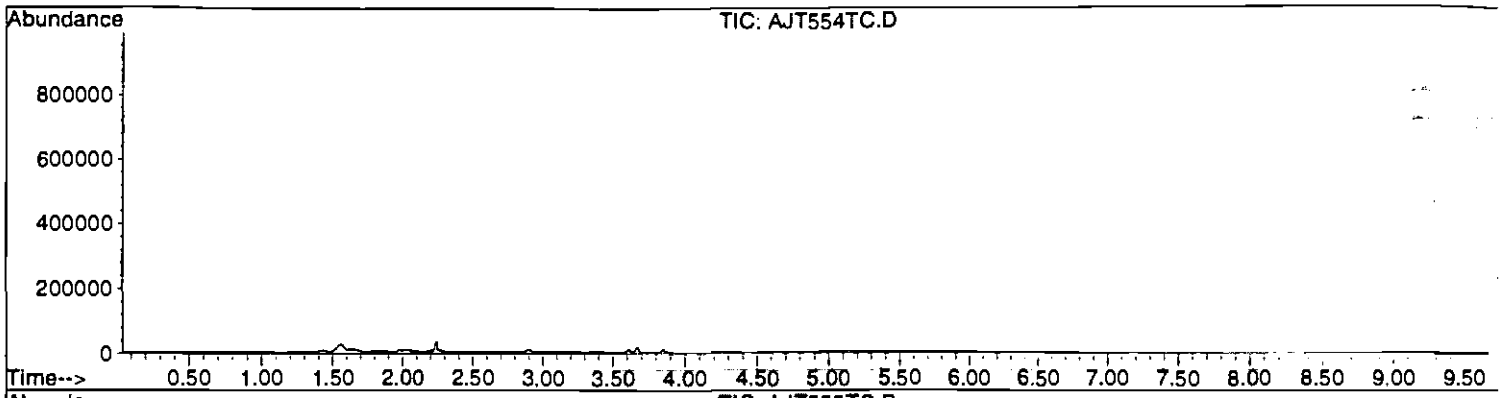
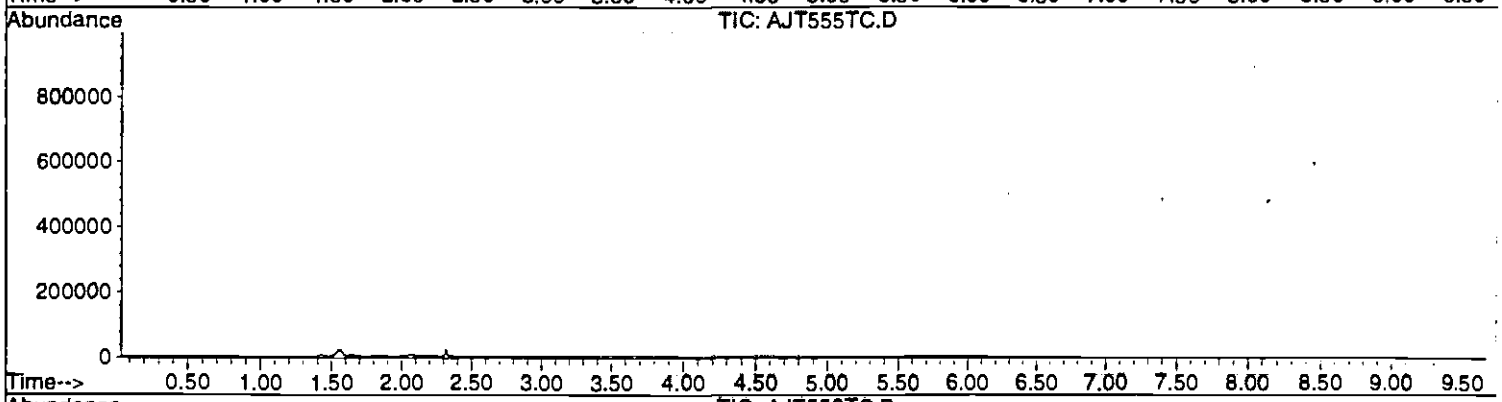
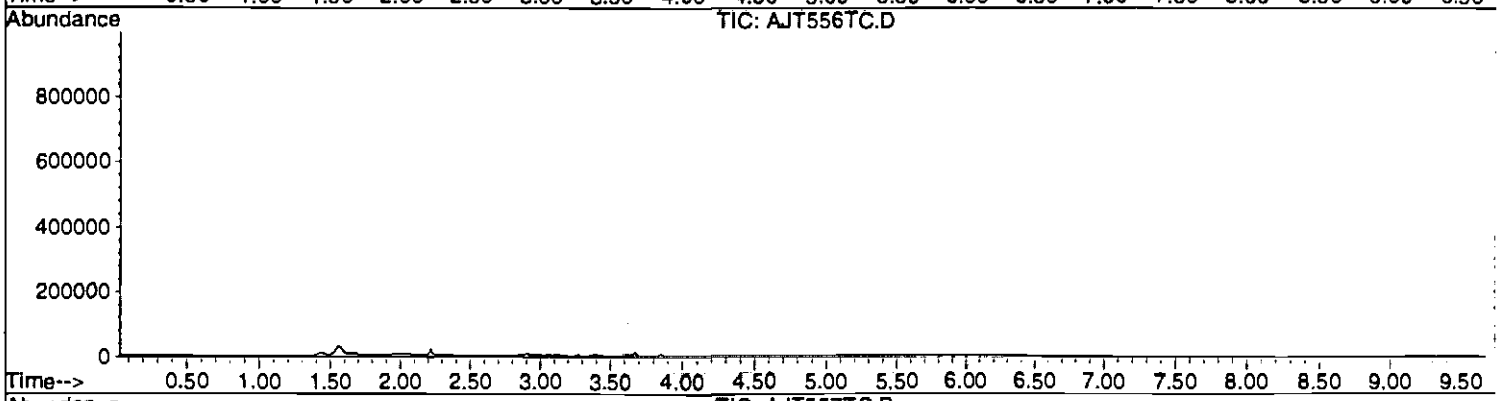
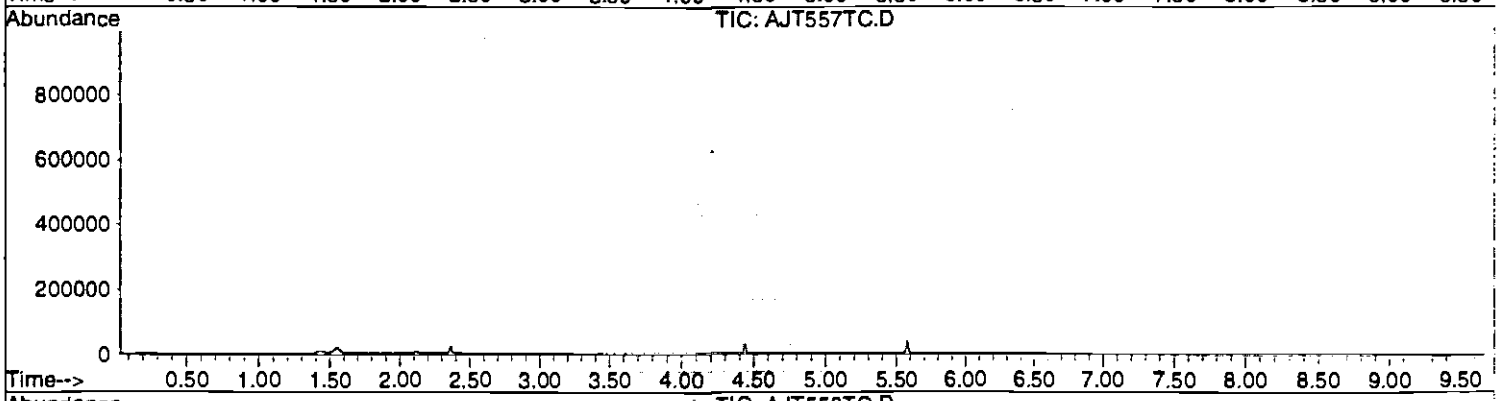
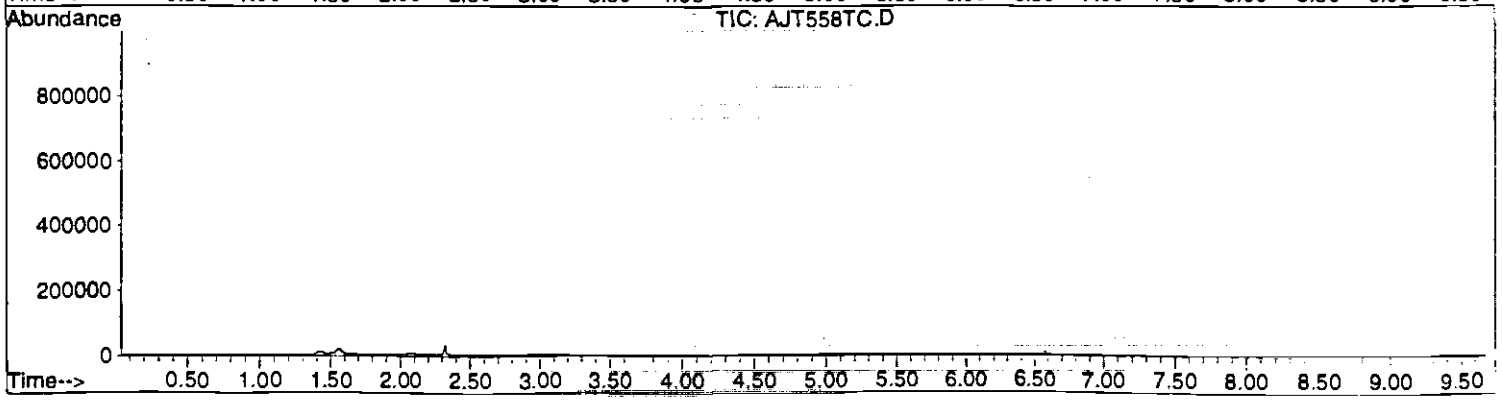
In Sequence Order





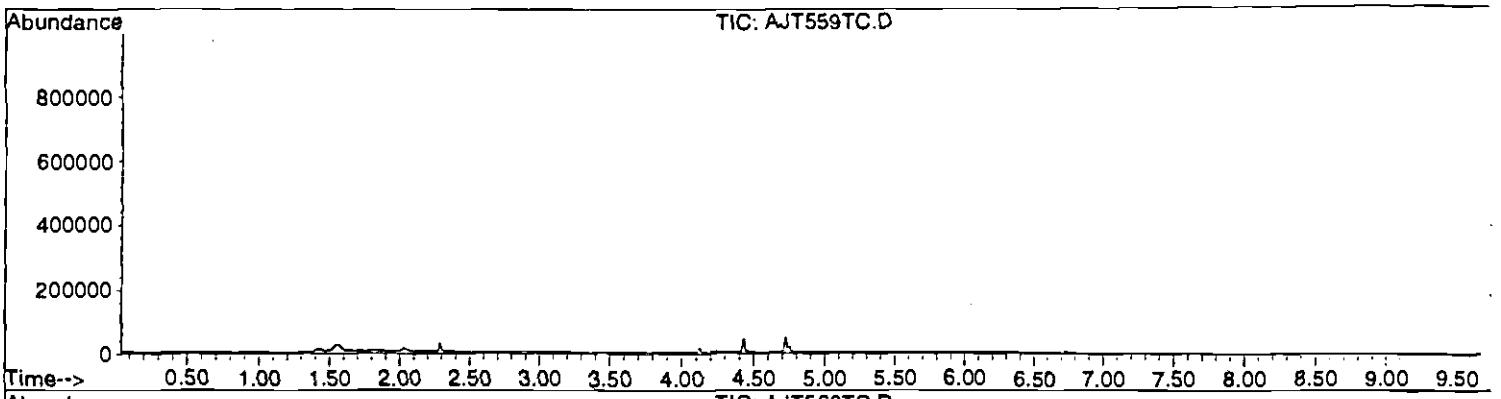


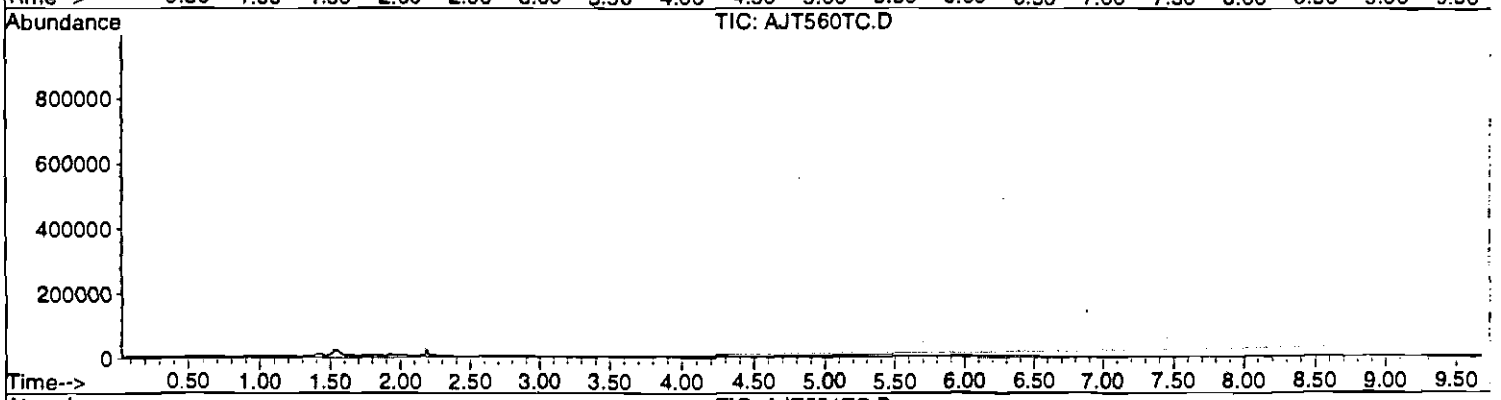


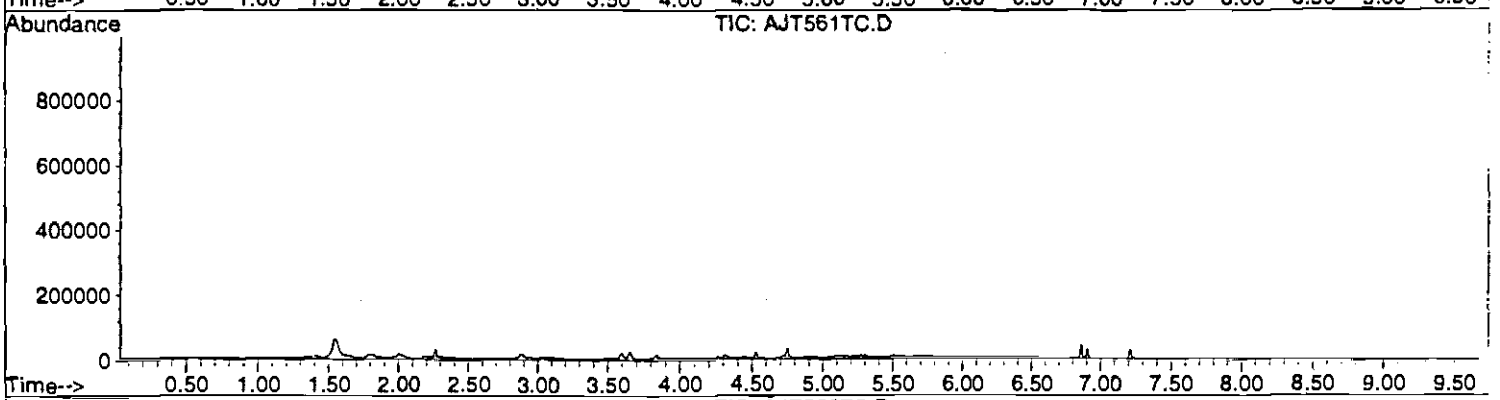


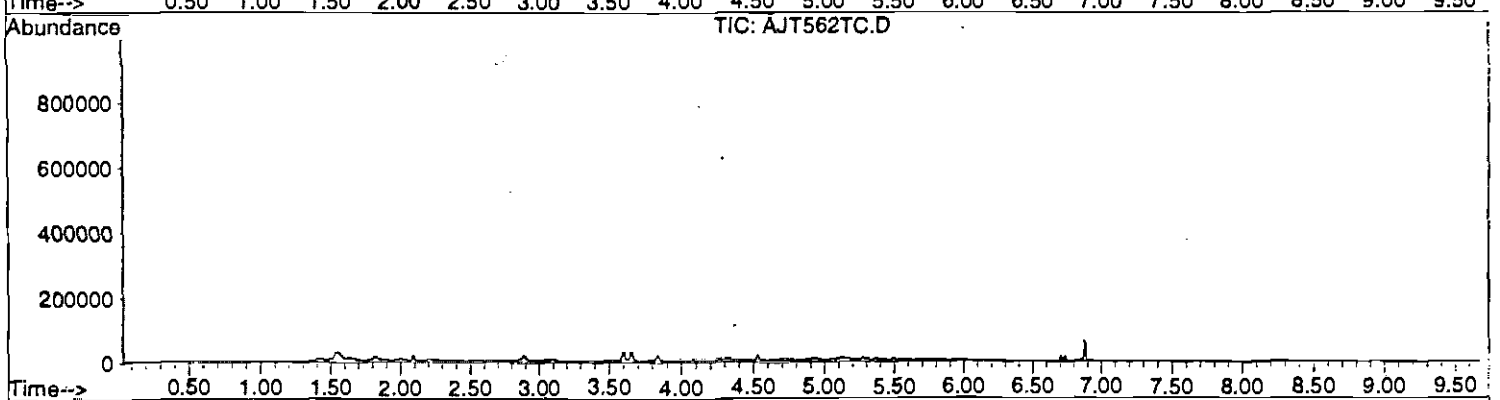
TIC - SITE AJT - PRODUCTION ORDER #092673
In Sequence Order

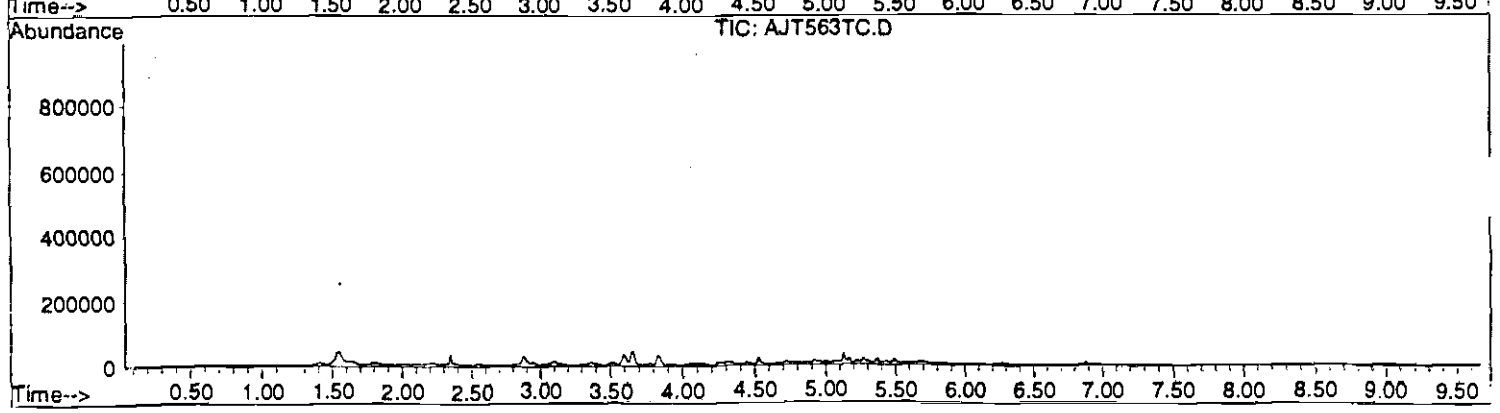
464 148











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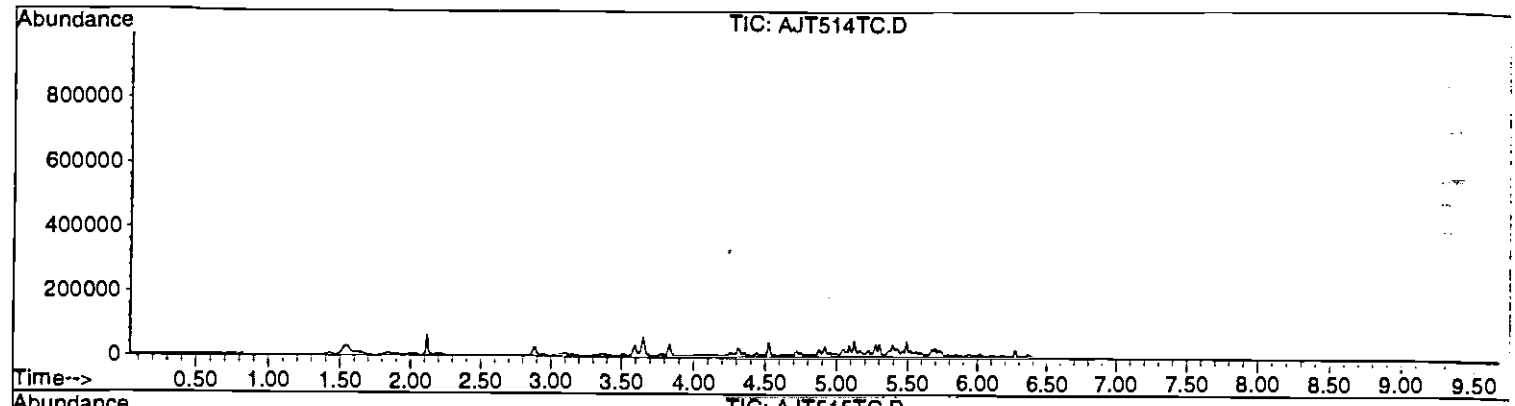

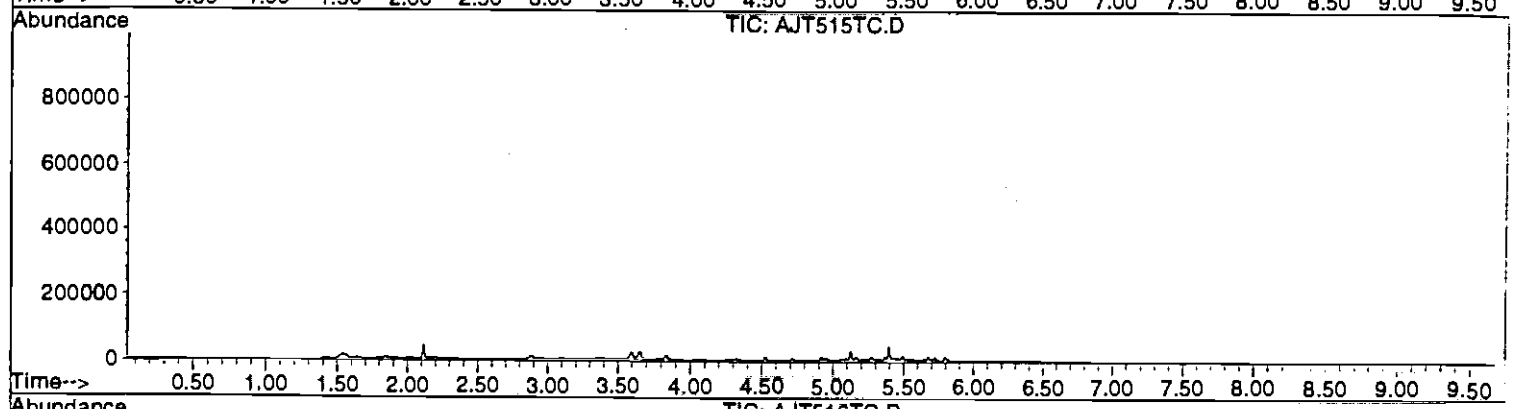

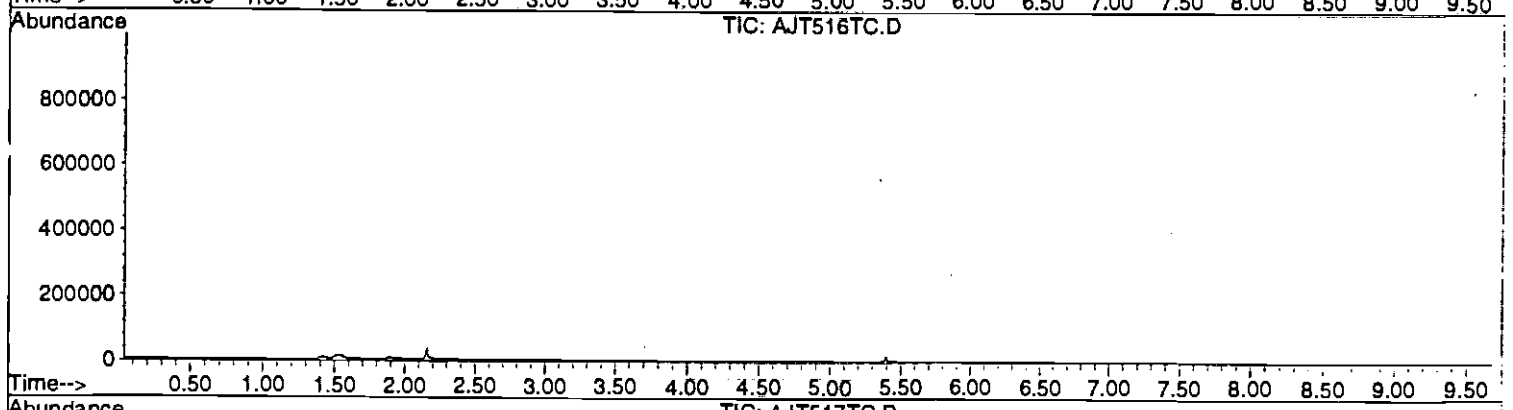

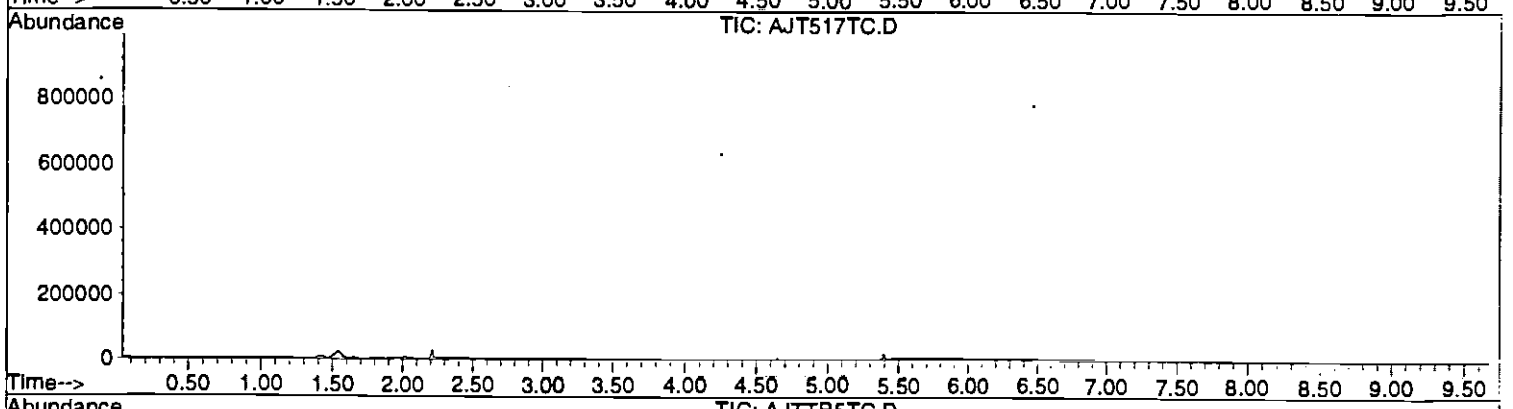

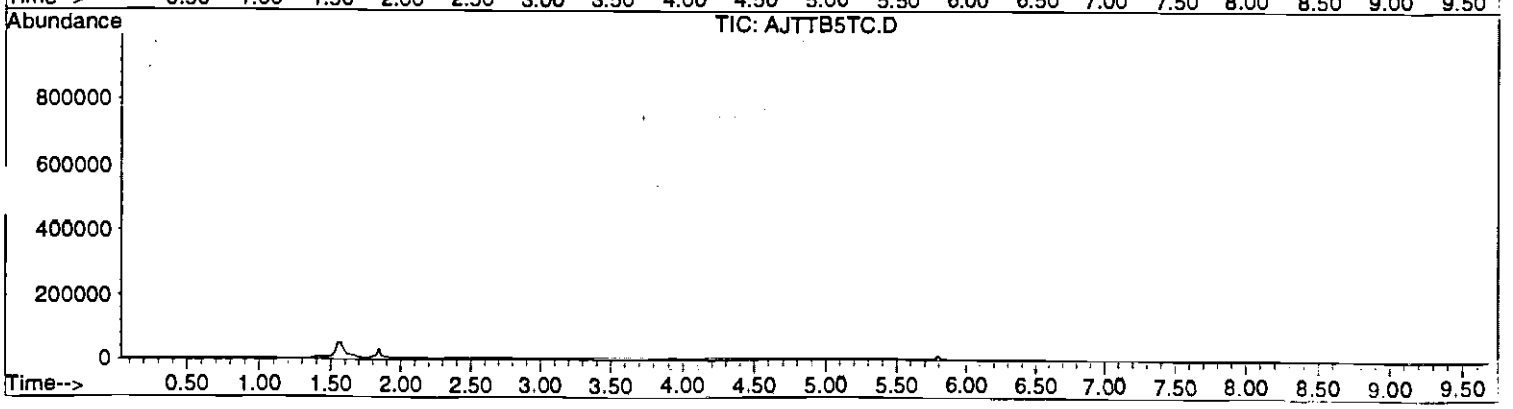

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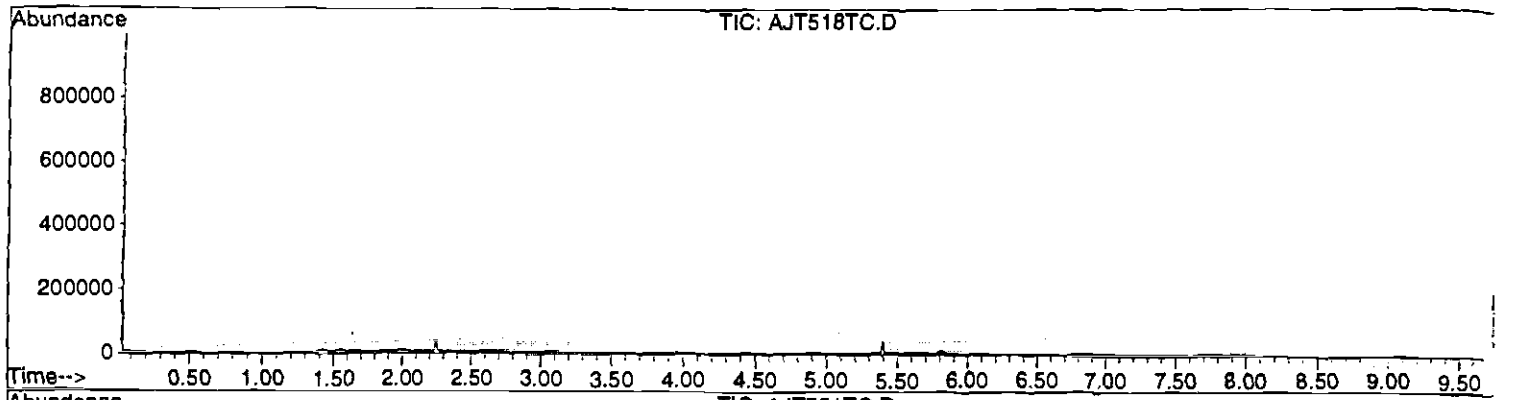

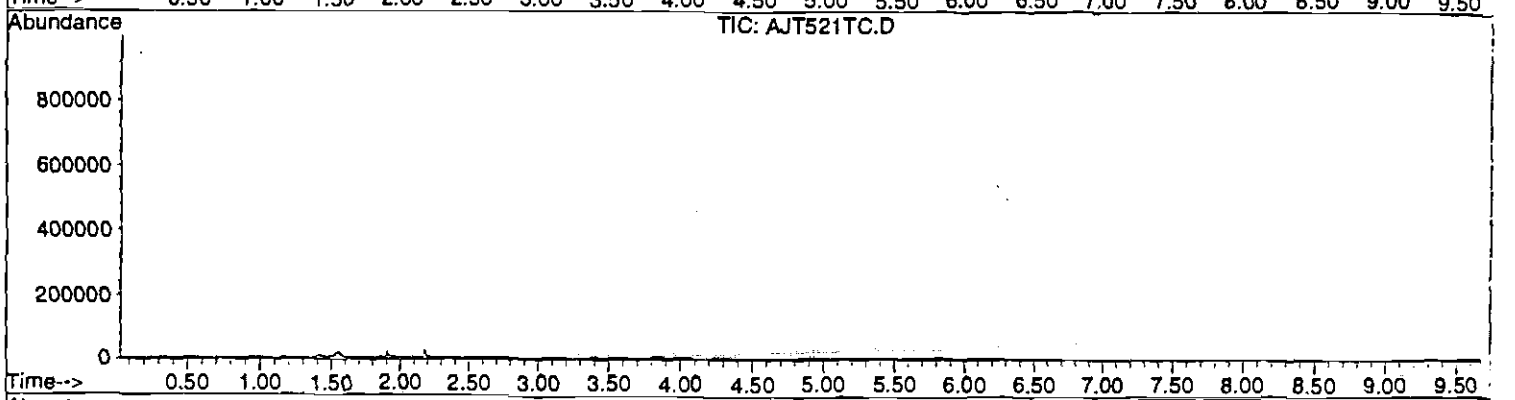

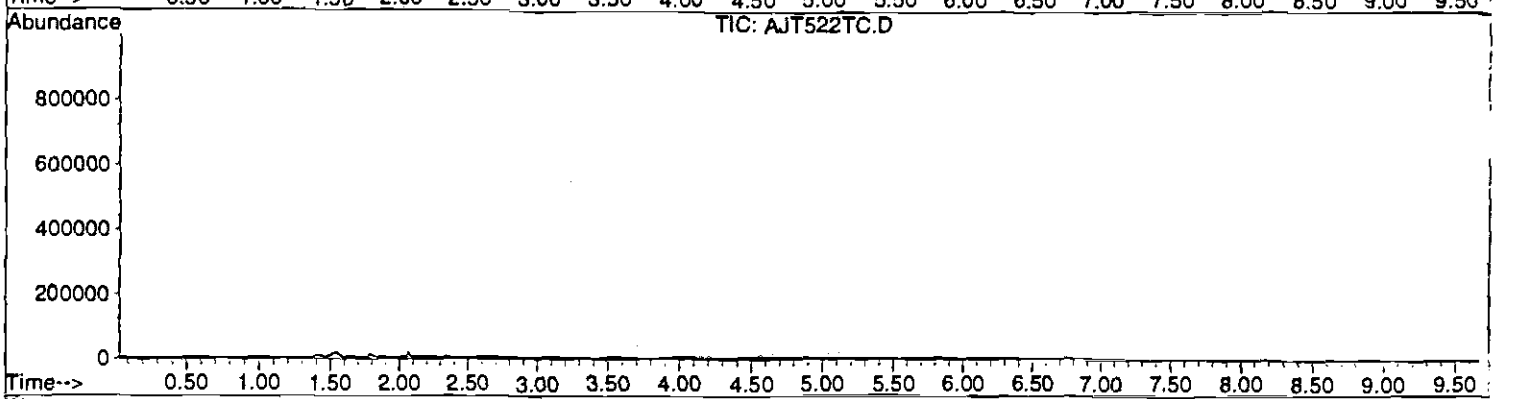

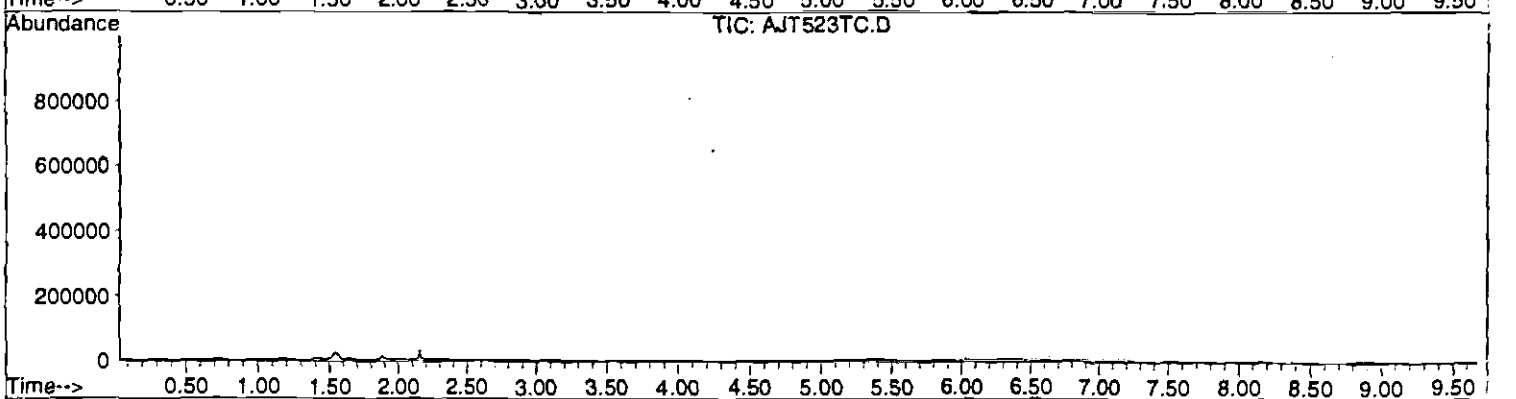

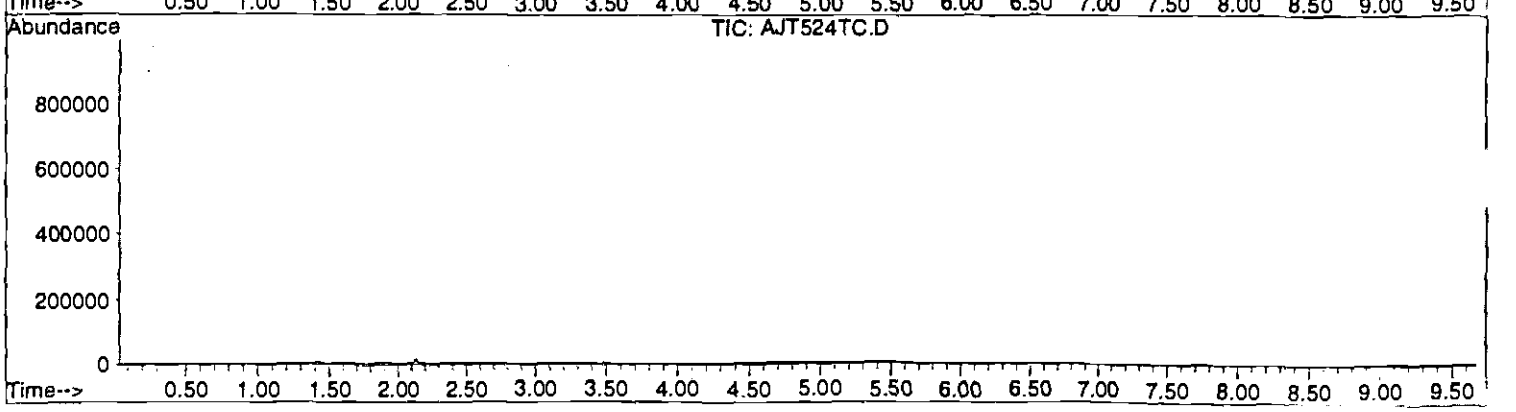

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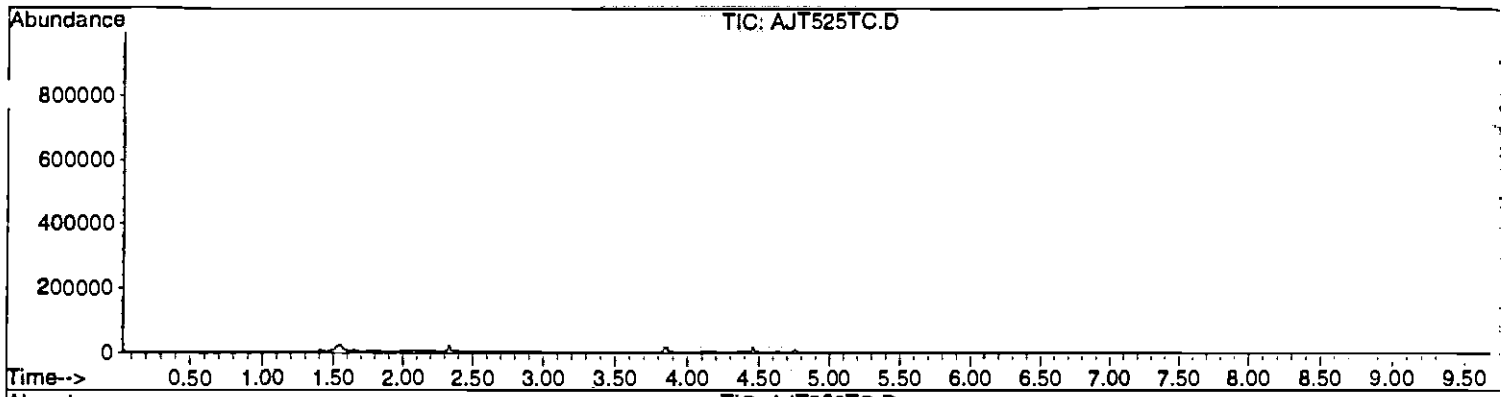

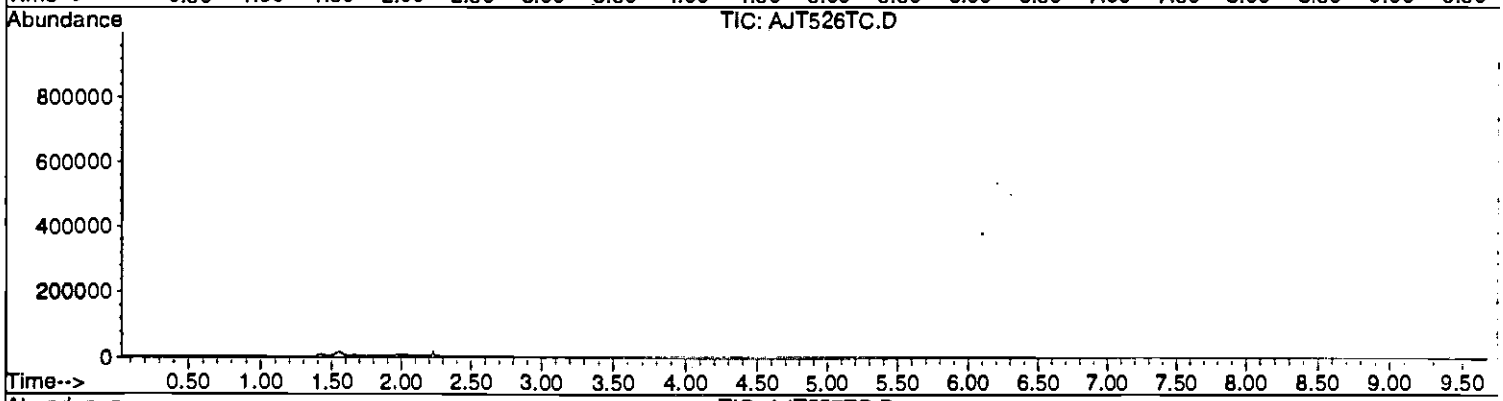

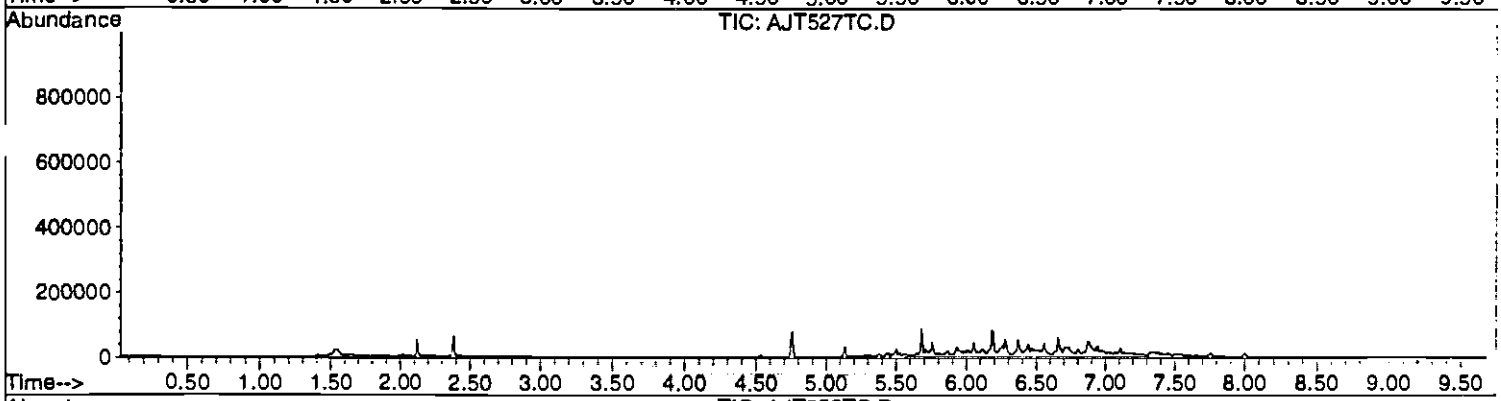

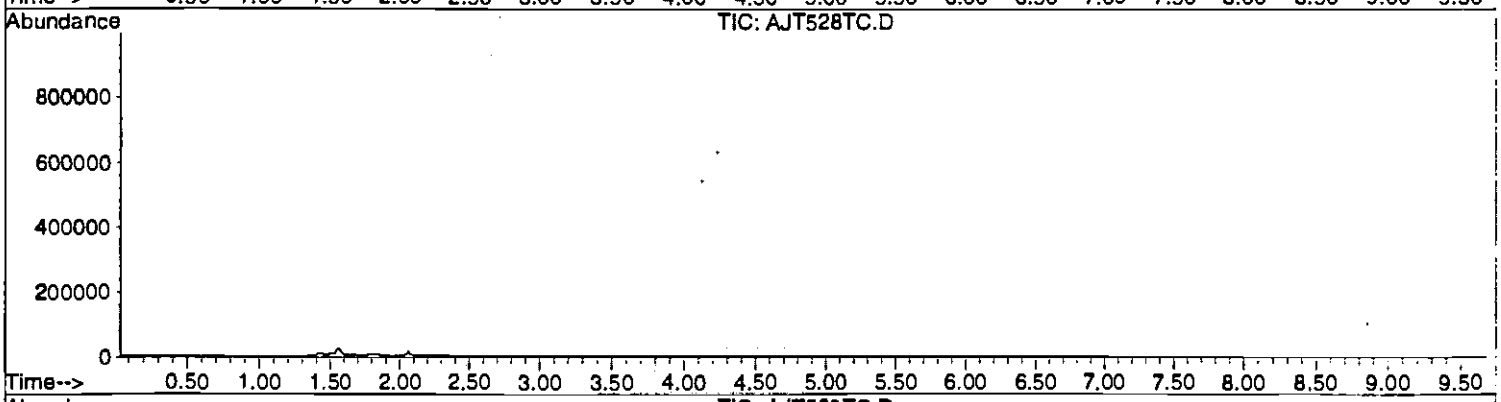

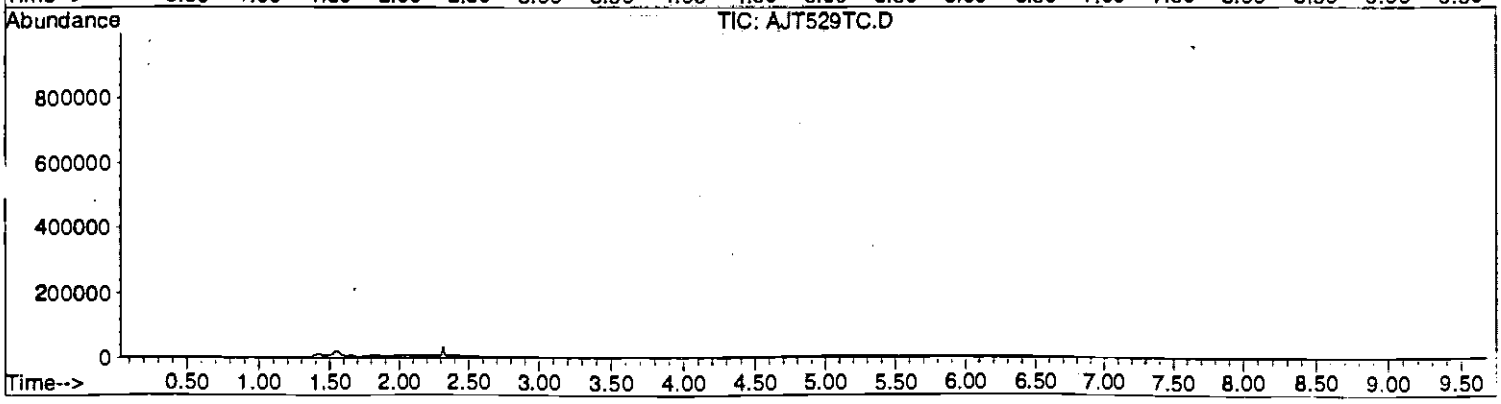

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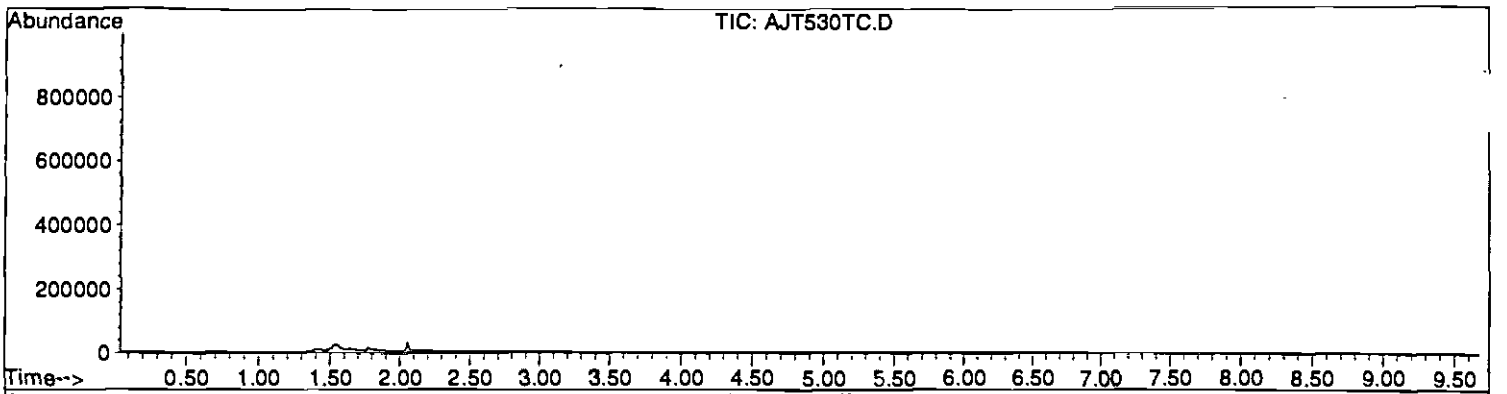

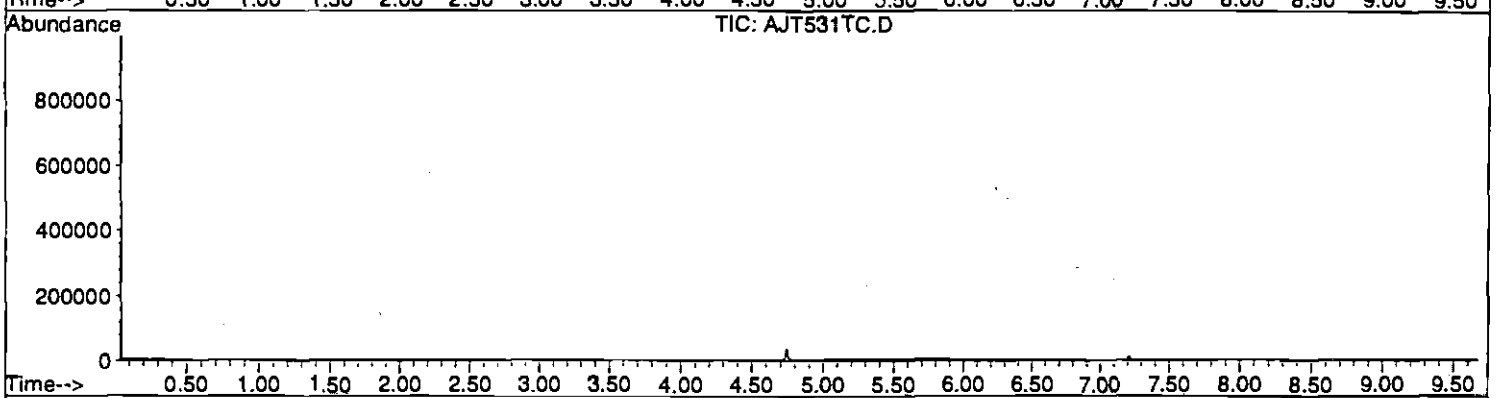

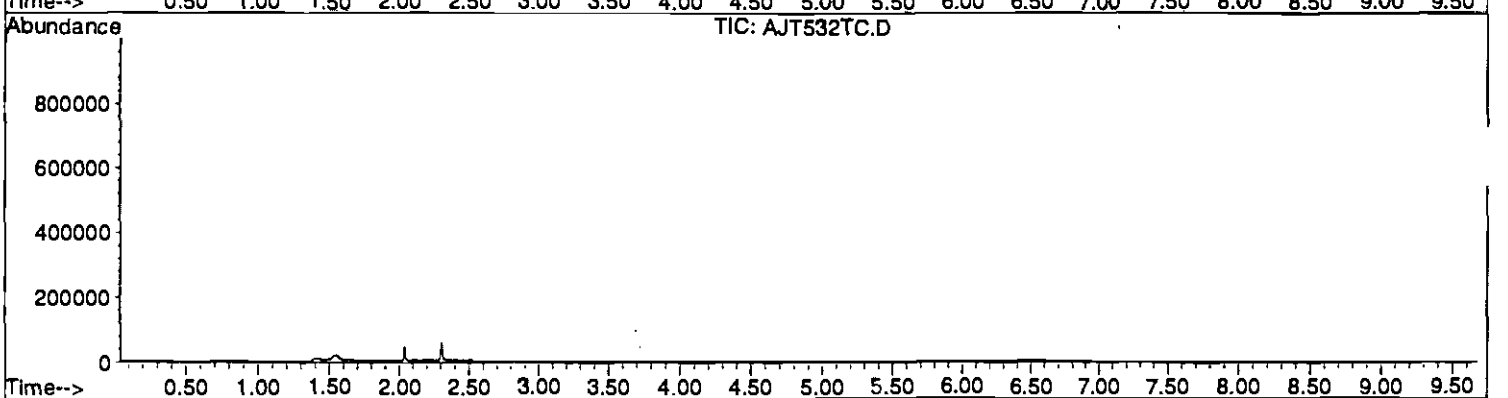

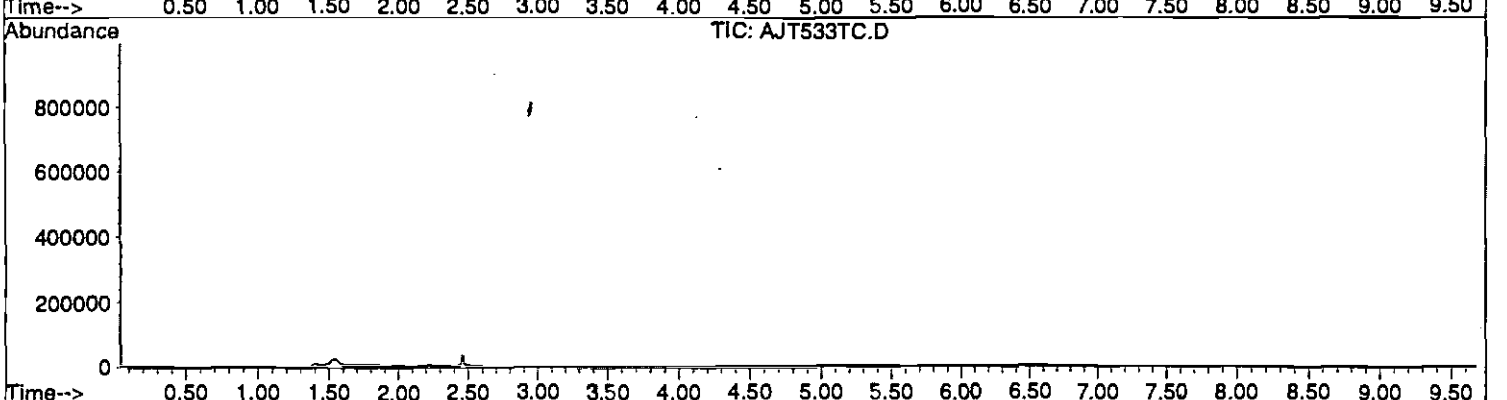

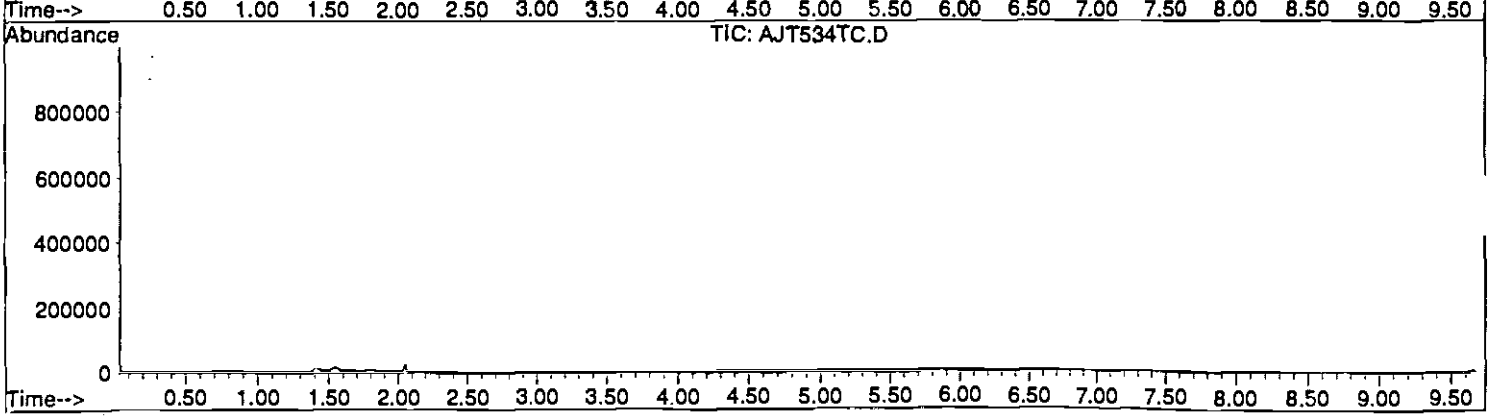

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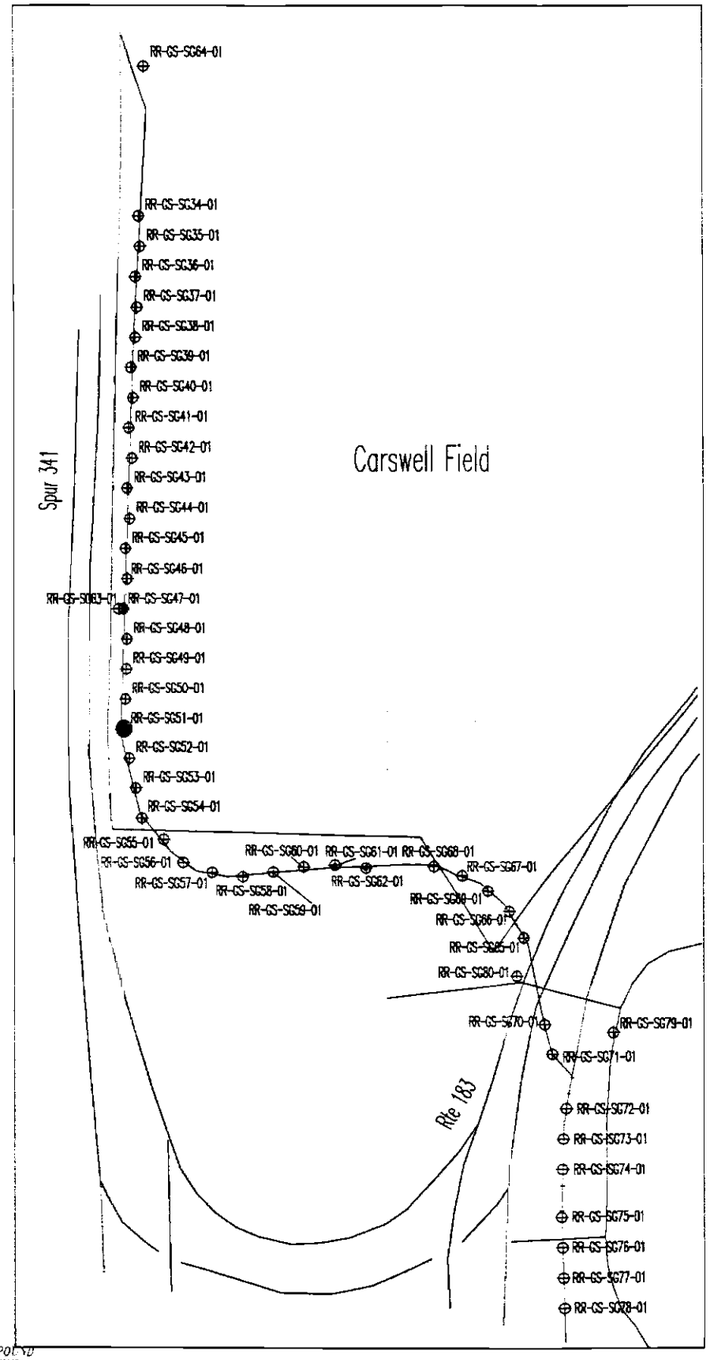

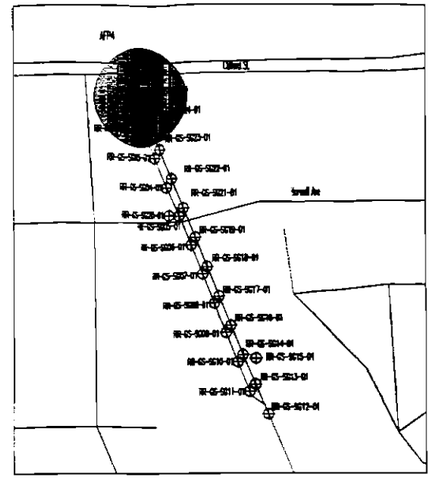

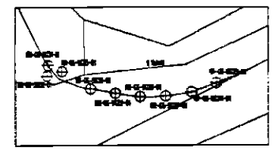

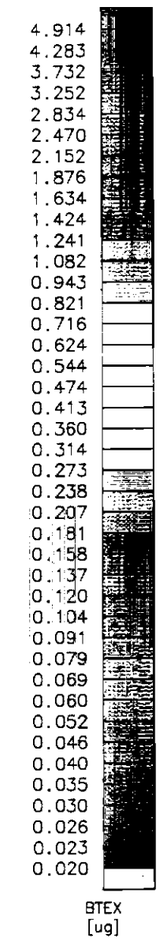

Scale 1:7200

250 0 250 500 750

(feet)

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BTEX

THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA

REV. #:

REV. DATE:

DATE DRAWN:	23 JAN 1998	GRID FILE:	
DRAWN BY:	JH	PLOT FILE:	BTF.PLT
DATE GRIDDED:	23 JAN 1998	PROJECT NUMBER:	092673
GRIDDED BY:	JH	SITE CODE:	AJT

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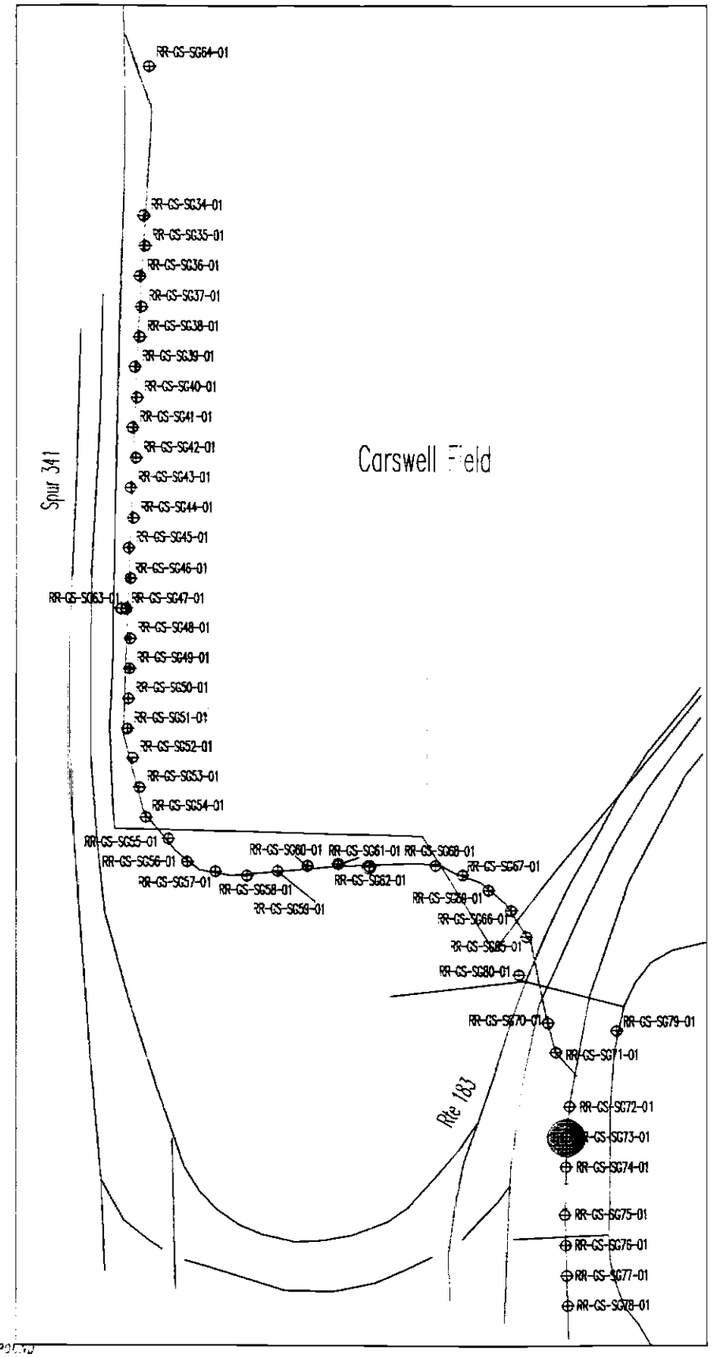

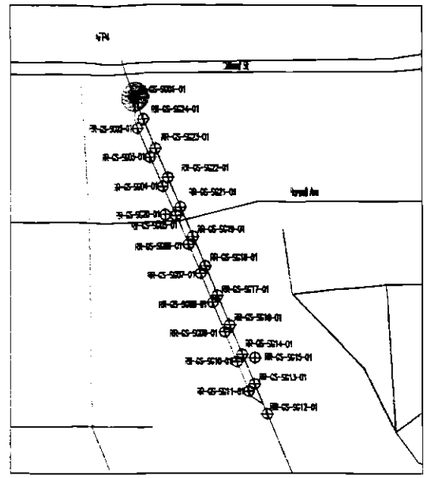

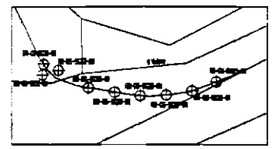

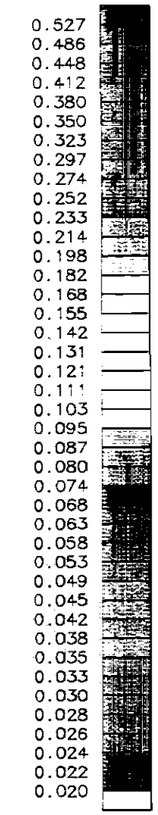

Scale 1:7200

250 0 250 500 750

(feet)

NOTE: CONTOUR PLOT REPRESENTS MASS OF COMPOUND DESCRIBED FROM GORE-SORBER SCREENING MODULES, IDENTIFIED AND QUANTIFIED BY GAS CHROMATOGRAPH MASS SELECTIVE DETECTION.

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THE ENVIRONMENTAL COMPANY, ISSAQUAH, WA

REV. #:

REV. DATE:

DATE DRAWN:	23 JAN 1998	GRID FILE:	
DRAWN BY:	JH	PLOT FILE:	UPF.PLT
DATE GRIDDED:	23 JAN 1998	PROJECT NUMBER:	092673
GRIDDED BY:	JH	SITE CODE:	AJT

DRAFT

APPENDIX I

INDEPENDENT DATA VALIDATION REPORT AND VALIDATED LABORATORY DATA SUMMARY REPORTS

464 156

CHEMWORLD ENVIRONMENTAL, INC.

Environmental Consultants

MEMORANDUM

TO: Bob Duffner, The Environmental Company, Inc.

FR: Andrea Schuessler, ChemWorld Environmental, Inc. APS

DT: April 27, 1998

RE: Quick Screen for Unusable Data for Carswell Project
Job Nos. A98-0481 and A98-0482, Volatiles (8260), Semi-Volatiles (8270) and Pesticides / PCB's (8081)

C: Pete Chapman, TEC

The following data is qualified as 'R', unusable, based upon the updated AFCEE QAPP Version 2.0, (January 1997) and 4/10/98 FAX and phone call from Pete Chapman.

Job No. A98-0481:

QC Item	Compound		Samples Affected
Initial Calibration	2,4-Dinitrophenol	(38.6% RSD)	DP01-01 DP01-02 DP02-01 DP03-01 DP03-02 DP03-03

Note 1: (Volatiles) The internal standard 1,4-dichlorobenzene-d4 generated low reported area counts for DP01-02, DP-02-01 and DP03-03. The samples were reanalyzed and the same internal standards were low again, therefore, a matrix interference may be present. The data is usable.

Job No. A98-0482:

QC Item	Compound		Samples Affected
Initial Calibration	2,4-Dinitrophenol	(38.6% RSD)	DP-05-01 DP-06-01 DP-07-01 DP-08-01 DP-08-02 DP-04-01
Initial Calibration	Benzoic Acid	(33.4% RSD)	WQ-EB-01
CCC-Calibration	Benzo(a)pyrene	(25.2% D)	WQ-EB-01
LCS (ug/L)	Hexachlorocyclopentadiene Naphthalene	(40% low) (48% low)	WQ-EB-01
Surrogates	Phenol-d5	(23% low)	MSB
	Phenol-d5 Terphenyl-d14	(23% low) (32% low)	WQ-EB-01

14 Orchard Way North, Rockville, Maryland 20854, Tel. (301) 294-6144, Fax (301) 309-6640

Note 2: Surrogates - MSB qualified as 'J', estimated, for the positive results, and 'R', unusable, for the non-detectable results, for the acid extractables, only. WQ-EB-01 is qualified as 'J', estimated, for the positive results, and 'R', unusable, for the non-detectable results, for all the compounds.

QC Item	Compound		Samples Affected
LCS (ug/L)	gamma-BHC	(72% low)	WQ-EB-01
	alpha-BHC	(67% low)	
	Aldrin	(41% low)	
	PCB1016	(46% low)	
LCS (ug/L)	alpha-BHC	(71% low)	WQ-EB-01
	Aldrin	(35% low)	
Surrogates	TCMX	(34% low)	WQ-EB-01

(WQ-EB-01 is unusable due to low surrogate recovery above, other surrogates were also out for some blank spikes and a method blank. The non-detectable results are unusable for these samples, as well.)

Note 3: WQ-EB-01 was reanalyzed for Pesticides/PCB's 8 days out of the holding time and is qualified as 'R', unusable. There were many %RSD's that were outside the limit for this reanalysis.

DATA VALIDATION and DATA SCREENING REPORT

ORGANIC AND INORGANIC ANALYSES

Carswell Air Force Base Project
(Railroad Right-of-Way)

Case Nos. A98-0481 and A98-0482

Sampling Dates of February 17 - 18, 1998

PREPARED FOR:

The Environmental Company, Inc.
710 N.W. Juniper Street
Suite 208
Issaquah, Washington 98027

June 1998

PREPARED BY:

ChemWorld Environmental, Inc.
14 Orchard Way North
Rockville, Maryland 20854

(301) 294 - 6144

Carswell AFB Project
Data Validation and Data Screening Report: Organic and Inorganic Analyses

Table of Contents **Page**

	Introduction	1
1.0	Volatile Organics by GC/MS	2
1.1	Holding Times	2
1.2	Surrogate Recovery	2
1.3	Matrix Spike/Matrix Spike Duplicate (MS/MSD)	2
1.4	Calibration	3
1.5	Blanks	3
1.6	GC/MS Instrument Performance Check	3
1.7	Internal Standards	3
1.8	Field Duplicates	4
1.9	Compound Identification	4
1.10	Compound Quantitation and Reported Detection Limits	4
2.0	Semivolatile Organics by GC/MS	5
2.1	Holding Times	5
2.2	Surrogate Recovery	5
2.3	MS/MSD	5
2.4	Calibration	6
2.5	Blanks	7
2.6	GC/MS Instrument Performance Check	7
2.7	Internal Standards	7
2.8	Field Duplicates	7
2.9	Compound Identification	7
2.10	Compound Quantitation and Reported Detection Limits	7
3.0	Pesticides/PCBs by GC	8
3.1	Holding Times	8
3.2	Surrogate Recovery	8
3.3	MS/MSD	9
3.4	Calibration	9
3.5	Blanks	9
3.6	Field Duplicates	10
3.7	Compound Identification	10
3.8	Compound Quantitation and Reported Detection Limits	10
4.0	Inorganic Analyses by AA and ICP	10
4.1	Holding Times	10
4.2	Calibration	10
4.3	Blanks	11
4.4	ICP Interference Check	11
4.5	MS/MSD	11
4.6	Field Duplicates	12
4.7	LCS	12
4.8	ICP Serial Dilution	12
4.9	Post Digest Spike Recovery	13
4.10	Sample Result Verification	13

Table of Contents, continued **Page**

5.0	TPH by Spectrophotometry	13
5.1	Holding Times	13
5.2	MS/MSD	13
5.3	Calibration	14
5.4	Blanks	14
5.5	Field Duplicates	14
5.6	Compound Verification	14

Table 1: Field Duplicate Sample Analysis - Precision for Inorganics

Appendices

A Data Summary Forms: Volatile Organics
B Data Summary Forms: Semivolatile Organics
C Data Summary Forms: Pesticides/PCBs
D Data Summary Forms: Inorganics
E Data Summary Forms: TPH
F Data Qualifiers
G Case Narratives
H Chain-of-Custody Forms

DATA VALIDATION and DATA SCREENING SUMMARY: ORGANIC AND INORGANIC ANALYSES

Carswell Air Force Base Project
(Railroad Right-of-Way)

Case Nos. A98-0481 and A98-0482

Sampling Dates of February 17 - 18, 1998

INTRODUCTION

This Data Validation and Data Screening Summary report for Organic and Inorganic analyses was generated for 5 water samples, 12 soil samples, and the associated quality control samples for the Air Force Center for Environmental Excellence (AFCEE) Sample Delivery Group (SDG) Nos. referenced above. Sampling activities were conducted in support of the field investigation for the Carswell Air Force Base (AFB) Railroad Right-of-Way Project. The analytical laboratory work was performed by RECRA LabNet. Ten percent of the samples required full data validation in accordance with AFCEE protocols. The remaining 90% of the samples were reviewed (screened) and qualified based upon the same AFCEE protocols. However, raw data review was not performed for the remaining 90% of the samples.

The analytical testing consisted of Volatile Organic analyses by Gas Chromatography/Mass Spectroscopy (GC/MS), Method 8260; Base/Neutral and Acid Extractable Organics by GC/MS, Method 8270, and Pesticides and Polychlorinated Biphenyls (PCBs) by GC Method, 8081. In addition, samples were analyzed for Inorganics by Inductively Coupled Plasma (ICP), Method 6010; Atomic Absorption (AA), Lead by Method 7421; and Mercury by Cold Vapor, Method 7470. Total Petroleum Hydrocarbons (TPH) were analyzed by Spectrophotometry, Method 418.1. The analytical work was performed utilizing the United States Environmental Protection Agency (USEPA) Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW-846, Third Edition).

This report provides a summary of data acceptability and deviations in accordance with the AFCEE data validation requirements located in the AFCEE Quality Assurance Project Plan, Version 2.0, dated January 1997; project approved variances; and the SW-846 Methods, where applicable and relevant. The validation report pertains to the following samples:

<u>Case No. A98-0481</u>

TB-001 (Trip Blank 2/17/98)
RR-SO-DP01-01 (Validated)
RR-SO-DP01-02
RR-SO-DP02-01
RR-SO-DP03-02
RR-SO-DP03-01 (Validated)
RR-SO-DP03-03 (Duplicate of RR-SO-DP03-01)

<u>Case No. A98-0482</u>

RR-WQ-AB-01 (Ambient Blank 2/18/98)
RR-WQ-AB-02 (Ambient Blank 2/18/98)
RR-WQ-EB-01 (Equipment Blank 2/18/98)
RR-WQ-TB-02 (Trip Blank 2/18/98)
RR-SO-DP04-01
RR-SO-DP07-01
RR-SO-DP08-02

RR-SO-DP05-01
RR-SO-DP06-01
RR-SO-DP08-01

1.0 VOLATILE ORGANICS BY GC/MS

The following items/criteria were reviewed:

- Holding Times
- Surrogate Recovery
- Matrix Spikes (MS) and Matrix Spike Duplicates (MSD)
- Laboratory Control Samples (LCS)
- Initial and Continuing Calibration
- Blanks (Method and Field)
- GC/MS Instrument Performance Check
- Internal Standards
- Field Duplicates
- Compound Identification
- Compound Quantitation and Reported Detection Limits

All items above were generated within acceptable Quality Control (QC) specifications, with deviations detailed as follows. All data reviewed is considered to be valid and usable with the appropriate qualifiers, as noted on the AFCEE Form 2's in Appendix A and within the following text.

1.1 Holding Time

All holding times were met within the acceptable time frame of 14 days from collection for the preserved water samples and soil samples.

1.2 Surrogate Compound Recovery

All surrogate recovery (%R) was found to be generated within acceptable limits for the three surrogate compounds.

1.3 Matrix Spike/Matrix Spike Duplicates (MS/MSD)

One MS/MSD sample set for soils was analyzed for the project and Laboratory Control Samples (LCS) were analyzed for each analytical batch. Acceptable accuracy (percent recovery) and precision (relative percent difference) were generated for the quality control samples, with the following exceptions.

1.3.1 Case Nos. A98-0481 and A98-0482

A high recovery was generated for the LCS for 1,1,1,2-Tetrachloroethane at 124% (Limit 62-108) for the soil samples. Positive results were not detected for the associated soil samples, therefore, qualification was not required.

1.3.2 Case No. A98-0482

Low matrix spike recovery was generated for the MS sample only for dichlorodifluoromethane at 61% (Limit 65-135). The soil samples for the project were qualified with an 'M', for possible matrix interference, due to poor accuracy for the RR-SO-DP04-01 MS/MSD sample set.

1.4 Calibration

All initial and continuing calibration was performed within acceptable limits for minimum Response Factors (RF's), Percent Relative Standard Deviation (% RSD), Percent Recovery (%R) with respect to the expected value, and Percent Difference (%D).

1.5 Blanks

1.5.1 **Field Blanks**

1.5.1.1 **Case No. A98-0481**

One trip blank was analyzed for the Case. Chloroform was detected at 0.2 ug/L. However, this result is less than the Practical Quantitation Limit (PQL), therefore, qualification of the samples is not required.

1.5.1.2 **Case No. A98-0482**

One trip blank, one equipment blank, and two ambient blanks were analyzed for the Case. Volatile Organics were detected as follows.

Sample ID		ug/L
RR-WQ-AB-01	Toluene	2
RR-WQ-AB-02	Toluene	2
RR-WQ-EB-01	Toluene	1

Positive results greater than the PQL were not detected for toluene in the associated samples, therefore, qualification was not required.

1.5.2 **Method Blanks**

1.5.2.1 **Case No. A98-0481**

One water method blank and two soil method blanks were analyzed for the Case. Volatile Organics were not detected, with the exception of methylene chloride in the method blank on 2/23/98. Methylene chloride was detected in samples DP01-02, DP02-01, DP03-01, and DP03-03, analyzed on 2/23/98. These samples were qualified with a 'B', for methylene chloride.

1.5.2.2 **Case No. A98-0482**

One water method blank and two soil method blanks were analyzed for the Case. Volatile Organics were not detected, with the exception of methylene chloride in one of the soil method blanks. Samples RR-SO-DP05-01, RR-SO-DP06-01, and RR-SO-DP08-01 were qualified with a 'B', for methylene chloride.

1.6 GC/MS Instrument Performance Check

Instrument Performance was generated within acceptable limits and frequency for Bromofluorobenzene (BFB).

1.7 Internal Standards

All internal standards were generated within acceptable specifications for area counts and retention time variation, with the following exceptions.

1.7.1 Case No. A98-0481

Sample ID	Internal Standard	Reported Area Count	Lower Limit
RR-SO-DP01-02	1,4-Dichlorobenzene-d4	37163	49596
RR-SO-DP02-01	1,4-Dichlorobenzene-d4	37147	49596
RR-SO-DP03-03	1,4-Dichlorobenzene-d4	39185	49596
RR-SO-DP01-02-RE	1,4-Dichlorobenzene-d4	42271	47101
RR-SO-DP02-01-RE	1,4-Dichlorobenzene-d4	46228	47101
RR-SO-DP03-03-RE	1,4-Dichlorobenzene-d4	43460	47101

The samples above were qualified as 'J', estimated, for the positive results, and 'UJ', estimated, for the non-detectable results, for the compounds associated with the internal standard noted. As shown above, the samples were re-analyzed with similar low reported area counts, therefore, a matrix affect may be present.

1.8 **Field Duplicates**

1.8.1 Case No. A98-0481

Samples RR-SO-DP03-01 and RR-SO-DP03-03 were collected as the field duplicate soil samples and analyzed for Volatile Organics. Acceptable precision was generated for the duplicate pair.

1.9 **Compound Identification**

GC/MS qualitative analyses are considered to be acceptable for those samples validated. Retention times and mass spectra were generated within appropriate quality control specifications.

1.10 **Compound Quantitation and Reported Detection Limits**

GC/MS quantitative analyses are considered to be acceptable for those samples validated. Sample dilutions, internal standards and response factors were found to be within acceptable limits.

2.0 SEMIVOLATILE ORGANICS BY GC/MS
(Base/Neutral and Acid Extractable Organics)

The following items/criteria were reviewed:

- Holding Times
- Surrogate Recovery
- MS/MSD
- LCS
- Initial and Continuing Calibration
- Blanks (Method and Field)
- GC/MS Instrument Performance Check
- Internal Standards
- Field Duplicates
- Compound Identification
- Compound Quantitation and Reported Detection Limits

All items above were generated within acceptable QC specifications, with deviations detailed as follows. The non-detectable results for RR-WQ-EB-01 were qualified as 'R', unusable, due to low surrogate recovery. The 2,4-Dintrophenol results for the soil samples for Case Nos. A98-0481 and A98-0482 were qualified as 'R', unusable, due to %RSD of greater than 30%. The remaining data reviewed is considered to be valid and usable with the appropriate qualifiers, as noted on the AFCEE Form 2's in Appendix B and within the following text.

2.1 Holding Time

All holding times were met within the acceptable time frame for extraction and analysis of the water and soil samples. Water samples were extracted within 7 days of collection and soils within 14 days. Analyses were run within 40 days of extraction.

2.2 Surrogate Compound Recovery

All surrogate recovery was found to be generated within acceptable limits for the six surrogate compounds, with the following exceptions.

2.2.1 Case No. A98-0482

Sample ID			
MSB	Phenol-d5	23%	(Limit 25-125)
RR-WQ-EB-01	Phenol-d5	23%	
	Terphenyl-d14	32%	(Limit 42-126)

Sample RR-WQ-EB-01 was qualified as 'J', estimated, for the positive results, and 'R', unusable, for the non-detectable results, due to low surrogate recovery. The matrix spike blank (MSB) was qualified as 'J', estimated, for all the positive results for the acid-extractable compounds, only.

2.3 MS/MSD

One MS/MSD sample sets for soils was analyzed for the project and an LCS was analyzed for each Case. Acceptable accuracy and precision were generated for the quality control samples, with the following exceptions.

2.3.1 **Case No. A98-0482**

Sample ID			
LCS (ug/L)	Hexachlorocyclopentadiene	40%	(Limit 41-125)
	Naphthalene	48%	(Limit 50-125)

Sample RR-WQ-EB-01, associated with the aqueous LCS above, was previously qualified in *Section 4.2, Surrogate Compound Recovery*. Additional qualification is not required.

2.4 Calibration

All initial and continuing calibration was performed within acceptable limits for minimum RF's, %RSD, %R with respect to the expected value, and %D, with the following exceptions.

2.4.1 **Case No. A98-0481**

Initial Calibration:

Date			
3/02/98	2,4-Dinitrophenol	38.6% RSD	(Limit 30%)

The associated soil samples were qualified as 'R', unusable, for 2,4-Dinitrophenol. Positive results were not detected for the compound.

2.4.2 **Case No. A98-0482**

Initial Calibration:

Date			
3/02/98 (Soils)	2,4-Dinitrophenol	38.6% RSD	(Limit 30%)
2/24/98 (Water)	Benzoic Acid	33.4%	

CCC Calibration:

Date			
2/24/98 (Waters)	Benzo(a)pyrene	25.2% D	(Limit 20%)

The associated soil samples were qualified as 'R', unusable, for 2,4-Dinitrophenol. The water sample RR-WQ-EB-01 was previously qualified in *Section 4.2, Surrogate Compound Recovery*. Additional qualification is not required.

2.5 Blanks

2.5.1 Field Blanks

2.5.1.1 Case No. A98-0482

One equipment blank was analyzed for the Case. Semi-Volatiles were detected over the PQL as follows.

Sample ID		
RR-WQ-EB-01	bis(2-ethylhexyl)phthalate	31 ug/L
	Diethylphthalate	140 ug/L

Positive results for the compounds above were not detected in the associated soil samples, therefore qualification was not required.

2.5.2 Method Blanks

2.5.2.1 Case No. A98-0481

One soil method blank was analyzed for the Case. Semivolatile Organics were not detected.

2.5.2.2 Case No. A98-0482

One soil method blank and one water method blank were analyzed for the Case. Semivolatile Organics were not detected.

2.6 GC/MS Instrument Performance Check

Instrument Performance was generated within acceptable limits and frequency for Decafluorotriphenylphosphine (DFTPP).

2.7 Internal Standards

All internal standards were generated within acceptable specifications for area counts and retention time variation.

2.8 Field Duplicates

2.8.1 Case No. A98-0481

Samples RR-SO-DP03-01 and RR-SO-DP03-03 were collected as the field duplicate soil samples and analyzed for Semivolatile Organics. Acceptable precision was generated for the duplicate pair. Positive results were not detected for either sample.

2.9 Compound Identification

GC/MS qualitative analyses are considered to be acceptable for those samples validated. Retention times and mass spectra were generated within appropriate quality control specifications.

2.10 Compound Quantitation and Reported Detection Limits

GC/MS quantitative analyses are considered to be acceptable for those samples validated. Sample dilutions, internal standards and response factors were found to be within acceptable limits.

3.0 PESTICIDES/PCBs BY GC

The following items/criteria were reviewed:

- Holding Times
- Surrogate Recovery
- MS/MSD
- LCS
- Initial and Continuing Calibration
- Blanks (Method and Field)
- Field Duplicates
- Compound Identification
- Compound Quantitation and Reported Detection Limits

All items above were generated within acceptable QC specifications, with deviations detailed as follows. The re-analysis of sample RR-WQ-EB-01 was qualified as 'R', unusable, due to analysis 8 days past the holding time. Samples RR-WQ-EB-01, the water method blank and the matrix spike blanks were qualified as 'R', unusable, for the non-detectable results, due to low surrogate recovery. The remaining data reviewed is considered to be valid and usable with the appropriate qualifiers, as noted on the AFCEE Form 2's in Appendix C and within the following text.

3.1 Holding Time

All holding times were met within the acceptable time frame for extraction and analysis of the soil and water samples, with the exceptions as noted below. Soil samples were extracted within 14 days of collection and water samples within 7 days of collection. The samples were analyzed within 40 days of extraction.

3.1.1 Case No. A98-0482

Sample ID	Number of Days Exceeding Hold Time
RR-WQ-EB-01-RE	8

The results from the re-analysis of RR-WQ-EB-01 were qualified as 'R', unusable, due to the holding time deviation above.

3.2 Surrogate Compound Recovery

All surrogate recovery was found to be generated within acceptable limits for the two surrogate compounds, with the following exceptions.

3.2.1 Case No. A98-0482

Sample			
Matrix Spike Blank	TCMX	26%	(Limit 45-133)
Matrix Spike Blank	DCBP	32%	(Limit 34-133)
	TCMX	14%	
MSB Duplicate	TCMX	26%	

MSB Duplicate	TCMX	22%
Method Blank	TCMX	18%
RR-WQ-EB-01	TCMX	34%

The samples above were qualified as 'J', estimated, for the positive results, and 'R', unusable, for the non-detectable results, due to low surrogate recovery. Positive results were not detected for the method blank and RR-WQ-EB-01.

3.3 MS/MSD

One MS/MSD sample set for soils was analyzed for the project and an LCS was analyzed for each Case. Acceptable accuracy and precision were generated for the quality control samples, with the following exceptions.

3.3.1 Case No. A98-0482

The LCS for waters generated low spike recovery for gamma-BHC (72%), alpha-BHC (67%), aldrin (41%), and PCB-1016 (46%). In addition, the LCS-Duplicate for waters generated low recovery for alpha-BHC (71%) and aldrin (35%). The associated water sample RR-WQ-EB-01 was previously qualified as 'R', unusable, for low surrogate recovery. Additional qualification is not required.

3.4 Calibration

All initial and continuing calibration was performed within acceptable limits for correlation coefficients of ≥ 0.995, %R with respect to the expected value, %RSD, %D, and % Breakdown.

3.5 Blanks

3.5.1 Field Blanks

3.5.1.1 Case No. A98-0482

One equipment blank was collected and analyzed for Pesticides and PCBs. Positive results were not detected. However, the equipment blank was qualified as 'R', unusable, due to low surrogate recovery.

3.5.2 Method Blanks

3.5.2.1 Case No. A98-0481

One soil method blank was analyzed for Pesticides and PCBs for the Case. Positive results were not detected.

3.5.2.2 Case No. A98-0482

One soil method blank and one water method blank were analyzed for the Case. Pesticides and PCBs were not detected. However, the water method blank was qualified as 'R', unusable, due to low surrogate recovery.

3.6 **Field Duplicates**

3.6.1 **Case No. A98-0481**

Samples RR-SO-DP03-01 and RR-SO-DP03-03 were collected as the field duplicate soil samples and analyzed for Pesticides and PCBs. Positive results were not detected for either sample, therefore, acceptable precision was generated.

3.7 **Compound Identification**

GC qualitative analyses are considered to be acceptable for the samples validated. Data was generated within appropriate quality control specifications.

3.8 **Compound Quantitation and Reported Detection Limits**

GC quantitative analyses are considered to be acceptable for the samples validated. Sample dilutions and quality control criteria were found to be acceptable.

4.0 INORGANIC ANALYSES BY AA AND ICP
(Mercury by Cold Vapor)

The following items/criteria were reviewed:

- Holding Times
- Initial and Continuing Calibration
- Blanks (Initial, Continuing Calibration, and Method)
- Field Blanks
- ICP Interference Check Sample
- MS/MSD
- Field Duplicates
- LCS
- ICP Serial Dilution
- Post Digest Spike Recovery
- Sample Result Verification

All items above were generated within acceptable QC specifications, with deviations detailed as follows. All data reviewed is considered to be valid and usable with the appropriate qualifiers, as noted on the AFCEE Form 2's in Appendix D and within the following text.

4.1 **Holding Times**

All holding times were met within the acceptable time frame from collection for Inorganics (180 days) and mercury (28 days).

4.2 **Calibration**

All initial and continuing calibration was performed within acceptable limits for correlation coefficients of $\geq$ 0.995 percent recovery of the expected value and %D.

4.3 Blanks

4.3.1 Laboratory (Method) Blanks

All initial calibration, continuing calibration, and method blanks were generated in accordance with acceptable limits, with the following exceptions.

4.3.1.1 Case Nos. A98-0481 and A98-0482

Calcium was detected in the method blank at 30.9 mg/Kg. The soil samples associated with this method blank were qualified with a 'B', to denote a concentration of greater than the PQL of calcium in the associated method blank. However, these samples are also qualified as 'J', estimated, for calcium due to ICP Serial Dilution and Post Digest Spike Recovery.

In addition, calcium was detected in the aqueous method blank over the PQL at 0.25 mg/L. Sample RR-WQ-EB-01 was also qualified with a 'B'.

4.3.2 Field Blanks

4.3.2.1 Case Nos. A98-0481 and A98-0482

One equipment blank was analyzed for the soil samples. Inorganics detected over the PQL are as follows.

Sample ID		(mg/L)
RR-WQ-EB-01	Aluminum	0.47
	Manganese	0.0085
	Barium	0.0060
	Calcium	2.5
	Iron	0.43
	Zinc	0.023
	Sodium	4.2
	Magnesium	0.16

The soil samples associated with the equipment blank above were qualified with a 'B', qualifier, for the compounds noted. However, many of the Inorganics noted above are also qualified as 'J', estimated, due to ICP Serial Dilution and Post Digest Spike Recovery.

4.4 ICP Interference Check

The recoveries for the ICP Interference Check samples were found to be within the acceptable 80-120% limit.

4.5 MS/MSD

All percent recoveries and relative percent difference for the MS/MSD samples were found to be acceptable, with the following exceptions.

4.5.1 **Case Nos. A98-0481 and A98-0482**

Sample ID			
DP04-01	Cadmium	31% RPD	(Limit 25%)
	Cadmium	46% / 63% R	(Limit 80-120%)
	Lead (ICP)	76% / 75% R	
	Zinc	79% / 78% R	

The soil samples included in the Cases were qualified with an 'M', for possible matrix interference for the Inorganics noted above.

4.6 **Field Duplicates**

4.6.1 **Case No. A98-0481**

Samples RR-SO-DP03-01 and RR-SO-DP03-03 were collected as the field duplicate samples and analyzed for Inorganics. Acceptable precision was generated, with the exception of Lead by AA. Poor precision was generated for the Lead AA analyses. However, acceptable precision was generated for the Lead by ICP analyses. Non-homogeneity of the soil matrix may have contributed to the poor precision generated by the AA analyses. Table 1 includes calculated precision for the duplicate pair.

4.7 **Laboratory Control Sample (LCS)**

The aqueous and solid laboratory control samples were generated within the acceptable limit of 80-120% for recovery, with the following exceptions.

4.7.1 **Case Nos. A98-0481 and A98-0482**

The solid LCS for antimony generated high recovery at 122% (Limit 80-120). Antimony was not detected in the samples, therefore, qualification was not required.

4.8 **ICP Serial Dilution**

ICP Serial Dilution was found to be within the acceptable limit of ± 10% for the Inorganic analyses, with the following exceptions.

4.8.1 **Case Nos A98-0481 and A98-0482**

Sample ID		
DP03-03	Aluminum	27.7% D
(mg/Kg)	Barium	28.7%
	Calcium	35.2%
	Chromium	25.5%
	Copper	28.4%
	Iron	29.6%
	Magnesium	31.1%
	Manganese	29.9%
	Potassium	16.6%
	Vanadium	28.2%
	Zinc	27.4%

The samples were qualified as 'J', estimated, for the positive results for the Inorganics noted above.

4.9 Post Digest Spike Recovery

Percent recovery was found to be in the 75-125% limit, with the following exceptions.

4.9.1 Case Nos. A98-0481 and A98-0482

DP03-03 (mg/Kg)

Aluminum	35.6%
Cadmium	71.5%
Calcium	39.1%
Iron	72.1%
Manganese	64.4%
Molybdenum	4.3%

The associated soil samples were qualified as 'J', estimated, for the positive results, and 'UJ', estimated, for the non-detectable results, for the Inorganics noted above.

4.10 Sample Result Verification

Quantitative analyses are considered to be acceptable for the samples validated. Analyte quantitation was generated in accordance with protocols.

5.0 TPH BY SPECTROPHOTOMETRY

The following items/criteria were reviewed:

- Holding Times
- MS/MSD
- LCS
- Initial and Continuing Calibration
- Blanks (Method and Field)
- Field Duplicates
- Compound Verification

All items above were generated within acceptable QC specifications, with deviations detailed as follows. All data reviewed is considered to be valid and usable with the appropriate qualifiers, as noted on the AFCEE Form 2's in Appendix E and within the following text.

5.1 Holding Time

All holding times were met within the acceptable time frame of 28 days from collection for the water samples and soil samples.

5.2 MS/MSD

One MS/MSD sample sets for soils and matrix spike blanks and duplicates were analyzed for the project LCS's were analyzed for each Case. Acceptable accuracy and precision were generated for the quality control samples.

5.3 Calibration

All initial and continuing calibration was performed within acceptable limits for correlation coefficients of ≥ 0.995, and %R with respect to the expected value.

5.4 Blanks

5.4.1 Field Blanks

5.4.1.1 Case No. A98-0482

One equipment blank was collected and analyzed for TPH. Positive results were not detected.

5.4.2 Method Blanks

5.4.2.1 Case Nos. A98-0481 and A98-0482

Two soil method blanks and one water method blank were analyzed for the project. TPH was not detected in any of the method blanks.

5.5 Field Duplicates

5.5.1 Case No. A98-0481

Samples RR-SO-DP03-01 and RR-SO-DP03-03 were collected as the field duplicate soil samples and analyzed for TPH. Poor precision was generated for the soil duplicate pair. Sample DP03-01 was found to contain 128 mg/Kg of TPH. However, TPH was not detected in sample DP03-03. Non-homogeneity of the soil matrix may contribute to the poor precision for the duplicate pair.

5.6 Compound Verification

The raw data was reviewed to verify the results reported for the validated samples. The reported values were found to be acceptable.

TABLE 1

FIELD DUPLICATE SAMPLE ANALYSIS

PRECISION FOR INORGANICS

Carswell AFB Railroad Right-of-Way Project

Results in mg/Kg (ppm)

Parameter	RR-SO-DP03-01	RR-SO-DP03-03	RPD**
Aluminum	19600	17700	10%
Antimony	ND	ND	++
Arsenic	6.6	6.1	8%
Barium	188	152	21%
Beryllium	1.1	1	10%
Cadmium	ND	ND	++
Calcium	46000	42100	9%
Chromium	19	17.3	9%
Cobalt	6.5	4.9	28%
Copper	10.1	9	12%
Iron	15600	13800	12%
Lead (ICP)	11.3	10.2	10%
Magnesium	2740	2560	7%
Manganese	750	394	62%
Mercury	ND	ND	++
Nickel	13.3	12	10%
Potassium	1930	1700	13%
Selenium	ND	ND	++
Silver	ND	ND	++
Sodium	695	697	0%
Thallium	ND	ND	++
Vanadium	38.5	36.7	5%
Zinc	29.2	28.6	2%
Molybdenum	ND	ND	++
Lead (AA)	339	40.8	157%

** Relative Percent Difference (Calculated Precision)
ND Not Detected
++ Unable to be calculated due to non-detected results

APPENDIX A

DATA SUMMARY FORMS

VOLATILE ORGANICS

464 177

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000013

Analytical Method: 8260-A98

AAB #: A8B01178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: TB-001

Lab Sample ID: A8048107

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.2	0.500	0.2	U
1,1,1-TRICHLOROETHANE	0.2	0.800	0.2	U
1,1,2,2-TETRACHLOROETHANE	0.2	0.400	0.2	U
1,1,2-TRICHLOROETHANE	0.2	1.0	0.2	U
1,1-DICHLOROETHANE	0.1	0.400	0.1	U
1,1-DICHLOROETHENE	0.2	1.2	0.2	U
1,1-DICHLOROPROPENE	0.2	1.0	0.2	U
1,2,3-TRICHLOROBENZENE	0.2	0.300	0.2	U
1,2,3-TRICHLOROPROPANE	0.2	3.2	0.2	U
1,2,4-TRICHLOROBENZENE	0.2	0.400	0.2	U
1,2,4-TRIMETHYLBENZENE	0.2	1.3	0.2	U
1,2-DICHLOROETHANE	0.2	0.600	0.2	U
1,2-DICHLOROBENZENE	0.2	0.300	0.2	U
1,2-DIBROMO-3-CHLOROPROPANE	0.2	2.6	0.2	U
1,2-DICHLOROPROPANE	0.1	0.400	0.1	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.2	0.600	0.2	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.2	0.500	0.2	U
1,3-DICHLOROBENZENE	0.1	1.2	0.1	U
1,3-DICHLOROPROPANE	0.2	0.400	0.2	U
1,4-DICHLOROBENZENE	0.2	0.300	0.2	U
1-CHLOROHEXANE	0.1	0.500	0.1	U
2,2-DICHLOROPROPANE	0.1	3.5	0.1	U
2-CHLOROTOLUENE	0.2	0.400	0.2	U
4-CHLOROTOLUENE	0.2	0.600	0.2	U
BENZENE	0.2	0.400	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A880117B

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: TB-001 Lab Sample ID: A8048107 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.1	0.300	0.1	U
BROMOCHLOROMETHANE	0.2	0.400	0.2	U
BROMODICHLOROMETHANE	0.2	0.800	0.2	U
BROMOFORM	0.2	1.2	0.2	U
BROMOMETHANE	0.2	1.1	0.2	U
CARBON TETRACHLORIDE	0.2	2.1	0.2	U
CHLOROBENZENE	0.2	0.400	0.2	U
CHLOROETHANE	0.2	1.0	0.2	U
CHLOROFORM	0.1	0.300	0.2	F
CHLOROMETHANE	0.1	1.3	0.1	U
cis-1,2-DICHLOROETHYLENE	0.1	1.2	0.1	U
cis-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
DIBROMOCHLOROMETHANE	0.2	0.500	0.2	U
DIBROMOMETHANE	0.2	2.4	0.2	U
DICHLORODIFLUOROMETHANE	0.2	1.0	0.2	U
ETHYLBENZENE	0.2	0.600	0.2	U
HEXACHLOROBUTADIENE	0.2	1.1	0.2	U
ISOPROPYLBENZENE (CUMENE)	0.2	0.500	0.2	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.4	0.500	0.4	U
METHYLENE CHLORIDE	0.2	0.300	0.2	U
n-BUTYLBENZENE	0.2	1.1	0.2	U
n-PROPYLBENZENE	0.2	0.400	0.2	U
NAPHTHALENE	0.2	0.400	0.2	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.2	1.1	0.2	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.2	1.2	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: TB-001

Lab Sample ID: A8048107

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.4	1.3	0.4	U
SEC-BUTYLBENZENE	0.2	1.3	0.2	U
STYRENE	0.2	0.400	0.2	U
TRICHLOROETHYLENE (TCE)	0.2	1.0	0.2	U
t-BUTYLBENZENE	0.2	1.4	0.2	U
TETRACHLOROETHYLENE(PCE)	0.2	1.4	0.2	U
TOLUENE	0.2	1.1	0.2	U
trans-1,2-DICHLOROETHENE	0.2	0.600	0.2	U
trans-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
TRICHLOROFLUOROMETHANE	0.1	0.800	0.1	U
VINYL CHLORIDE	0.2	1.1	0.2	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 180
000034

Analytical Method: 8260-A98 AAB #: A8801193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-01 Lab Sample ID: A8048101 Matrix: SOIL

% Solids: 74.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0013	0.0030	0.0013	U
1,1,1-TRICHLOROETHANE	0.0013	0.0040	0.0013	U
1,1,2,2-TETRACHLOROETHANE	0.0017	0.0020	0.0017	U
1,1,2-TRICHLOROETHANE	0.0015	0.0050	0.0015	U
1,1-DICHLOROETHANE	0.0010	0.0020	0.0010	U
1,1-DICHLOROETHENE	0.0014	0.0060	0.0014	U
1,1-DICHLOROPROPENE	0.0011	0.0050	0.0011	U
1,2,3-TRICHLOROBENZENE	0.0015	0.0020	0.0015	U
1,2,3-TRICHLOROPROPANE	0.0018	0.020	0.0018	U
1,2,4-TRICHLOROBENZENE	0.0016	0.0020	0.0016	U
1,2,4-TRIMETHYLBENZENE	0.00080	0.0070	0.00080	U
1,2-DICHLOROETHANE	0.0015	0.0030	0.0015	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0021	0.010	0.0021	U
1,2-DICHLOROPROPANE	0.0015	0.0020	0.0015	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0017	0.0030	0.0017	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00080	0.0030	0.00080	U
1,3-DICHLOROBENZENE	0.0011	0.0060	0.0011	U
1,3-DICHLOROPROPANE	0.00032	0.0020	0.00032	U
1,4-DICHLOROBENZENE	0.0012	0.0020	0.0012	U
1-CHLOROHEXANE	0.0010	0.0030	0.0010	U
2,2-DICHLOROPROPANE	0.0013	0.020	0.0013	U
2-CHLOROTOLUENE	0.0011	0.0020	0.0011	U
4-CHLOROTOLUENE	0.0011	0.0030	0.0011	U
BENZENE	0.00088	0.0020	0.00088	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-01

Lab Sample ID: A8048101

Matrix: SOIL

% Solids: 74.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.0010	0.0020	0.0010	U
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0014	0.0040	0.0014	U
BROMOFORM	0.0019	0.0060	0.0019	U
BROMOMETHANE	0.0020	0.0050	0.0020	U
CARBON TETRACHLORIDE	0.00098	0.010	0.00098	U
CHLOROBENZENE	0.0015	0.0020	0.0015	U
CHLOROETHANE	0.0017	0.0050	0.0017	U
CHLOROFORM	0.0010	0.0020	0.0010	U
CHLOROMETHANE	0.0014	0.0070	0.0014	U
cis-1,2-DICHLOROETHYLENE	0.00098	0.0060	0.00098	U
cis-1,3-DICHLOROPROPENE	0.00091	0.0050	0.00091	U
DIBROMOCHLOROMETHANE	0.0015	0.0030	0.0015	U
DIBROMOMETHANE	0.0016	0.010	0.0016	U
DICHLORODIFLUOROMETHANE	0.0015	0.0050	0.0015	U,M
ETHYLBENZENE	0.0014	0.0030	0.0014	U
HEXACHLOROBUTADIENE	0.0013	0.0050	0.0013	U
ISOPROPYLBENZENE (CUMENE)	0.00095	0.0080	0.00095	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0024	0.0030	0.0024	U
METHYLENE CHLORIDE	0.0012	0.0020	0.0012	U
n-BUTYLBENZENE	0.00092	0.0050	0.00092	U
n-PROPYLBENZENE	0.00078	0.0020	0.00078	U
NAPHTHALENE	0.0019	0.0020	0.0019	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0013	0.0050	0.0013	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0012	0.0060	0.0012	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-01 Lab Sample ID: A8048101 Matrix: SOIL

% Solids: 74.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0024	0.0070	0.0024	U
SEC-BUTYLBENZENE	0.00090	0.0070	0.00090	U
STYRENE	0.0012	0.0020	0.0012	U
TRICHLOROETHYLENE (TCE)	0.00088	0.010	0.00088	U
t-BUTYLBENZENE	0.00096	0.0070	0.00096	U
TETRACHLOROETHYLENE(PCE)	0.00088	0.0070	0.00088	U
TOLUENE	0.0015	0.0050	0.0015	U
trans-1,2-DICHLOROETHENE	0.00083	0.0030	0.00083	U
trans-1,3-DICHLOROPROPENE	0.0019	0.0050	0.0019	U
TRICHLOROFLUOROMETHANE	0.0021	0.0040	0.0021	U
VINYL CHLORIDE	0.0014	0.0090	0.0014	U

Comments:

464 183

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000037

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 76.4

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0013	0.0030	0.0013	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0017	0.0020	0.0017	UJ
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.0010	0.0020	0.0010	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0011	0.0050	0.0011	U
1,2,3-TRICHLOROBENZENE	0.0015	0.0020	0.0015	UJ
1,2,3-TRICHLOROPROPANE	0.0017	0.020	0.0017	UJ
1,2,4-TRICHLOROBENZENE	0.0016	0.0020	0.0016	UJ
1,2,4-TRIMETHYLBENZENE	0.00078	0.0070	0.00078	UJ
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.0021	0.010	0.0021	UJ
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00078	0.0030	0.00078	UJ
1,3-DICHLOROBENZENE	0.0011	0.0060	0.0011	UJ
1,3-DICHLOROPROPANE	0.00031	0.0020	0.00031	U
1,4-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1-CHLOROHEXANE	0.0010	0.0030	0.0010	U
2,2-DICHLOROPROPANE	0.0013	0.020	0.0013	U
2-CHLOROTOLUENE	0.0011	0.0020	0.0011	UJ
4-CHLOROTOLUENE	0.0011	0.0030	0.0011	UJ
BENZENE	0.00086	0.0020	0.00086	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 184
000032

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 76.4

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted:

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00099	0.0020	0.00099	U J
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0014	0.0040	0.0014	U
BROMOFORM	0.0019	0.0060	0.0019	U
BROMOMETHANE	0.0020	0.0050	0.0020	U
CARBON TETRACHLORIDE	0.00096	0.010	0.00096	U
CHLOROBENZENE	0.0015	0.0020	0.0015	U
CHLOROETHANE	0.0017	0.0050	0.0017	U
CHLOROFORM	0.0010	0.0020	0.0010	U
CHLOROMETHANE	0.0014	0.0070	0.0014	U
cis-1,2-DICHLOROETHYLENE	0.00095	0.0060	0.00095	U
cis-1,3-DICHLOROPROPENE	0.00089	0.0050	0.00089	U
DIBROMOCHLOROMETHANE	0.0015	0.0030	0.0015	U
DIBROMOMETHANE	0.0015	0.010	0.0015	U
DICHLORODIFLUOROMETHANE	0.0015	0.0050	0.0015	U, M
ETHYLBENZENE	0.0014	0.0030	0.0014	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	U J
ISOPROPYLBENZENE (CUMENE)	0.00093	0.0080	0.00093	U J
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0024	0.0030	0.0024	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0011	U
n-BUTYLBENZENE	0.00090	0.0050	0.00090	U J
n-PROPYLBENZENE	0.00077	0.0020	0.00077	U J
NAPHTHALENE	0.0018	0.0020	0.0018	U J
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0013	0.0050	0.0013	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0012	0.0060	0.0012	U J

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801193

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 76.4

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0024	0.0070	0.0024	U
SEC-BUTYLBENZENE	0.00088	0.0070	0.00088	U J
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00086	0.010	0.00086	U
t-BUTYLBENZENE	0.00094	0.0070	0.00094	U J
TETRACHLOROETHYLENE(PCE)	0.00086	0.0070	0.00086	U
TOLUENE	0.0015	0.0050	0.0015	U
trans-1,2-DICHLOROETHENE	0.00082	0.0030	0.00082	U
trans-1,3-DICHLOROPROPENE	0.0018	0.0050	0.0018	U
TRICHLOROFLUOROMETHANE	0.0021	0.0040	0.0021	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP02-01

Lab Sample ID: A8048103

Matrix: SOIL

% Solids: 79.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0016	0.0020	0.0016	UJ
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.00099	0.0020	0.00099	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	UJ
1,2,3-TRICHLOROPROPANE	0.0017	0.020	0.0017	UJ
1,2,4-TRICHLOROBENZENE	0.0016	0.0020	0.0016	UJ
1,2,4-TRIMETHYLBENZENE	0.00075	0.0070	0.00075	UJ
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	UJ
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00076	0.0030	0.00076	UJ
1,3-DICHLOROBENZENE	0.0010	0.0060	0.0010	UJ
1,3-DICHLOROPROPANE	0.00030	0.0020	0.00030	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	UJ
1-CHLOROHEXANE	0.00099	0.0030	0.00099	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	UJ
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	UJ
BENZENE	0.00083	0.0020	0.00083	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP02-01 Lab Sample ID: A8048103 Matrix: SOIL

% Solids: 79.5 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00095	0.0020	0.00095	U J
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0013	0.0040	0.0013	U
BROMOFORM	0.0018	0.0060	0.0018	U
BROMOMETHANE	0.0019	0.0050	0.0019	U
CARBON TETRACHLORIDE	0.00093	0.010	0.00093	U
CHLOROBENZENE	0.0014	0.0020	0.0014	U
CHLOROETHANE	0.0016	0.0050	0.0016	U
CHLOROFORM	0.00098	0.0020	0.00098	U
CHLOROMETHANE	0.0013	0.0070	0.0013	U
cis-1,2-DICHLOROETHYLENE	0.00092	0.0060	0.00092	U
cis-1,3-DICHLOROPROPENE	0.00086	0.0050	0.00086	U
DIBROMOCHLOROMETHANE	0.0014	0.0030	0.0014	U
DIBROMOMETHANE	0.0015	0.010	0.0015	U
DICHLORODIFLUOROMETHANE	0.0014	0.0050	0.0014	U, M
ETHYLBENZENE	0.0013	0.0030	0.0013	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	U J
ISOPROPYLBENZENE (CUMENE)	0.00090	0.0080	0.00090	U J
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0023	0.0030	0.0023	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0011	U
n-BUTYLBENZENE	0.00087	0.0050	0.00087	U J
n-PROPYLBENZENE	0.00074	0.0020	0.00074	U J
NAPHTHALENE	0.0018	0.0020	0.0018	U J
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0012	0.0050	0.0012	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0011	0.0060	0.0011	U J

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 188
000042

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP02-01

Lab Sample ID: A8048103

Matrix: SOIL

% Solids: 79.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00085	0.0070	0.00085	UJ
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00083	0.010	0.00083	U
t-BUTYLBENZENE	0.00091	0.0070	0.00091	UJ
TETRACHLOROETHYLENE(PCE)	0.00083	0.0070	0.00083	U
TOLUENE	0.0014	0.0050	0.0023	F
trans-1,2-DICHLOROETHENE	0.00078	0.0030	0.00078	U
trans-1,3-DICHLOROPROPENE	0.0018	0.0050	0.0018	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 85.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0011	0.0030	0.0011	U
1,1,1-TRICHLOROETHANE	0.0011	0.0040	0.0011	U
1,1,2,2-TETRACHLOROETHANE	0.0015	0.0020	0.0015	U
1,1,2-TRICHLOROETHANE	0.0012	0.0050	0.0012	U
1,1-DICHLOROETHANE	0.00089	0.0020	0.00089	U
1,1-DICHLOROETHENE	0.0011	0.0060	0.0011	U
1,1-DICHLOROPROPENE	0.00094	0.0050	0.00094	U
1,2,3-TRICHLOROBENZENE	0.0013	0.0020	0.0013	U
1,2,3-TRICHLOROPROPANE	0.0015	0.020	0.0015	U
1,2,4-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,4-TRIMETHYLBENZENE	0.00068	0.0070	0.00068	U
1,2-DICHLOROETHANE	0.0012	0.0030	0.0012	U
1,2-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0018	0.010	0.0018	U
1,2-DICHLOROPROPANE	0.0012	0.0020	0.0012	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0014	0.0030	0.0014	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00068	0.0030	0.00068	U
1,3-DICHLOROBENZENE	0.00095	0.0060	0.00095	U
1,3-DICHLOROPROPANE	0.00027	0.0020	0.00027	U
1,4-DICHLOROBENZENE	0.0010	0.0020	0.0010	U
1-CHLOROHEXANE	0.00089	0.0030	0.00089	U
2,2-DICHLOROPROPANE	0.0011	0.020	0.0011	U
2-CHLOROTOLUENE	0.00094	0.0020	0.00094	U
4-CHLOROTOLUENE	0.00094	0.0030	0.00094	U
BENZENE	0.00074	0.0020	0.00074	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 190
000043

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 85.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00086	0.0020	0.00086	U
BROMOCHLOROMETHANE	0.00097	0.0020	0.00097	U
BROMODICHLOROMETHANE	0.0012	0.0040	0.0012	U
BROMOFORM	0.0016	0.0060	0.0016	U
BROMOMETHANE	0.0017	0.0050	0.0017	U
CARBON TETRACHLORIDE	0.00083	0.010	0.00083	U
CHLOROBENZENE	0.0013	0.0020	0.0013	U
CHLOROETHANE	0.0015	0.0050	0.0015	U
CHLOROFORM	0.00088	0.0020	0.00088	U
CHLOROMETHANE	0.0012	0.0070	0.0012	U
cis-1,2-DICHLOROETHYLENE	0.00082	0.0060	0.00082	U
cis-1,3-DICHLOROPROPENE	0.00077	0.0050	0.00077	U
DIBROMOCHLOROMETHANE	0.0013	0.0030	0.0013	U
DIBROMOMETHANE	0.0013	0.010	0.0013	U
DICHLORODIFLUOROMETHANE	0.0013	0.0050	0.0013	U,M
ETHYLBENZENE	0.0012	0.0030	0.0012	U
HEXACHLOROBUTADIENE	0.0011	0.0050	0.0011	U
ISOPROPYLBENZENE (CUMENE)	0.00081	0.0080	0.00081	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0021	0.0030	0.0021	U
METHYLENE CHLORIDE	0.00098	0.0020	0.00098	U
n-BUTYLBENZENE	0.00078	0.0050	0.00078	U
n-PROPYLBENZENE	0.00066	0.0020	0.00066	U
NAPHTHALENE	0.0016	0.0020	0.0016	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0011	0.0050	0.0011	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0010	0.0060	0.0010	U

464 191

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000045

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Regra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 85.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0021	0.0070	0.0021	U
SEC-BUTYLBENZENE	0.00076	0.0070	0.00076	U
STYRENE	0.00098	0.0020	0.00098	U
TRICHLOROETHYLENE (TCE)	0.00075	0.010	0.00075	U
t-BUTYLBENZENE	0.00082	0.0070	0.00082	U
TETRACHLOROETHYLENE(PCE)	0.00075	0.0070	0.00075	U
TOLUENE	0.0013	0.0050	0.0013	U
trans-1,2-DICHLOROETHENE	0.00070	0.0030	0.00070	U
trans-1,3-DICHLOROPROPENE	0.0016	0.0050	0.0016	U
TRICHLOROFLUOROMETHANE	0.0018	0.0040	0.0018	U
VINYL CHLORIDE	0.0011	0.0090	0.0011	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 79.7

Dilution: 1.00

Date Received: 19-feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0016	0.0020	0.0016	UJ
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.0010	0.0020	0.0010	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	UJ
1,2,3-TRICHLOROPROPANE	0.0017	0.020	0.0017	UJ
1,2,4-TRICHLOROBENZENE	0.0016	0.0020	0.0016	UJ
1,2,4-TRIMETHYLBENZENE	0.00076	0.0070	0.00076	UJ
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	UJ
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00076	0.0030	0.00076	UJ
1,3-DICHLOROBENZENE	0.0011	0.0060	0.0011	UJ
1,3-DICHLOROPROPANE	0.00030	0.0020	0.00030	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	UJ
1-CHLOROHEXANE	0.0010	0.0030	0.0010	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	UJ
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	UJ
BENZENE	0.00083	0.0020	0.00083	U

464 193

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000047

Analytical Method: 8260-A98

AAB #: A8801193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 79.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00096	0.0020	0.00096	U J
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0013	0.0040	0.0013	U
BROMOFORM	0.0018	0.0060	0.0018	U
BROMOMETHANE	0.0019	0.0050	0.0019	U
CARBON TETRACHLORIDE	0.00094	0.010	0.00094	U
CHLOROBENZENE	0.0014	0.0020	0.0014	U
CHLOROETHANE	0.0016	0.0050	0.0016	U
CHLOROFORM	0.00099	0.0020	0.00099	U
CHLOROMETHANE	0.0013	0.0070	0.0013	U
cis-1,2-DICHLOROETHYLENE	0.00093	0.0060	0.00093	U
cis-1,3-DICHLOROPROPENE	0.00087	0.0050	0.00087	U
DIBROMOCHLOROMETHANE	0.0015	0.0030	0.0015	U
DIBROMOMETHANE	0.0015	0.010	0.0015	U
DICHLORODIFLUOROMETHANE	0.0014	0.0050	0.0014	U, M
ETHYLBENZENE	0.0013	0.0030	0.0013	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	U J
ISOPROPYLBENZENE (CUMENE)	0.00091	0.0080	0.00091	U J
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0023	0.0030	0.0023	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0011	U
n-BUTYLBENZENE	0.00087	0.0050	0.00087	U J
n-PROPYLBENZENE	0.00074	0.0020	0.00074	U J
NAPHTHALENE	0.0018	0.0020	0.0018	U J
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0013	0.0050	0.0013	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0012	0.0060	0.0012	U J

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 79.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00086	0.0070	0.00086	U J
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00084	0.010	0.00084	U
t-BUTYLBENZENE	0.00092	0.0070	0.00092	U J
TETRACHLOROETHYLENE(PCE)	0.00084	0.0070	0.00084	U
TOLUENE	0.0014	0.0050	0.0014	U
trans-1,2-DICHLOROETHENE	0.00079	0.0030	0.00079	U
trans-1,3-DICHLOROPROPENE	0.0018	0.0050	0.0018	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP01-02 -RE

Lab Sample ID: A8048102RI

Matrix: SOIL

% Solids: 76.4

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0013	0.0030	0.0013	U
1,1,1-TRICHLOROETHANE	0.0013	0.0040	0.0013	U
1,1,2,2-TETRACHLOROETHANE	0.0017	0.0020	0.0017	UJ
1,1,2-TRICHLOROETHANE	0.0015	0.0050	0.0015	U
1,1-DICHLOROETHANE	0.0010	0.0020	0.0010	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0011	0.0050	0.0011	U
1,2,3-TRICHLOROBENZENE	0.0015	0.0020	0.0015	UJ
1,2,3-TRICHLOROPROPANE	0.0018	0.020	0.0018	UJ
1,2,4-TRICHLOROBENZENE	0.0016	0.0020	0.0016	UJ
1,2,4-TRIMETHYLBENZENE	0.00079	0.0070	0.00079	UJ
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.0021	0.010	0.0021	UJ
1,2-DICHLOROPROPANE	0.0015	0.0020	0.0015	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0017	0.0030	0.0017	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00080	0.0030	0.00080	UJ
1,3-DICHLOROBENZENE	0.0011	0.0060	0.0011	UJ
1,3-DICHLOROPROPANE	0.00031	0.0020	0.00031	U
1,4-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1-CHLOROHEXANE	0.0010	0.0030	0.0010	U
2,2-DICHLOROPROPANE	0.0013	0.020	0.0013	U
2-CHLOROTOLUENE	0.0011	0.0020	0.0011	UJ
4-CHLOROTOLUENE	0.0011	0.0030	0.0011	UJ
BENZENE	0.00087	0.0020	0.00087	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 196
000069

Analytical Method: 8260-A98

AAB #: A8801194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02 -RE

Lab Sample ID: A8048102R1

Matrix: SOIL

% Solids: 76.4

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.0010	0.0020	0.0010	UJ
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0014	0.0040	0.0014	U
BROMOFORM	0.0019	0.0060	0.0019	U
BROMOMETHANE	0.0020	0.0050	0.0020	U
CARBON TETRACHLORIDE	0.00098	0.010	0.00098	U
CHLOROBENZENE	0.0015	0.0020	0.0015	U
CHLOROETHANE	0.0017	0.0050	0.0017	U
CHLOROFORM	0.0010	0.0020	0.0010	U
CHLOROMETHANE	0.0014	0.0070	0.0014	U
cis-1,2-DICHLOROETHYLENE	0.00097	0.0060	0.00097	U
cis-1,3-DICHLOROPROPENE	0.00090	0.0050	0.00090	U
DIBROMOCHLOROMETHANE	0.0015	0.0030	0.0015	U
DIBROMOMETHANE	0.0016	0.010	0.0016	U
DICHLORODIFLUOROMETHANE	0.0015	0.0050	0.0015	U,M
ETHYLBENZENE	0.0014	0.0030	0.0014	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	UJ
ISOPROPYLBENZENE (CUMENE)	0.00095	0.0080	0.00095	UJ
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0024	0.0030	0.0024	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0053	B
n-BUTYLBENZENE	0.00091	0.0050	0.00091	UJ
n-PROPYLBENZENE	0.00078	0.0020	0.00078	UJ
NAPHTHALENE	0.0018	0.0020	0.0018	UJ
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0013	0.0050	0.0013	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0012	0.0060	0.0012	UJ

464 197

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000070

Analytical Method: 8260-A98

AAB #: A8801194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02 RE

Lab Sample ID: A8048102RI

Matrix: SOIL

% Solids: 76.4

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0024	0.0070	0.0024	U
SEC-BUTYLBENZENE	0.00090	0.0070	0.00090	U J
STYRENE	0.0012	0.0020	0.0012	U
TRICHLOROETHYLENE (TCE)	0.00088	0.010	0.00088	U
t-BUTYLBENZENE	0.00096	0.0070	0.00096	U J
TETRACHLOROETHYLENE(PCE)	0.00088	0.0070	0.00088	U
TOLUENE	0.0015	0.0050	0.0015	U
trans-1,2-DICHLOROETHENE	0.00083	0.0030	0.00083	U
trans-1,3-DICHLOROPROPENE	0.0019	0.0050	0.0019	U
TRICHLOROFLUOROMETHANE	0.0021	0.0040	0.0021	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801194

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP02-01 -RE

Lab Sample ID: A8048103RI

Matrix: SOIL

% Solids: 79.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0016	0.0020	0.0016	UJ
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.00098	0.0020	0.00098	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	UJ
1,2,3-TRICHLOROPROPANE	0.0016	0.020	0.0016	UJ
1,2,4-TRICHLOROBENZENE	0.0015	0.0020	0.0015	UJ
1,2,4-TRIMETHYLBENZENE	0.00075	0.0070	0.00075	UJ
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	UJ
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00075	0.0030	0.00075	UJ
1,3-DICHLOROBENZENE	0.0010	0.0060	0.0010	UJ
1,3-DICHLOROPROPANE	0.00030	0.0020	0.00030	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	UJ
1-CHLOROHEXANE	0.00099	0.0030	0.00099	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	UJ
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	UJ
BENZENE	0.00082	0.0020	0.00082	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet -RE

Contract #: F46162495D80

Field Sample ID: RR-SO-DP02-01

Lab Sample ID: A8048103RI

Matrix: SOIL

% Solids: 79.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00095	0.0020	0.00095	UJ
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0013	0.0040	0.0013	U
BROMOFORM	0.0018	0.0060	0.0018	U
BROMOMETHANE	0.0019	0.0050	0.0019	U
CARBON TETRACHLORIDE	0.00092	0.010	0.00092	U
CHLOROBENZENE	0.0014	0.0020	0.0014	U
CHLOROETHANE	0.0016	0.0050	0.0016	U
CHLOROFORM	0.00098	0.0020	0.00098	U
CHLOROMETHANE	0.0013	0.0070	0.0013	U
cis-1,2-DICHLOROETHYLENE	0.00091	0.0060	0.00091	U
cis-1,3-DICHLOROPROPENE	0.00086	0.0050	0.00086	U
DIBROMOCHLOROMETHANE	0.0014	0.0030	0.0014	U
DIBROMOMETHANE	0.0015	0.010	0.0015	U
DICHLORODIFLUOROMETHANE	0.0014	0.0050	0.0014	U,M
ETHYLBENZENE	0.0013	0.0030	0.0013	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	UJ
ISOPROPYLBENZENE (CUMENE)	0.00089	0.0080	0.00089	UJ
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0023	0.0030	0.0023	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0043	B
n-BUTYLBENZENE	0.00086	0.0050	0.00086	UJ
n-PROPYLBENZENE	0.00074	0.0020	0.00074	UJ
NAPHTHALENE	0.0017	0.0020	0.0017	UJ
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0012	0.0050	0.0012	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0011	0.0060	0.0011	UJ

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP02-01 RE

Lab Sample ID: A8048103RI

Matrix: SOIL

% Solids: 79.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00085	0.0070	0.00085	UJ
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00083	0.010	0.00083	U
t-BUTYLBENZENE	0.00090	0.0070	0.00090	UJ
TETRACHLOROETHYLENE(PCE)	0.00083	0.0070	0.00083	U
TOLUENE	0.0014	0.0050	0.0014	U
trans-1,2-DICHLOROETHENE	0.00078	0.0030	0.00078	U
trans-1,3-DICHLOROPROPENE	0.0018	0.0050	0.0018	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000071

464 201

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 78.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0017	0.0020	0.0017	U
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.0010	0.0020	0.0010	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,3-TRICHLOROPROPANE	0.0017	0.020	0.0017	U
1,2,4-TRICHLOROBENZENE	0.0016	0.0020	0.0016	U
1,2,4-TRIMETHYLBENZENE	0.00076	0.0070	0.00076	U
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	U
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00077	0.0030	0.00077	U
1,3-DICHLOROBENZENE	0.0011	0.0060	0.0011	U
1,3-DICHLOROPROPANE	0.00030	0.0020	0.00030	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1-CHLOROHEXANE	0.0010	0.0030	0.0010	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	U
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	U
BENZENE	0.00084	0.0020	0.00084	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801194 464 202

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 78.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted:

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00097	0.0020	0.00097	U
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0013	0.0040	0.0013	U
BROMOFORM	0.0018	0.0060	0.0018	U
BROMOMETHANE	0.0019	0.0050	0.0019	U
CARBON TETRACHLORIDE	0.00094	0.010	0.00094	U
CHLOROBENZENE	0.0014	0.0020	0.0014	U
CHLOROETHANE	0.0016	0.0050	0.0016	U
CHLOROFORM	0.00099	0.0020	0.00099	U
CHLOROMETHANE	0.0014	0.0070	0.0014	U
cis-1,2-DICHLOROETHYLENE	0.00093	0.0060	0.00093	U
cis-1,3-DICHLOROPROPENE	0.00087	0.0050	0.00087	U
DIBROMOCHLOROMETHANE	0.0015	0.0030	0.0015	U
DIBROMOMETHANE	0.0015	0.010	0.0015	U
DICHLORODIFLUOROMETHANE	0.0015	0.0050	0.0015	U, M
ETHYLBENZENE	0.0013	0.0030	0.0013	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	U
ISOPROPYLBENZENE (CUMENE)	0.00091	0.0080	0.00091	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0023	0.0030	0.0023	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0038	B
n-BUTYLBENZENE	0.00088	0.0050	0.00088	U
n-PROPYLBENZENE	0.00075	0.0020	0.00075	U
NAPHTHALENE	0.0018	0.0020	0.0018	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0013	0.0050	0.0013	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0012	0.0060	0.0012	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 203

000073

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 78.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00086	0.0070	0.00086	U
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00084	0.010	0.00084	U
t-BUTYLBENZENE	0.00092	0.0070	0.00092	U
TETRACHLOROETHYLENE(PCE)	0.00084	0.0070	0.00084	U
TOLUENE	0.0014	0.0050	0.0014	U
trans-1,2-DICHLOROETHENE	0.00080	0.0030	0.00080	U
trans-1,3-DICHLOROPROPENE	0.0018	0.0050	0.0018	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 204 000077

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-OP03-03 -RE

Lab Sample ID: A8048106RI

Matrix: SOIL

% Solids: 79.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0016	0.0020	0.0016	UJ
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.00098	0.0020	0.00098	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	UJ
1,2,3-TRICHLOROPROPANE	0.0016	0.020	0.0016	UJ
1,2,4-TRICHLOROBENZENE	0.0015	0.0020	0.0015	UJ
1,2,4-TRIMETHYLBENZENE	0.00074	0.0070	0.00074	UJ
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	UJ
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	UJ
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00075	0.0030	0.00075	UJ
1,3-DICHLOROBENZENE	0.0010	0.0060	0.0010	UJ
1,3-DICHLOROPROPANE	0.00029	0.0020	0.00029	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	UJ
1-CHLOROHEXANE	0.00098	0.0030	0.00098	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	UJ
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	UJ
BENZENE	0.00082	0.0020	0.00082	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03 -RE

Lab Sample ID: A8048106RI

Matrix: SOIL

% Solids: 79.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00084	0.0070	0.00084	U J
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00082	0.010	0.00082	U
t-BUTYLBENZENE	0.00090	0.0070	0.00090	U J
TETRACHLOROETHYLENE(PCE)	0.00082	0.0070	0.00082	U
TOLUENE	0.0014	0.0050	0.0014	U
trans-1,2-DICHLOROETHENE	0.00078	0.0030	0.00078	U
trans-1,3-DICHLOROPROPENE	0.0018	0.0050	0.0018	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 206

Analytical Method: 8260-A98

AAB #: A8801178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-AB-01

Lab Sample ID: A8048206

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.2	0.500	0.2	U
1,1,1-TRICHLOROETHANE	0.2	0.800	0.2	U
1,1,2,2-TETRACHLOROETHANE	0.2	0.400	0.2	U
1,1,2-TRICHLOROETHANE	0.2	1.0	0.2	U
1,1-DICHLOROETHANE	0.1	0.400	0.1	U
1,1-DICHLOROETHENE	0.2	1.2	0.2	U
1,1-DICHLOROPROPENE	0.2	1.0	0.2	U
1,2,3-TRICHLOROBENZENE	0.2	0.300	0.2	U
1,2,3-TRICHLOROPROPANE	0.2	3.2	0.2	U
1,2,4-TRICHLOROBENZENE	0.2	0.400	0.2	U
1,2,4-TRIMETHYLBENZENE	0.2	1.3	0.2	U
1,2-DICHLOROETHANE	0.2	0.600	0.2	U
1,2-DICHLOROBENZENE	0.2	0.300	0.2	U
1,2-DIBROMO-3-CHLOROPROPANE	0.2	2.6	0.2	U
1,2-DICHLOROPROPANE	0.1	0.400	0.1	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.2	0.600	0.2	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.2	0.500	0.2	U
1,3-DICHLOROBENZENE	0.1	1.2	0.1	U
1,3-DICHLOROPROPANE	0.2	0.400	0.2	U
1,4-DICHLOROBENZENE	0.2	0.300	0.2	U
1-CHLOROHEXANE	0.1	0.500	0.1	U
2,2-DICHLOROPROPANE	0.1	3.5	0.1	U
2-CHLOROTOLUENE	0.2	0.400	0.2	U
4-CHLOROTOLUENE	0.2	0.600	0.2	U
BENZENE	0.2	0.400	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01178

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WQ-AB-01 Lab Sample ID: A8048206 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.1	0.300	0.1	U
BROMOCHLOROMETHANE	0.2	0.400	0.2	U
BROMODICHLOROMETHANE	0.2	0.800	0.2	U
BROMOFORM	0.2	1.2	0.2	U
BROMOMETHANE	0.2	1.1	0.2	U
CARBON TETRACHLORIDE	0.2	2.1	0.2	U
CHLOROBENZENE	0.2	0.400	0.2	U
CHLOROETHANE	0.2	1.0	0.2	U
CHLOROFORM	0.1	0.300	0.1	U
CHLOROMETHANE	0.1	1.3	0.1	U
cis-1,2-DICHLOROETHYLENE	0.1	1.2	0.1	U
cis-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
DIBROMOCHLOROMETHANE	0.2	0.500	0.2	U
DIBROMOMETHANE	0.2	2.4	0.2	U
DICHLORODIFLUOROMETHANE	0.2	1.0	0.2	U
ETHYLBENZENE	0.2	0.600	0.2	U
HEXACHLOROBUTADIENE	0.2	1.1	0.2	U
ISOPROPYLBENZENE (CUMENE)	0.2	0.500	0.2	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.4	0.500	0.4	U
METHYLENE CHLORIDE	0.2	0.300	0.2	U
n-BUTYLBENZENE	0.2	1.1	0.2	U
n-PROPYLBENZENE	0.2	0.400	0.2	U
NAPHTHALENE	0.2	0.400	0.2	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.2	1.1	0.2	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.2	1.2	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 208

Analytical Method: 8260-A98

AAB #: A8B01178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-AB-01

Lab Sample ID: A8048206

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.4	1.3	0.4	U
SEC-BUTYLBENZENE	0.2	1.3	0.2	U
STYRENE	0.2	0.400	0.2	U
TRICHLOROETHYLENE (TCE)	0.2	1.0	0.2	U
t-BUTYLBENZENE	0.2	1.4	0.2	U
TETRACHLOROETHYLENE(PCE)	0.2	1.4	0.2	U
TOLUENE	0.2	1.1	2	
trans-1,2-DICHLOROETHENE	0.2	0.600	0.2	U
trans-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
TRICHLOROFLUOROMETHANE	0.1	0.800	0.1	U
VINYL CHLORIDE	0.2	1.1	0.2	U

Comments:

464 2 9

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8801178

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WO-AB-D2 Lab Sample ID: A8048208 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.2	0.500	0.2	U
1,1,1-TRICHLOROETHANE	0.2	0.800	0.2	U
1,1,2,2-TETRACHLOROETHANE	0.2	0.400	0.2	U
1,1,2-TRICHLOROETHANE	0.2	1.0	0.2	U
1,1-DICHLOROETHANE	0.1	0.400	0.1	U
1,1-DICHLOROETHENE	0.2	1.2	0.2	U
1,1-DICHLOROPROPENE	0.2	1.0	0.2	U
1,2,3-TRICHLOROBENZENE	0.2	0.300	0.2	U
1,2,3-TRICHLOROPROPANE	0.2	3.2	0.2	U
1,2,4-TRICHLOROBENZENE	0.2	0.400	0.2	U
1,2,4-TRIMETHYLBENZENE	0.2	1.3	0.2	U
1,2-DICHLOROETHANE	0.2	0.600	0.2	U
1,2-DICHLOROBENZENE	0.2	0.300	0.2	U
1,2-DIBROMO-3-CHLOROPROPANE	0.2	2.6	0.2	U
1,2-DICHLOROPROPANE	0.1	0.400	0.1	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.2	0.600	0.2	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.2	0.500	0.2	U
1,3-DICHLOROBENZENE	0.1	1.2	0.1	U
1,3-DICHLOROPROPANE	0.2	0.400	0.2	U
1,4-DICHLOROBENZENE	0.2	0.300	0.2	U
1-CHLOROHEXANE	0.1	0.500	0.1	U
2,2-DICHLOROPROPANE	0.1	3.5	0.1	U
2-CHLOROTOLUENE	0.2	0.400	0.2	U
4-CHLOROTOLUENE	0.2	0.600	0.2	U
BENZENE	0.2	0.400	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 210

Analytical Method: 8260-A98

AAB #: A8B01178

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-WQ-AB-02

Lab Sample ID: A8048208

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.1	0.300	0.1	U
BROMOCHLOROMETHANE	0.2	0.400	0.2	U
BROMODICHLOROMETHANE	0.2	0.800	0.2	U
BROMOFORM	0.2	1.2	0.2	U
BROMOMETHANE	0.2	1.1	0.2	U
CARBON TETRACHLORIDE	0.2	2.1	0.2	U
CHLOROBENZENE	0.2	0.400	0.2	U
CHLOROETHANE	0.2	1.0	0.2	U
CHLOROFORM	0.1	0.300	0.1	U
CHLOROMETHANE	0.1	1.3	0.1	U
cis-1,2-DICHLOROETHYLENE	0.1	1.2	0.1	U
cis-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
DIBROMOCHLOROMETHANE	0.2	0.500	0.2	U
DIBROMOMETHANE	0.2	2.4	0.2	U
DICHLORODIFLUOROMETHANE	0.2	1.0	0.2	U
ETHYLBENZENE	0.2	0.600	0.2	U
HEXACHLOROBUTADIENE	0.2	1.1	0.2	U
ISOPROPYLBENZENE (CUMENE)	0.2	0.500	0.2	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.4	0.500	0.4	U
METHYLENE CHLORIDE	0.2	0.300	0.2	U
n-BUTYLBENZENE	0.2	1.1	0.2	U
n-PROPYLBENZENE	0.2	0.400	0.2	U
NAPHTHALENE	0.2	0.400	0.2	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.2	1.1	0.2	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.2	1.2	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-AB-02

Lab Sample ID: A8048208

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.4	1.3	0.4	U
SEC-BUTYLBENZENE	0.2	1.3	0.2	U
STYRENE	0.2	0.400	0.2	U
TRICHLOROETHYLENE (TCE)	0.2	1.0	0.2	U
t-BUTYLBENZENE	0.2	1.4	0.2	U
TETRACHLOROETHYLENE(PCE)	0.2	1.4	0.2	U
TOLUENE	0.2	1.1	2	
trans-1,2-DICHLOROETHENE	0.2	0.600	0.2	U
trans-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
TRICHLOROFLUOROMETHANE	0.1	0.800	0.1	U
VINYL CHLORIDE	0.2	1.1	0.2	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 212

Analytical Method: 8260-A98

AAB #: A8801178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-EB-01

Lab Sample ID: A8048209

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.2	0.500	0.2	U
1,1,1-TRICHLOROETHANE	0.2	0.800	0.2	U
1,1,2,2-TETRACHLOROETHANE	0.2	0.400	0.2	U
1,1,2-TRICHLOROETHANE	0.2	1.0	0.2	U
1,1-DICHLOROETHANE	0.1	0.400	0.1	U
1,1-DICHLOROETHENE	0.2	1.2	0.2	U
1,1-DICHLOROPROPENE	0.2	1.0	0.2	U
1,2,3-TRICHLOROBENZENE	0.2	0.300	0.2	U
1,2,3-TRICHLOROPROPANE	0.2	3.2	0.2	U
1,2,4-TRICHLOROBENZENE	0.2	0.400	0.2	U
1,2,4-TRIMETHYLBENZENE	0.2	1.3	0.2	U
1,2-DICHLOROETHANE	0.2	0.600	0.2	U
1,2-DICHLOROBENZENE	0.2	0.300	0.2	U
1,2-DIBROMO-3-CHLOROPROPANE	0.2	2.6	0.2	U
1,2-DICHLOROPROPANE	0.1	0.400	0.1	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.2	0.600	0.2	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.2	0.500	0.2	U
1,3-DICHLOROBENZENE	0.1	1.2	0.1	U
1,3-DICHLOROPROPANE	0.2	0.400	0.2	U
1,4-DICHLOROBENZENE	0.2	0.300	0.2	U
1-CHLOROHEXANE	0.1	0.500	0.1	U
2,2-DICHLOROPROPANE	0.1	3.5	0.1	U
2-CHLOROTOLUENE	0.2	0.400	0.2	U
4-CHLOROTOLUENE	0.2	0.600	0.2	U
BENZENE	0.2	0.400	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801178

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-WQ-EB-01

Lab Sample ID: A8048209

Matrix: WATER

% Solids: ____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: ____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.1	0.300	0.1	U
BROMOCHLOROMETHANE	0.2	0.400	0.2	U
BROMODICHLOROMETHANE	0.2	0.800	0.2	U
BROMOFORM	0.2	1.2	0.2	U
BROMOMETHANE	0.2	1.1	0.2	U
CARBON TETRACHLORIDE	0.2	2.1	0.2	U
CHLOROBENZENE	0.2	0.400	0.2	U
CHLOROETHANE	0.2	1.0	0.2	U
CHLOROFORM	0.1	0.300	0.1	U
CHLOROMETHANE	0.1	1.3	0.1	U
cis-1,2-DICHLOROETHYLENE	0.1	1.2	0.1	U
cis-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
DIBROMOCHLOROMETHANE	0.2	0.500	0.2	U
DIBROMOMETHANE	0.2	2.4	0.2	U
DICHLORODIFLUOROMETHANE	0.2	1.0	0.2	U
ETHYLBENZENE	0.2	0.600	0.2	U
HEXACHLOROBUTADIENE	0.2	1.1	0.2	U
ISOPROPYLBENZENE (CUMENE)	0.2	0.500	0.2	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.4	0.500	0.4	U
METHYLENE CHLORIDE	0.2	0.300	0.2	U
n-BUTYLBENZENE	0.2	1.1	0.2	U
n-PROPYLBENZENE	0.2	0.400	0.2	U
NAPHTHALENE	0.2	0.400	0.2	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.2	1.1	0.2	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.2	1.2	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 214

Analytical Method: 8260-A98

AAB #: A8801178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-EB-01

Lab Sample ID: A8048209

Matrix: WATER

% Solids: _____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.4	1.3	0.4	U
SEC-BUTYLBENZENE	0.2	1.3	0.2	U
STYRENE	0.2	0.400	0.2	U
TRICHLOROETHYLENE (TCE)	0.2	1.0	0.2	U
t-BUTYLBENZENE	0.2	1.4	0.2	U
TETRACHLOROETHYLENE(PCE)	0.2	1.4	0.2	U
TOLUENE	0.2	1.1	1	F
trans-1,2-DICHLOROETHENE	0.2	0.600	0.2	U
trans-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
TRICHLOROFLUOROMETHANE	0.1	0.800	0.1	U
VINYL CHLORIDE	0.2	1.1	0.2	U

Comments:

464 215

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8BD1178

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WQ-TB-02 Lab Sample ID: A8048210 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.2	0.500	0.2	U
1,1,1-TRICHLOROETHANE	0.2	0.800	0.2	U
1,1,2,2-TETRACHLOROETHANE	0.2	0.400	0.2	U
1,1,2-TRICHLOROETHANE	0.2	1.0	0.2	U
1,1-DICHLOROETHANE	0.1	0.400	0.1	U
1,1-DICHLOROETHENE	0.2	1.2	0.2	U
1,1-DICHLOROPROPENE	0.2	1.0	0.2	U
1,2,3-TRICHLOROBENZENE	0.2	0.300	0.2	U
1,2,3-TRICHLOROPROPANE	0.2	3.2	0.2	U
1,2,4-TRICHLOROBENZENE	0.2	0.400	0.2	U
1,2,4-TRIMETHYLBENZENE	0.2	1.3	0.2	U
1,2-DICHLOROETHANE	0.2	0.600	0.2	U
1,2-DICHLOROBENZENE	0.2	0.300	0.2	U
1,2-DIBROMO-3-CHLOROPROPANE	0.2	2.6	0.2	U
1,2-DICHLOROPROPANE	0.1	0.400	0.1	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.2	0.600	0.2	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.2	0.500	0.2	U
1,3-DICHLOROBENZENE	0.1	1.2	0.1	U
1,3-DICHLOROPROPANE	0.2	0.400	0.2	U
1,4-DICHLOROBENZENE	0.2	0.300	0.2	U
1-CHLOROHEXANE	0.1	0.500	0.1	U
2,2-DICHLOROPROPANE	0.1	3.5	0.1	U
2-CHLOROTOLUENE	0.2	0.400	0.2	U
4-CHLOROTOLUENE	0.2	0.600	0.2	U
BENZENE	0.2	0.400	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01178

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WQ-TB-02 Lab Sample ID: A8048210 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.1	0.300	0.1	U
BROMOCHLOROMETHANE	0.2	0.400	0.2	U
BROMODICHLOROMETHANE	0.2	0.800	0.2	U
BROMOFORM	0.2	1.2	0.2	U
BROMOMETHANE	0.2	1.1	0.2	U
CARBON TETRACHLORIDE	0.2	2.1	0.2	U
CHLOROBENZENE	0.2	0.400	0.2	U
CHLOROETHANE	0.2	1.0	0.2	U
CHLOROFORM	0.1	0.300	0.1	U
CHLOROMETHANE	0.1	1.3	0.1	U
cis-1,2-DICHLOROETHYLENE	0.1	1.2	0.1	U
cis-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
DIBROMOCHLOROMETHANE	0.2	0.500	0.2	U
DIBROMOMETHANE	0.2	2.4	0.2	U
DICHLORODIFLUOROMETHANE	0.2	1.0	0.2	U
ETHYLBENZENE	0.2	0.600	0.2	U
HEXACHLOROBUTADIENE	0.2	1.1	0.2	U
ISOPROPYLBENZENE (CUMENE)	0.2	0.500	0.2	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.4	0.500	0.4	U
METHYLENE CHLORIDE	0.2	0.300	0.2	U
n-BUTYLBENZENE	0.2	1.1	0.2	U
n-PROPYLBENZENE	0.2	0.400	0.2	U
NAPHTHALENE	0.2	0.400	0.2	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.2	1.1	0.2	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.2	1.2	0.2	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801178

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-TB-02

Lab Sample ID: A8048210

Matrix: WATER

% Solids: ____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: ____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.4	1.3	0.4	U
SEC-BUTYLBENZENE	0.2	1.3	0.2	U
STYRENE	0.2	0.400	0.2	U
TRICHLOROETHYLENE (TCE)	0.2	1.0	0.2	U
t-BUTYLBENZENE	0.2	1.4	0.2	U
TETRACHLOROETHYLENE(PCE)	0.2	1.4	0.2	U
TOLUENE	0.2	1.1	0.2	U
trans-1,2-DICHLOROETHENE	0.2	0.600	0.2	U
trans-1,3-DICHLOROPROPENE	0.2	1.0	0.2	U
TRICHLOROFLUOROMETHANE	0.1	0.800	0.1	U
VINYL CHLORIDE	0.2	1.1	0.2	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 464 218
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP04-01 Lab Sample ID: A8048201 Matrix: SOIL

% Solids: 85.8 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0011	0.0030	0.0011	U
1,1,1-TRICHLOROETHANE	0.0011	0.0040	0.0011	U
1,1,2,2-TETRACHLOROETHANE	0.0015	0.0020	0.0015	U
1,1,2-TRICHLOROETHANE	0.0013	0.0050	0.0013	U
1,1-DICHLOROETHANE	0.00092	0.0020	0.00092	U
1,1-DICHLOROETHENE	0.0012	0.0060	0.0012	U
1,1-DICHLOROPROPENE	0.00098	0.0050	0.00098	U
1,2,3-TRICHLOROBENZENE	0.0013	0.0020	0.0013	U
1,2,3-TRICHLOROPROPANE	0.0016	0.020	0.0016	U
1,2,4-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,4-TRIMETHYLBENZENE	0.00070	0.0070	0.00070	U
1,2-DICHLOROETHANE	0.0013	0.0030	0.0013	U
1,2-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0019	0.010	0.0019	U
1,2-DICHLOROPROPANE	0.0013	0.0020	0.0013	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0015	0.0030	0.0015	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00071	0.0030	0.00071	U
1,3-DICHLOROBENZENE	0.00099	0.0060	0.00099	U
1,3-DICHLOROPROPANE	0.00028	0.0020	0.00028	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1-CHLOROHEXANE	0.00093	0.0030	0.00093	U
2,2-DICHLOROPROPANE	0.0011	0.020	0.0011	U
2-CHLOROTOLUENE	0.00098	0.0020	0.00098	U
4-CHLOROTOLUENE	0.00098	0.0030	0.00098	U
BENZENE	0.00077	0.0020	0.00077	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP04-01 Lab Sample ID: A8048201 Matrix: SOIL

% Solids: 85.8 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00089	0.0020	0.00089	U
BROMOCHLOROMETHANE	0.0010	0.0020	0.0010	U
BROMODICHLOROMETHANE	0.0012	0.0040	0.0012	U
BROMOFORM	0.0017	0.0060	0.0017	U
BROMOMETHANE	0.0018	0.0050	0.0018	U
CARBON TETRACHLORIDE	0.00087	0.010	0.00087	U
CHLOROBENZENE	0.0013	0.0020	0.0013	U
CHLOROETHANE	0.0015	0.0050	0.0015	U
CHLOROFORM	0.00092	0.0020	0.00092	U
CHLOROMETHANE	0.0012	0.0070	0.0012	U
cis-1,2-DICHLOROETHYLENE	0.00086	0.0060	0.00086	U
cis-1,3-DICHLOROPROPENE	0.00080	0.0050	0.00080	U
DIBROMOCHLOROMETHANE	0.0014	0.0030	0.0014	U
DIBROMOMETHANE	0.0014	0.010	0.0014	U
DICHLORODIFLUOROMETHANE	0.0014	0.0050	0.0014	U, M
ETHYLBENZENE	0.0012	0.0030	0.0012	U
HEXACHLOROBUTADIENE	0.0011	0.0050	0.0011	U
ISOPROPYLBENZENE (CUMENE)	0.00084	0.0080	0.00084	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0022	0.0030	0.0022	U
METHYLENE CHLORIDE	0.0010	0.0020	0.0010	U
n-BUTYLBENZENE	0.00081	0.0050	0.00081	U
n-PROPYLBENZENE	0.00069	0.0020	0.00069	U
NAPHTHALENE	0.0016	0.0020	0.0016	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0012	0.0050	0.0012	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0011	0.0060	0.0011	U

000050

464 220

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP04-01

Lab Sample ID: A8048201

Matrix: SOIL

% Solids: 85.8

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0022	0.0070	0.0022	U
SEC-BUTYLBENZENE	0.00080	0.0070	0.00080	U
STYRENE	0.0010	0.0020	0.0010	U
TRICHLOROETHYLENE (TCE)	0.00078	0.010	0.00078	U
t-BUTYLBENZENE	0.00085	0.0070	0.00085	U
TETRACHLOROETHYLENE(PCE)	0.00078	0.0070	0.00078	U
TOLUENE	0.0013	0.0050	0.0015	F, B
trans-1,2-DICHLOROETHENE	0.00074	0.0030	0.00074	U
trans-1,3-DICHLOROPROPENE	0.0017	0.0050	0.0017	U
TRICHLOROFLUOROMETHANE	0.0019	0.0040	0.0019	U
VINYL CHLORIDE	0.0012	0.0090	0.0012	U

Comments:

464 221

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01 Lab Sample ID: A8048204 Matrix: SOIL

% Solids: 91.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0011	0.0030	0.0011	U
1,1,1-TRICHLOROETHANE	0.0011	0.0040	0.0011	U
1,1,2,2-TETRACHLOROETHANE	0.0014	0.0020	0.0014	U
1,1,2-TRICHLOROETHANE	0.0012	0.0050	0.0012	U
1,1-DICHLOROETHANE	0.00087	0.0020	0.00087	U
1,1-DICHLOROETHENE	0.0011	0.0060	0.0011	U
1,1-DICHLOROPROPENE	0.00092	0.0050	0.00092	U
1,2,3-TRICHLOROBENZENE	0.0013	0.0020	0.0013	U
1,2,3-TRICHLOROPROPANE	0.0015	0.020	0.0015	U
1,2,4-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,4-TRIMETHYLBENZENE	0.00066	0.0070	0.00066	U
1,2-DICHLOROETHANE	0.0012	0.0030	0.0012	U
1,2-DICHLOROBENZENE	0.0010	0.0020	0.0010	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0018	0.010	0.0018	U
1,2-DICHLOROPROPANE	0.0012	0.0020	0.0012	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0014	0.0030	0.0014	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00066	0.0030	0.00066	U
1,3-DICHLOROBENZENE	0.00093	0.0060	0.00093	U
1,3-DICHLOROPROPANE	0.00026	0.0020	0.00026	U
1,4-DICHLOROBENZENE	0.0010	0.0020	0.0010	U
1-CHLOROHEXANE	0.00087	0.0030	0.00087	U
2,2-DICHLOROPROPANE	0.0011	0.020	0.0011	U
2-CHLOROTOLUENE	0.00092	0.0020	0.00092	U
4-CHLOROTOLUENE	0.00092	0.0030	0.00092	U
BENZENE	0.00073	0.0020	0.00073	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 222

Analytical Method: 8260-A98

AAB #: A8B01193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01

Lab Sample ID: A8048204

Matrix: SOIL

% Solids: 91.1

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00084	0.0020	0.00084	U
BROMOCHLOROMETHANE	0.00095	0.0020	0.00095	U
BROMODICHLOROMETHANE	0.0012	0.0040	0.0012	U
BROMOFORM	0.0016	0.0060	0.0016	U
BROMOMETHANE	0.0017	0.0050	0.0017	U
CARBON TETRACHLORIDE	0.00082	0.010	0.00082	U
CHLOROBENZENE	0.0012	0.0020	0.0012	U
CHLOROETHANE	0.0014	0.0050	0.0014	U
CHLOROFORM	0.00086	0.0020	0.00086	U
CHLOROMETHANE	0.0012	0.0070	0.0012	U
cis-1,2-DICHLOROETHYLENE	0.00081	0.0060	0.00081	U
cis-1,3-DICHLOROPROPENE	0.00076	0.0050	0.00076	U
DIBROMOCHLOROMETHANE	0.0013	0.0030	0.0013	U
DIBROMOMETHANE	0.0013	0.010	0.0013	U
DICHLORODIFLUOROMETHANE	0.0013	0.0050	0.0013	U,M
ETHYLBENZENE	0.0012	0.0030	0.0012	U
HEXACHLOROBUTADIENE	0.0010	0.0050	0.0010	U
ISOPROPYLBENZENE (CUMENE)	0.00079	0.0080	0.00079	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0020	0.0030	0.0020	U
METHYLENE CHLORIDE	0.00096	0.0020	0.00096	U
n-BUTYLBENZENE	0.00076	0.0050	0.00076	U
n-PROPYLBENZENE	0.00065	0.0020	0.00065	U
NAPHTHALENE	0.0015	0.0020	0.0015	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0011	0.0050	0.0011	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0010	0.0060	0.0010	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 223

Analytical Method: 8260-A98

AAB #: A8801193

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01

Lab Sample ID: A8048204

Matrix: SOIL

% Solids: 91.1

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0020	0.0070	0.0020	U
SEC-BUTYLBENZENE	0.00075	0.0070	0.00075	U
STYRENE	0.00096	0.0020	0.00096	U
TRICHLOROETHYLENE (TCE)	0.00073	0.010	0.00073	U
t-BUTYLBENZENE	0.00080	0.0070	0.00080	U
TETRACHLOROETHYLENE(PCE)	0.00073	0.0070	0.00073	U
TOLUENE	0.0012	0.0050	0.0012	U
trans-1,2-DICHLOROETHENE	0.00069	0.0030	0.00069	U
trans-1,3-DICHLOROPROPENE	0.0016	0.0050	0.0016	U
TRICHLOROFLUOROMETHANE	0.0018	0.0040	0.0018	U
VINYL CHLORIDE	0.0011	0.0090	0.0011	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-OP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.7 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0016	0.0020	0.0016	U
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.00097	0.0020	0.00097	U
1,1-DICHLOROETHENE	0.0012	0.0060	0.0012	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,3-TRICHLOROPROPANE	0.0016	0.020	0.0016	U
1,2,4-TRICHLOROBENZENE	0.0015	0.0020	0.0015	U
1,2,4-TRIMETHYLBENZENE	0.00074	0.0070	0.00074	U
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	U
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00074	0.0030	0.00074	U
1,3-DICHLOROBENZENE	0.0010	0.0060	0.0010	U
1,3-DICHLOROPROPANE	0.00029	0.0020	0.00029	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1-CHLOROHEXANE	0.00097	0.0030	0.00097	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	U
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	U
BENZENE	0.00081	0.0020	0.00081	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8801193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.7 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00093	0.0020	0.00093	U
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0013	0.0040	0.0013	U
BROMOFORM	0.0018	0.0060	0.0018	U
BROMOMETHANE	0.0019	0.0050	0.0019	U
CARBON TETRACHLORIDE	0.00091	0.010	0.00091	U
CHLOROBENZENE	0.0014	0.0020	0.0014	U
CHLOROETHANE	0.0016	0.0050	0.0016	U
CHLOROFORM	0.00096	0.0020	0.00096	U
CHLOROMETHANE	0.0013	0.0070	0.0013	U
cis-1,2-DICHLOROETHYLENE	0.00090	0.0060	0.00090	U
cis-1,3-DICHLOROPROPENE	0.00084	0.0050	0.00084	U
DIBROMOCHLOROMETHANE	0.0014	0.0030	0.0014	U
DIBROMOMETHANE	0.0014	0.010	0.0014	U
DICHLORODIFLUOROMETHANE	0.0014	0.0050	0.0014	U, M
ETHYLBENZENE	0.0013	0.0030	0.0013	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	U
ISOPROPYLBENZENE (CUMENE)	0.00088	0.0080	0.00088	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0023	0.0030	0.0023	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0011	U
n-BUTYLBENZENE	0.00085	0.0050	0.00085	U
n-PROPYLBENZENE	0.00072	0.0020	0.00072	U
NAPHTHALENE	0.0017	0.0020	0.0017	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0012	0.0050	0.0012	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0011	0.0060	0.0011	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8B01193

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.7 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 20-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00083	0.0070	0.00083	U
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00082	0.010	0.00082	U
t-BUTYLBENZENE	0.00089	0.0070	0.00089	U
TETRACHLOROETHYLENE(PCE)	0.00082	0.0070	0.00082	U
TOLUENE	0.0014	0.0050	0.0014	U
trans-1,2-DICHLOROETHENE	0.00077	0.0030	0.00077	U
trans-1,3-DICHLOROPROPENE	0.0017	0.0050	0.0017	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0012	0.0090	0.0012	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8801194

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP05-01 Lab Sample ID: A8048202 Matrix: SOIL

% Solids: 81.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0016	0.0020	0.0016	U
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.00097	0.0020	0.00097	U
1,1-DICHLOROETHENE	0.0012	0.0060	0.0012	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,3-TRICHLOROPROPANE	0.0016	0.020	0.0016	U
1,2,4-TRICHLOROBENZENE	0.0015	0.0020	0.0015	U
1,2,4-TRIMETHYLBENZENE	0.00074	0.0070	0.00074	U
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	U
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00074	0.0030	0.00074	U
1,3-DICHLOROBENZENE	0.0010	0.0060	0.0010	U
1,3-DICHLOROPROPANE	0.00029	0.0020	0.00029	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1-CHLOROHEXANE	0.00098	0.0030	0.00098	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	U
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	U
BENZENE	0.00081	0.0020	0.00081	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8801194

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01 Lab Sample ID: A8048202 Matrix: SOIL

% Solids: 81.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00094	0.0020	0.00094	U
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0013	0.0040	0.0013	U
BROMOFORM	0.0018	0.0060	0.0018	U
BROMOMETHANE	0.0019	0.0050	0.0019	U
CARBON TETRACHLORIDE	0.00091	0.010	0.00091	U
CHLOROBENZENE	0.0014	0.0020	0.0014	U
CHLOROETHANE	0.0016	0.0050	0.0016	U
CHLOROFORM	0.00096	0.0020	0.00096	U
CHLOROMETHANE	0.0013	0.0070	0.0013	U
cis-1,2-DICHLOROETHYLENE	0.00090	0.0060	0.00090	U
cis-1,3-DICHLOROPROPENE	0.00084	0.0050	0.00084	U
DIBROMOCHLOROMETHANE	0.0014	0.0030	0.0014	U
DIBROMOMETHANE	0.0014	0.010	0.0014	U
DICHLORODIFLUOROMETHANE	0.0014	0.0050	0.0014	U,M
ETHYLBENZENE	0.0013	0.0030	0.0013	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	U
ISOPROPYLBENZENE (CUMENE)	0.00088	0.0080	0.00088	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0023	0.0030	0.0023	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0037	B
n-BUTYLBENZENE	0.00085	0.0050	0.00085	U
n-PROPYLBENZENE	0.00073	0.0020	0.00073	U
NAPHTHALENE	0.0017	0.0020	0.0017	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0012	0.0050	0.0012	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0011	0.0060	0.0011	U

161 229

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01

Lab Sample ID: A8048202

Matrix: SOIL

% Solids: 81.1

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00084	0.0070	0.00084	U
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00082	0.010	0.00082	U
t-BUTYLBENZENE	0.00089	0.0070	0.00089	U
TETRACHLOROETHYLENE(PCE)	0.00082	0.0070	0.00082	U
TOLUENE	0.0014	0.0050	0.0014	U
trans-1,2-DICHLOROETHENE	0.00077	0.0030	0.00077	U
trans-1,3-DICHLOROPROPENE	0.0017	0.0050	0.0017	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0012	0.0090	0.0012	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801194

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP06-01

Lab Sample ID: A8048203

Matrix: SOIL

% Solids: 85.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0011	0.0030	0.0011	U
1,1,1-TRICHLOROETHANE	0.0011	0.0040	0.0011	U
1,1,2,2-TETRACHLOROETHANE	0.0015	0.0020	0.0015	U
1,1,2-TRICHLOROETHANE	0.0013	0.0050	0.0013	U
1,1-DICHLOROETHANE	0.00092	0.0020	0.00092	U
1,1-DICHLOROETHENE	0.0012	0.0060	0.0012	U
1,1-DICHLOROPROPENE	0.00097	0.0050	0.00097	U
1,2,3-TRICHLOROBENZENE	0.0013	0.0020	0.0013	U
1,2,3-TRICHLOROPROPANE	0.0015	0.020	0.0015	U
1,2,4-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,4-TRIMETHYLBENZENE	0.00070	0.0070	0.00070	U
1,2-DICHLOROETHANE	0.0013	0.0030	0.0013	U
1,2-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0019	0.010	0.0019	U
1,2-DICHLOROPROPANE	0.0013	0.0020	0.0013	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0015	0.0030	0.0015	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00070	0.0030	0.00070	U
1,3-DICHLOROBENZENE	0.00098	0.0060	0.00098	U
1,3-DICHLOROPROPANE	0.00028	0.0020	0.00028	U
1,4-DICHLOROBENZENE	0.0010	0.0020	0.0010	U
1-CHLOROHEXANE	0.00092	0.0030	0.00092	U
2,2-DICHLOROPROPANE	0.0011	0.020	0.0011	U
2-CHLOROTOLUENE	0.00097	0.0020	0.00097	U
4-CHLOROTOLUENE	0.00097	0.0030	0.00097	U
BENZENE	0.00077	0.0020	0.00077	U

464 231

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8801194

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP06-01 Lab Sample ID: A8048203 Matrix: SOIL

% Solids: 85.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00089	0.0020	0.00089	U
BROMOCHLOROMETHANE	0.0010	0.0020	0.0010	U
BROMODICHLOROMETHANE	0.0012	0.0040	0.0012	U
BROMOFORM	0.0017	0.0060	0.0017	U
BROMOMETHANE	0.0018	0.0050	0.0018	U
CARBON TETRACHLORIDE	0.00086	0.010	0.00086	U
CHLOROBENZENE	0.0013	0.0020	0.0013	U
CHLOROETHANE	0.0015	0.0050	0.0015	U
CHLOROFORM	0.00091	0.0020	0.00091	U
CHLOROMETHANE	0.0012	0.0070	0.0012	U
cis-1,2-DICHLOROETHYLENE	0.00086	0.0060	0.00086	U
cis-1,3-DICHLOROPROPENE	0.00080	0.0050	0.00080	U
DIBROMOCHLOROMETHANE	0.0014	0.0030	0.0014	U
DIBROMOMETHANE	0.0014	0.010	0.0014	U
DICHLORODIFLUOROMETHANE	0.0013	0.0050	0.0013	U, M
ETHYLBENZENE	0.0012	0.0030	0.0012	U
HEXACHLOROBUTADIENE	0.0011	0.0050	0.0011	U
ISOPROPYLBENZENE (CUMENE)	0.00084	0.0080	0.00084	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0022	0.0030	0.0022	U
METHYLENE CHLORIDE	0.0010	0.0020	0.0028	B
n-BUTYLBENZENE	0.00081	0.0050	0.00081	U
n-PROPYLBENZENE	0.00069	0.0020	0.00069	U
NAPHTHALENE	0.0016	0.0020	0.0016	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0012	0.0050	0.0012	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0011	0.0060	0.0011	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98 AAB #: A8801194

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP06-01 Lab Sample ID: A8048203 Matrix: SOIL

% Solids: 85.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0022	0.0070	0.0022	U
SEC-BUTYLBENZENE	0.00079	0.0070	0.00079	U
STYRENE	0.0010	0.0020	0.0010	U
TRICHLOROETHYLENE (TCE)	0.00078	0.010	0.00078	U
t-BUTYLBENZENE	0.00085	0.0070	0.00085	U
TETRACHLOROETHYLENE(PCE)	0.00078	0.0070	0.00078	U
TOLUENE	0.0013	0.0050	0.0013	U
trans-1,2-DICHLOROETHENE	0.00073	0.0030	0.00073	U
trans-1,3-DICHLOROPROPENE	0.0016	0.0050	0.0016	U
TRICHLOROFLUOROMETHANE	0.0019	0.0040	0.0019	U
VINYL CHLORIDE	0.0012	0.0090	0.0012	U

Comments:

404 233

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8260-A98

AAB #: A8801194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01

Lab Sample ID: A8048205

Matrix: SOIL

% Solids: 79.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,1,1,2-TETRACHLOROETHANE	0.0012	0.0030	0.0012	U
1,1,1-TRICHLOROETHANE	0.0012	0.0040	0.0012	U
1,1,2,2-TETRACHLOROETHANE	0.0016	0.0020	0.0016	U
1,1,2-TRICHLOROETHANE	0.0014	0.0050	0.0014	U
1,1-DICHLOROETHANE	0.00099	0.0020	0.00099	U
1,1-DICHLOROETHENE	0.0013	0.0060	0.0013	U
1,1-DICHLOROPROPENE	0.0010	0.0050	0.0010	U
1,2,3-TRICHLOROBENZENE	0.0014	0.0020	0.0014	U
1,2,3-TRICHLOROPROPANE	0.0017	0.020	0.0017	U
1,2,4-TRICHLOROBENZENE	0.0016	0.0020	0.0016	U
1,2,4-TRIMETHYLBENZENE	0.00076	0.0070	0.00076	U
1,2-DICHLOROETHANE	0.0014	0.0030	0.0014	U
1,2-DICHLOROBENZENE	0.0012	0.0020	0.0012	U
1,2-DIBROMO-3-CHLOROPROPANE	0.0020	0.010	0.0020	U
1,2-DICHLOROPROPANE	0.0014	0.0020	0.0014	U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0016	0.0030	0.0016	U
1,3,5-TRIMETHYLBENZENE (MESITYLENE)	0.00076	0.0030	0.00076	U
1,3-DICHLOROBENZENE	0.0010	0.0060	0.0010	U
1,3-DICHLOROPROPANE	0.00030	0.0020	0.00030	U
1,4-DICHLOROBENZENE	0.0011	0.0020	0.0011	U
1-CHLOROHEXANE	0.0010	0.0030	0.0010	U
2,2-DICHLOROPROPANE	0.0012	0.020	0.0012	U
2-CHLOROTOLUENE	0.0010	0.0020	0.0010	U
4-CHLOROTOLUENE	0.0010	0.0030	0.0010	U
BENZENE	0.00083	0.0020	0.00083	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 231

Analytical Method: 8260-A98

AAB #: A8B01194

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01

Lab Sample ID: A8048205

Matrix: SOIL

% Solids: 79.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: _____

Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
BROMOBENZENE	0.00096	0.0020	0.00096	U
BROMOCHLOROMETHANE	0.0011	0.0020	0.0011	U
BROMODICHLOROMETHANE	0.0013	0.0040	0.0013	U
BROMOFORM	0.0018	0.0060	0.0018	U
BROMOMETHANE	0.0019	0.0050	0.0019	U
CARBON TETRACHLORIDE	0.00093	0.010	0.00093	U
CHLOROBENZENE	0.0014	0.0020	0.0014	U
CHLOROETHANE	0.0016	0.0050	0.0016	U
CHLOROFORM	0.00098	0.0020	0.00098	U
CHLOROMETHANE	0.0013	0.0070	0.0013	U
cis-1,2-DICHLOROETHYLENE	0.00092	0.0060	0.00092	U
cis-1,3-DICHLOROPROPENE	0.00086	0.0050	0.00086	U
DIBROMOCHLOROMETHANE	0.0015	0.0030	0.0015	U
DIBROMOMETHANE	0.0015	0.010	0.0015	U
DICHLORODIFLUOROMETHANE	0.0014	0.0050	0.0014	U,M
ETHYLBENZENE	0.0013	0.0030	0.0013	U
HEXACHLOROBUTADIENE	0.0012	0.0050	0.0012	U
ISOPROPYLBENZENE (CUMENE)	0.00090	0.0080	0.00090	U
M-XYLENE (1,3-DIMETHYLBENZENE)	0.0023	0.0030	0.0023	U
METHYLENE CHLORIDE	0.0011	0.0020	0.0035	B
n-BUTYLBENZENE	0.00087	0.0050	0.00087	U
n-PROPYLBENZENE	0.00074	0.0020	0.00074	U
NAPHTHALENE	0.0018	0.0020	0.0018	U
O-XYLENE (1,2-DIMETHYLBENZENE)	0.0013	0.0050	0.0013	U
P-CYMENE (p-ISOPROPYLTOLUENE)	0.0011	0.0060	0.0011	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 235

Analytical Method: 8260-A98 AAB #: A8B01194

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP08-01 Lab Sample ID: A8048205 Matrix: SOIL

% Solids: 79.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: _____ Date Analyzed: 23-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
P-XYLENE (1,4-DIMETHYLBENZENE)	0.0023	0.0070	0.0023	U
SEC-BUTYLBENZENE	0.00085	0.0070	0.00085	U
STYRENE	0.0011	0.0020	0.0011	U
TRICHLOROETHYLENE (TCE)	0.00083	0.010	0.00083	U
t-BUTYLBENZENE	0.00091	0.0070	0.00091	U
TETRACHLOROETHYLENE(PCE)	0.00083	0.0070	0.00083	U
TOLUENE	0.0014	0.0050	0.0014	U
trans-1,2-DICHLOROETHENE	0.00079	0.0030	0.00079	U
trans-1,3-DICHLOROPROPENE	0.0018	0.0050	0.0018	U
TRICHLOROFLUOROMETHANE	0.0020	0.0040	0.0020	U
VINYL CHLORIDE	0.0013	0.0090	0.0013	U

Comments:

APPENDIX B

DATA SUMMARY FORMS

SEMI-VOLATILE ORGANICS

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-01 Lab Sample ID: A8048101 Matrix: SOIL

% Solids: 75.9 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualiffier
1,2,4-TRICHLOROBENZENE	0.14	0.700	0.14	U
1,2-DICHLOROBENZENE	0.14	0.700	0.14	U
1,3-DICHLOROBENZENE	0.14	0.700	0.14	U
1,4-DICHLOROBENZENE	0.16	0.700	0.16	U
2,4-DINITROTOLUENE	0.16	0.700	0.16	U
2,6-DINITROTOLUENE	0.15	0.700	0.15	U
2-CHLORONAPHTHALENE	0.16	0.700	0.16	U
2-METHYLNAPHTHALENE	0.13	0.700	0.13	U
2-NITROANILINE	0.14	3.3	0.14	U
3-NITROANILINE	0.13	3.3	0.13	U
3,3'-DICHLOROBENZIDINE	0.17	1.3	0.17	U
4-BROMOPHENYL PHENYL ETHER	0.19	0.700	0.19	U
4-CHLOROANILINE	0.14	1.3	0.14	U
4-CHLOROPHENYL PHENYL ETHER	0.14	0.700	0.14	U
4-NITROANILINE	0.20	3.3	0.20	U
ACENAPHTHYLENE	0.17	0.700	0.17	U
ACENAPHTHENE	0.14	0.700	0.14	U
ANTHRACENE	0.19	0.700	0.19	U
BENZO(a)ANTHRACENE	0.21	0.700	0.21	U
BENZO(a)PYRENE	0.20	0.700	0.20	U
BENZO(b)FLUORANTHENE	0.18	0.700	0.18	U
BENZO(g,h,i)PERYLENE	0.18	0.700	0.18	U
BENZYL ALCOHOL	0.15	1.3	0.15	U
bis(2-CHLOROETHOXY) METHANE	0.16	0.700	0.16	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.23	0.700	0.23	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP01-01 Lab Sample ID: A8048101 Matrix: SOIL

% Solids: 75.9 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.042	0.700	0.042	U
bis(2-ETHYLHEXYL) PHTHALATE	0.21	0.700	0.21	U
BENZYL BUTYL PHTHALATE	0.19	0.700	0.19	U
CHRYSENE	0.18	0.700	0.18	U
DI-n-BUTYL PHTHALATE	0.20	0.700	0.20	U
DI-n-OCTYL PHTHALATE	0.22	0.700	0.22	U
DIBENZ(a,h)ANTHRACENE	0.20	0.700	0.20	U
DIBENZOFURAN	0.15	0.700	0.15	U
DIETHYL PHTHALATE	0.15	0.700	0.15	U
DIMETHYL PHTHALATE	0.16	0.700	0.16	U
FLUORANTHENE	0.22	0.700	0.22	U
FLUORENE	0.16	0.700	0.16	U
HEXACHLOROBENZENE	0.16	0.700	0.16	U
HEXACHLOROBUTADIENE	0.16	0.700	0.16	U
HEXACHLOROCYCLOPENTADIENE	0.081	0.700	0.081	U
HEXACHLOROETHANE	0.15	0.700	0.15	U
INDENO(1,2,3-c,d)PYRENE	0.21	0.700	0.21	U
ISOPHORONE	0.18	0.700	0.18	U
N-NITROSODIPHENYLAMINE	0.18	0.700	0.18	U
N-NITROSODI-n-PROPYLAMINE	0.13	0.700	0.13	U
NAPHTHALENE	0.15	0.700	0.15	U
NITROBENZENE	0.14	0.700	0.14	U
PHENANTHRENE	0.20	0.700	0.20	U
PYRENE	0.19	0.700	0.19	U
2,4,5-TRICHLOROPHENOL	0.26	3.3	0.26	U

464 239

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000108

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP01-01

Lab Sample ID: A8048101

Matrix: SOIL

% Solids: 75.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.23	0.300	0.23	U
2,4-DICHLOROPHENOL	0.34	0.300	0.34	U
2,4-DIMETHYLPHENOL	0.35	0.300	0.35	U
2,4-DINITROPHENOL	0.40	3.3	0.40	~~U~~ R
2-CHLOROPHENOL	0.38	0.300	0.38	U
2-METHYLPHENOL (o-CRESOL)	0.39	0.300	0.39	U
2-NITROPHENOL	0.28	0.300	0.28	U
4,6-DINITRO-2-METHYLPHENOL	0.54	3.3	0.54	U
4-CHLORO-3-METHYLPHENOL	0.26	1.3	0.26	U
4-METHYLPHENOL (p-CRESOL)	0.38	0.300	0.38	U
4-NITROPHENOL	0.25	1.6	0.25	U
BENZOIC ACID	0.48	1.6	0.48	U
PENTACHLOROPHENOL	0.36	3.3	0.36	U
PHENOL	0.37	0.300	0.37	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000199

464 210

Analytical Method: 8270-A98

AAB #: A8B01172

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 74.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.14	0.700	0.14	U
1,2-DICHLOROBENZENE	0.15	0.700	0.15	U
1,3-DICHLOROBENZENE	0.15	0.700	0.15	U
1,4-DICHLOROBENZENE	0.17	0.700	0.17	U
2,4-DINITROTOLUENE	0.16	0.700	0.16	U
2,6-DINITROTOLUENE	0.15	0.700	0.15	U
2-CHLORONAPHTHALENE	0.16	0.700	0.16	U
2-METHYLNAPHTHALENE	0.13	0.700	0.13	U
2-NITROANILINE	0.15	3.3	0.15	U
3-NITROANILINE	0.13	3.3	0.13	U
3,3'-DICHLOROBENZIDINE	0.17	1.3	0.17	U
4-BROMOPHENYL PHENYL ETHER	0.20	0.700	0.20	U
4-CHLOROANILINE	0.14	1.3	0.14	U
4-CHLOROPHENYL PHENYL ETHER	0.14	0.700	0.14	U
4-NITROANILINE	0.20	3.3	0.20	U
ACENAPHTHYLENE	0.17	0.700	0.17	U
ACENAPHTHENE	0.15	0.700	0.15	U
ANTHRACENE	0.20	0.700	0.20	U
BENZO(a)ANTHRACENE	0.21	0.700	0.21	U
BENZO(a)PYRENE	0.21	0.700	0.21	U
BENZO(b)FLUORANTHENE	0.18	0.700	0.18	U
BENZO(g,h,i)PERYLENE	0.19	0.700	0.19	U
BENZYL ALCOHOL	0.16	1.3	0.16	U
bis(2-CHLOROETHOXY) METHANE	0.16	0.700	0.16	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.23	0.700	0.23	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 74.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.044	0.700	0.044	U
bis(2-ETHYLHEXYL) PHTHALATE	0.22	0.700	0.22	U
BENZYL BUTYL PHTHALATE	0.20	0.700	0.20	U
CHRYSENE	0.18	0.700	0.18	U
DI-n-BUTYL PHTHALATE	0.21	0.700	0.21	U
DI-n-OCTYL PHTHALATE	0.22	0.700	0.22	U
DIBENZ(a,h)ANTHRACENE	0.21	0.700	0.21	U
DIBENZOFURAN	0.15	0.700	0.15	U
DIETHYL PHTHALATE	0.16	0.700	0.16	U
DIMETHYL PHTHALATE	0.16	0.700	0.16	U
FLUORANTHENE	0.23	0.700	0.23	U
FLUORENE	0.17	0.700	0.17	U
HEXACHLOROBENZENE	0.16	0.700	0.16	U
HEXACHLOROBUTADIENE	0.16	0.700	0.16	U
HEXACHLOROCYCLOPENTADIENE	0.083	0.700	0.083	U
HEXACHLOROETHANE	0.16	0.700	0.16	U
INDENO(1,2,3-c,d)PYRENE	0.22	0.700	0.22	U
ISOPHORONE	0.18	0.700	0.18	U
N-NITROSODIPHENYLAMINE	0.18	0.700	0.18	U
N-NITROSODI-n-PROPYLAMINE	0.13	0.700	0.13	U
NAPHTHALENE	0.15	0.700	0.15	U
NITROBENZENE	0.15	0.700	0.15	U
PHENANTHRENE	0.21	0.700	0.21	U
PYRENE	0.19	0.700	0.19	U
2,4,5-TRICHLOROPHENOL	0.27	3.3	0.27	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 242 000111

Analytical Method: 8270-A98

AAB #: A8B01172

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 74.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.23	0.300	0.23	U
2,4-DICHLOROPHENOL	0.35	0.300	0.35	U
2,4-DIMETHYLPHENOL	0.36	0.300	0.36	U
2,4-DINITROPHENOL	0.40	3.3	0.40	~~U~~ R
2-CHLOROPHENOL	0.38	0.300	0.38	U
2-METHYLPHENOL (o-CRESOL)	0.40	0.300	0.40	U
2-NITROPHENOL	0.28	0.300	0.28	U
4,6-DINITRO-2-METHYLPHENOL	0.55	3.3	0.55	U
4-CHLORO-3-METHYLPHENOL	0.26	1.3	0.26	U
4-METHYLPHENOL (p-CRESOL)	0.38	0.300	0.38	U
4-NITROPHENOL	0.26	1.6	0.26	U
BENZOIC ACID	0.49	1.6	0.49	U
PENTACHLOROPHENOL	0.37	3.3	0.37	U
PHENOL	0.38	0.300	0.38	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP02-01 Lab Sample ID: A8048103 Matrix: SOIL

% Solids: 78.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.14	0.700	0.14	U
1,2-DICHLOROBENZENE	0.14	0.700	0.14	U
1,3-DICHLOROBENZENE	0.14	0.700	0.14	U
1,4-DICHLOROBENZENE	0.16	0.700	0.16	U
2,4-DINITROTOLUENE	0.16	0.700	0.16	U
2,6-DINITROTOLUENE	0.15	0.700	0.15	U
2-CHLORONAPHTHALENE	0.15	0.700	0.15	U
2-METHYLNAPHTHALENE	0.12	0.700	0.12	U
2-NITROANILINE	0.14	3.3	0.14	U
3-NITROANILINE	0.13	3.3	0.13	U
3,3'-DICHLOROBENZIDINE	0.16	1.3	0.16	U
4-BROMOPHENYL PHENYL ETHER	0.19	0.700	0.19	U
4-CHLOROANILINE	0.14	1.3	0.14	U
4-CHLOROPHENYL PHENYL ETHER	0.13	0.700	0.13	U
4-NITROANILINE	0.19	3.3	0.19	U
ACENAPHTHYLENE	0.16	0.700	0.16	U
ACENAPHTHENE	0.14	0.700	0.14	U
ANTHRACENE	0.19	0.700	0.19	U
BENZO(a)ANTHRACENE	0.21	0.700	0.21	U
BENZO(a)PYRENE	0.20	0.700	0.20	U
BENZO(b)FLUORANTHENE	0.18	0.700	0.18	U
BENZO(g,h,i)PERYLENE	0.18	0.700	0.18	U
BENZYL ALCOHOL	0.15	1.3	0.15	U
bis(2-CHLOROETHOXY) METHANE	0.16	0.700	0.16	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.22	0.700	0.22	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SD-DPD2-01 Lab Sample ID: A8048103 Matrix: SOIL

% Solids: 78.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.042	0.700	0.042	U
bis(2-ETHYLHEXYL) PHTHALATE	0.21	0.700	0.21	U
BENZYL BUTYL PHTHALATE	0.19	0.700	0.19	U
CHRYSENE	0.17	0.700	0.17	U
DI-n-BUTYL PHTHALATE	0.20	0.700	0.20	U
DI-n-OCTYL PHTHALATE	0.22	0.700	0.22	U
DIBENZ(a,h)ANTHRACENE	0.20	0.700	0.20	U
DIBENZOFURAN	0.15	0.700	0.15	U
DIETHYL PHTHALATE	0.15	0.700	0.15	U
DIMETHYL PHTHALATE	0.15	0.700	0.15	U
FLUORANTHENE	0.22	0.700	0.22	U
FLUORENE	0.16	0.700	0.16	U
HEXACHLOROBENZENE	0.16	0.700	0.16	U
HEXACHLOROBUTADIENE	0.16	0.700	0.16	U
HEXACHLOROCYCLOPENTADIENE	0.080	0.700	0.080	U
HEXACHLOROETHANE	0.15	0.700	0.15	U
INDENO(1,2,3-c,d)PYRENE	0.21	0.700	0.21	U
ISOPHORONE	0.17	0.700	0.17	U
N-NITROSODIPHENYLAMINE	0.18	0.700	0.18	U
N-NITROSODI-n-PROPYLAMINE	0.13	0.700	0.13	U
NAPHTHALENE	0.14	0.700	0.14	U
NITROBENZENE	0.14	0.700	0.14	U
PHENANTHRENE	0.20	0.700	0.20	U
PYRENE	0.19	0.700	0.19	U
2,4,5-TRICHLOROPHENOL	0.26	3.3	0.26	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-0902-01

Lab Sample ID: A8048103

Matrix: SOIL

% Solids: 78.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.22	0.300	0.22	U
2,4-DICHLOROPHENOL	0.34	0.300	0.34	U
2,4-DIMETHYLPHENOL	0.34	0.300	0.34	U
2,4-DINITROPHENOL	0.39	3.3	0.39	~~U~~ R
2-CHLOROPHENOL	0.37	0.300	0.37	U
2-METHYLPHENOL (o-CRESOL)	0.38	0.300	0.38	U
2-NITROPHENOL	0.27	0.300	0.27	U
4,6-DINITRO-2-METHYLPHENOL	0.54	3.3	0.54	U
4-CHLORO-3-METHYLPHENOL	0.25	1.3	0.25	U
4-METHYLPHENOL (p-CRESOL)	0.37	0.300	0.37	U
4-NITROPHENOL	0.25	1.6	0.25	U
BENZOIC ACID	0.48	1.6	0.48	U
PENTACHLOROPHENOL	0.36	3.3	0.36	U
PHENOL	0.36	0.300	0.36	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP03-01 Lab Sample ID: A8048104 Matrix: SOIL

% Solids: 79.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.13	0.700	0.13	U
1,2-DICHLOROBENZENE	0.14	0.700	0.14	U
1,3-DICHLOROBENZENE	0.14	0.700	0.14	U
1,4-DICHLOROBENZENE	0.15	0.700	0.15	U
2,4-DINITROTOLUENE	0.15	0.700	0.15	U
2,6-DINITROTOLUENE	0.14	0.700	0.14	U
2-CHLORONAPHTHALENE	0.15	0.700	0.15	U
2-METHYLNAPHTHALENE	0.12	0.700	0.12	U
2-NITROANILINE	0.14	3.3	0.14	U
3-NITROANILINE	0.12	3.3	0.12	U
3,3'-DICHLOROBENZIDINE	0.16	1.3	0.16	U
4-BROMOPHENYL PHENYL ETHER	0.18	0.700	0.18	U
4-CHLOROANILINE	0.13	1.3	0.13	U
4-CHLOROPHENYL PHENYL ETHER	0.13	0.700	0.13	U
4-NITROANILINE	0.18	3.3	0.18	U
ACENAPHTHYLENE	0.16	0.700	0.16	U
ACENAPHTHENE	0.14	0.700	0.14	U
ANTHRACENE	0.18	0.700	0.18	U
BENZO(a)ANTHRACENE	0.20	0.700	0.20	U
BENZO(a)PYRENE	0.19	0.700	0.19	U
BENZO(b)FLUORANTHENE	0.17	0.700	0.17	U
BENZO(g,h,i)PERYLENE	0.17	0.700	0.17	U
BENZYL ALCOHOL	0.14	1.3	0.14	U
bis(2-CHLOROETHOXY) METHANE	0.15	0.700	0.15	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.21	0.700	0.21	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464-247

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 79.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.040	0.700	0.040	U
bis(2-ETHYLHEXYL) PHTHALATE	0.20	0.700	0.20	U
BENZYL BUTYL PHTHALATE	0.18	0.700	0.18	U
CHRYSENE	0.17	0.700	0.17	U
DI-n-BUTYL PHTHALATE	0.19	0.700	0.19	U
DI-n-OCTYL PHTHALATE	0.21	0.700	0.21	U
DIBENZ(a,h)ANTHRACENE	0.19	0.700	0.19	U
DIBENZOFURAN	0.14	0.700	0.14	U
DIETHYL PHTHALATE	0.14	0.700	0.14	U
DIMETHYL PHTHALATE	0.15	0.700	0.15	U
FLUORANTHENE	0.21	0.700	0.21	U
FLUORENE	0.15	0.700	0.15	U
HEXACHLOROBENZENE	0.15	0.700	0.15	U
HEXACHLOROBUTADIENE	0.15	0.700	0.15	U
HEXACHLOROCYCLOPENTADIENE	0.077	0.700	0.077	U
HEXACHLOROETHANE	0.14	0.700	0.14	U
INDENO(1,2,3-c,d)PYRENE	0.20	0.700	0.20	U
ISOPHORONE	0.16	0.700	0.16	U
N-NITROSODIPHENYLAMINE	0.17	0.700	0.17	U
N-NITROSODI-n-PROPYLAMINE	0.12	0.700	0.12	U
NAPHTHALENE	0.14	0.700	0.14	U
NITROBENZENE	0.14	0.700	0.14	U
PHENANTHRENE	0.19	0.700	0.19	U
PYRENE	0.18	0.700	0.18	U
2,4,5-TRICHLOROPHENOL	0.25	3.3	0.25	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 248

000117

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 79.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.22	0.300	0.22	U
2,4-DICHLOROPHENOL	0.32	0.300	0.32	U
2,4-DIMETHYLPHENOL	0.33	0.300	0.33	U
2,4-DINITROPHENOL	0.37	3.3	0.37	~~U~~ R
2-CHLOROPHENOL	0.36	0.300	0.36	U
2-METHYLPHENOL (o-CRESOL)	0.36	0.300	0.36	U
2-NITROPHENOL	0.26	0.300	0.26	U
4,6-DINITRO-2-METHYLPHENOL	0.51	3.3	0.51	U
4-CHLORO-3-METHYLPHENOL	0.24	1.3	0.24	U
4-METHYLPHENOL (p-CRESOL)	0.35	0.300	0.35	U
4-NITROPHENOL	0.24	1.6	0.24	U
BENZOIC ACID	0.45	1.6	0.45	U
PENTACHLOROPHENOL	0.34	3.3	0.34	U
PHENOL	0.34	0.300	0.34	U

Comments:

464 249

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-02 Lab Sample ID: A8048105 Matrix: SOIL

% Solids: 82.9 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.13	0.700	0.13	U
1,2-DICHLOROBENZENE	0.13	0.700	0.13	U
1,3-DICHLOROBENZENE	0.14	0.700	0.14	U
1,4-DICHLOROBENZENE	0.15	0.700	0.15	U
2,4-DINITROTOLUENE	0.15	0.700	0.15	U
2,6-DINITROTOLUENE	0.14	0.700	0.14	U
2-CHLORONAPHTHALENE	0.14	0.700	0.14	U
2-METHYLNAPHTHALENE	0.12	0.700	0.12	U
2-NITROANILINE	0.13	3.3	0.13	U
3-NITROANILINE	0.12	3.3	0.12	U
3,3'-DICHLOROBENZIDINE	0.15	1.3	0.15	U
4-BROMOPHENYL PHENYL ETHER	0.18	0.700	0.18	U
4-CHLOROANILINE	0.13	1.3	0.13	U
4-CHLOROPHENYL PHENYL ETHER	0.12	0.700	0.12	U
4-NITROANILINE	0.18	3.3	0.18	U
ACENAPHTHYLENE	0.15	0.700	0.15	U
ACENAPHTHENE	0.13	0.700	0.13	U
ANTHRACENE	0.18	0.700	0.18	U
BENZO(a)ANTHRACENE	0.19	0.700	0.19	U
BENZO(a)PYRENE	0.19	0.700	0.19	U
BENZO(b)FLUORANTHENE	0.17	0.700	0.17	U
BENZO(g,h,i)PERYLENE	0.17	0.700	0.17	U
BENZYL ALCOHOL	0.14	1.3	0.14	U
bis(2-CHLOROETHOXY) METHANE	0.14	0.700	0.14	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.21	0.700	0.21	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000115

464 250

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 82.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.039	0.700	0.039	U
bis(2-ETHYLHEXYL) PHTHALATE	0.20	0.700	0.20	U
BENZYL BUTYL PHTHALATE	0.18	0.700	0.18	U
CHRYSENE	0.16	0.700	0.16	U
DI-n-BUTYL PHTHALATE	0.19	0.700	0.19	U
DI-n-OCTYL PHTHALATE	0.20	0.700	0.20	U
DIBENZ(a,h)ANTHRACENE	0.19	0.700	0.19	U
DIBENZOFURAN	0.14	0.700	0.14	U
DIETHYL PHTHALATE	0.14	0.700	0.14	U
DIMETHYL PHTHALATE	0.14	0.700	0.14	U
FLUORANTHENE	0.20	0.700	0.20	U
FLUORENE	0.15	0.700	0.15	U
HEXACHLOROBENZENE	0.14	0.700	0.14	U
HEXACHLOROBUTADIENE	0.14	0.700	0.14	U
HEXACHLOROCYCLOPENTADIENE	0.075	0.700	0.075	U
HEXACHLOROETHANE	0.14	0.700	0.14	U
INDENO(1,2,3-c,d)PYRENE	0.20	0.700	0.20	U
ISOPHORONE	0.16	0.700	0.16	U
N-NITROSODIPHENYLAMINE	0.16	0.700	0.16	U
N-NITROSODI-n-PROPYLAMINE	0.12	0.700	0.12	U
NAPHTHALENE	0.14	0.700	0.14	U
NITROBENZENE	0.13	0.700	0.13	U
PHENANTHRENE	0.19	0.700	0.19	U
PYRENE	0.17	0.700	0.17	U
2,4,5-TRICHLOROPHENOL	0.25	3.3	0.25	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 82.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.21	0.300	0.21	U
2,4-DICHLOROPHENOL	0.32	0.300	0.32	U
2,4-DIMETHYLPHENOL	0.32	0.300	0.32	U
2,4-DINITROPHENOL	0.37	3.3	0.37	~~U~~ R
2-CHLOROPHENOL	0.35	0.300	0.35	U
2-METHYLPHENOL (o-CRESOL)	0.36	0.300	0.36	U
2-NITROPHENOL	0.26	0.300	0.26	U
4,6-DINITRO-2-METHYLPHENOL	0.50	3.3	0.50	U
4-CHLORO-3-METHYLPHENOL	0.24	1.3	0.24	U
4-METHYLPHENOL (p-CRESOL)	0.35	0.300	0.35	U
4-NITROPHENOL	0.23	1.6	0.23	U
BENZOIC ACID	0.44	1.6	0.44	U
PENTACHLOROPHENOL	0.34	3.3	0.34	U
PHENOL	0.34	0.300	0.34	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000121

464 252

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 81.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.13	0.700	0.13	U
1,2-DICHLOROBENZENE	0.13	0.700	0.13	U
1,3-DICHLOROBENZENE	0.13	0.700	0.13	U
1,4-DICHLOROBENZENE	0.15	0.700	0.15	U
2,4-DINITROTOLUENE	0.15	0.700	0.15	U
2,6-DINITROTOLUENE	0.14	0.700	0.14	U
2-CHLORONAPHTHALENE	0.14	0.700	0.14	U
2-METHYLNAPHTHALENE	0.12	0.700	0.12	U
2-NITROANILINE	0.13	3.3	0.13	U
3-NITROANILINE	0.12	3.3	0.12	U
3,3'-DICHLOROBENZIDINE	0.15	1.3	0.15	U
4-BROMOPHENYL PHENYL ETHER	0.18	0.700	0.18	U
4-CHLOROANILINE	0.12	1.3	0.12	U
4-CHLOROPHENYL PHENYL ETHER	0.12	0.700	0.12	U
4-NITROANILINE	0.18	3.3	0.18	U
ACENAPHTHYLENE	0.15	0.700	0.15	U
ACENAPHTHENE	0.13	0.700	0.13	U
ANTHRACENE	0.18	0.700	0.18	U
BENZO(a)ANTHRACENE	0.19	0.700	0.19	U
BENZO(a)PYRENE	0.19	0.700	0.19	U
BENZO(b)FLUORANTHENE	0.16	0.700	0.16	U
BENZO(g,h,i)PERYLENE	0.17	0.700	0.17	U
BENZYL ALCOHOL	0.14	1.3	0.14	U
bis(2-CHLOROETHOXY) METHANE	0.14	0.700	0.14	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.21	0.700	0.21	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03 Lab Sample ID: A8048106 Matrix: SOIL

% Solids: 81.7 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.039	0.700	0.039	U
bis(2-ETHYLHEXYL) PHTHALATE	0.19	0.700	0.19	U
BENZYL BUTYL PHTHALATE	0.18	0.700	0.18	U
CHRYSENE	0.16	0.700	0.16	U
DI-n-BUTYL PHTHALATE	0.19	0.700	0.19	U
DI-n-OCTYL PHTHALATE	0.20	0.700	0.20	U
DIBENZ(a,h)ANTHRACENE	0.18	0.700	0.18	U
DIBENZOFURAN	0.14	0.700	0.14	U
DIETHYL PHTHALATE	0.14	0.700	0.14	U
DIMETHYL PHTHALATE	0.14	0.700	0.14	U
FLUORANTHENE	0.20	0.700	0.20	U
FLUORENE	0.15	0.700	0.15	U
HEXACHLOROBENZENE	0.14	0.700	0.14	U
HEXACHLOROBUTADIENE	0.14	0.700	0.14	U
HEXACHLOROCYCLOPENTADIENE	0.075	0.700	0.075	U
HEXACHLOROETHANE	0.14	0.700	0.14	U
INDENO(1,2,3-c,d)PYRENE	0.20	0.700	0.20	U
ISOPHORONE	0.16	0.700	0.16	U
N-NITROSODIPHENYLAMINE	0.16	0.700	0.16	U
N-NITROSODI-n-PROPYLAMINE	0.12	0.700	0.12	U
NAPHTHALENE	0.14	0.700	0.14	U
NITROBENZENE	0.13	0.700	0.13	U
PHENANTHRENE	0.19	0.700	0.19	U
PYRENE	0.17	0.700	0.17	U
2,4,5-TRICHLOROPHENOL	0.24	3.3	0.24	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000123

464 254

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 81.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.21	0.300	0.21	U
2,4-DICHLOROPHENOL	0.31	0.300	0.31	U
2,4-DIMETHYLPHENOL	0.32	0.300	0.32	U
2,4-DINITROPHENOL	0.36	3.3	0.36	~~U~~ R
2-CHLOROPHENOL	0.35	0.300	0.35	U
2-METHYLPHENOL (o-CRESOL)	0.36	0.300	0.36	U
2-NITROPHENOL	0.25	0.300	0.25	U
4,6-DINITRO-2-METHYLPHENOL	0.50	3.3	0.50	U
4-CHLORO-3-METHYLPHENOL	0.24	1.3	0.24	U
4-METHYLPHENOL (p-CRESOL)	0.34	0.300	0.34	U
4-NITROPHENOL	0.23	1.6	0.23	U
BENZOIC ACID	0.44	1.6	0.44	U
PENTACHLOROPHENOL	0.34	3.3	0.34	U
PHENOL	0.34	0.300	0.34	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SD-DP04-01 Lab Sample ID: A8048201 Matrix: SOIL

% Solids: 84.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.12	0.700	0.12	U
1,2-DICHLOROBENZENE	0.13	0.700	0.13	U
1,3-DICHLOROBENZENE	0.13	0.700	0.13	U
1,4-DICHLOROBENZENE	0.14	0.700	0.14	U
2,4-DINITROTOLUENE	0.14	0.700	0.14	U
2,6-DINITROTOLUENE	0.13	0.700	0.13	U
2-CHLORONAPHTHALENE	0.14	0.700	0.14	U
2-METHYLNAPHTHALENE	0.11	0.700	0.11	U
2-NITROANILINE	0.13	3.3	0.13	U
3-NITROANILINE	0.12	3.3	0.12	U
3,3'-DICHLOROBENZIDINE	0.15	1.3	0.15	U
4-BROMOPHENYL PHENYL ETHER	0.17	0.700	0.17	U
4-CHLOROANILINE	0.12	1.3	0.12	U
4-CHLOROPHENYL PHENYL ETHER	0.12	0.700	0.12	U
4-NITROANILINE	0.18	3.3	0.18	U
ACENAPHTHYLENE	0.15	0.700	0.15	U
ACENAPHTHENE	0.13	0.700	0.13	U
ANTHRACENE	0.17	0.700	0.17	U
BENZO(a)ANTHRACENE	0.19	0.700	0.19	U
BENZO(a)PYRENE	0.18	0.700	0.18	U
BENZO(b)FLUORANTHENE	0.16	0.700	0.16	U
BENZO(g,h,i)PERYLENE	0.16	0.700	0.16	U
BENZYL ALCOHOL	0.14	1.3	0.14	U
bis(2-CHLOROETHOXY) METHANE	0.14	0.700	0.14	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.20	0.700	0.20	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 256

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-OP04-01 Lab Sample ID: A8048201 Matrix: SOIL

% Solids: 84.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.038	0.700	0.038	U
bis(2-ETHYLHEXYL) PHTHALATE	0.19	0.700	0.19	U
BENZYL BUTYL PHTHALATE	0.17	0.700	0.17	U
CHRYSENE	0.16	0.700	0.16	U
DI-n-BUTYL PHTHALATE	0.18	0.700	0.18	U
DI-n-OCTYL PHTHALATE	0.20	0.700	0.20	U
DIBENZ(a,h)ANTHRACENE	0.18	0.700	0.18	U
DIBENZOFURAN	0.13	0.700	0.13	U
DIETHYL PHTHALATE	0.14	0.700	0.14	U
DIMETHYL PHTHALATE	0.14	0.700	0.14	U
FLUORANTHENE	0.20	0.700	0.20	U
FLUORENE	0.15	0.700	0.15	U
HEXACHLOROBENZENE	0.14	0.700	0.14	U
HEXACHLOROBUTADIENE	0.14	0.700	0.14	U
HEXACHLOROCYCLOPENTADIENE	0.073	0.700	0.073	U
HEXACHLOROETHANE	0.14	0.700	0.14	U
INDENO(1,2,3-c,d)PYRENE	0.19	0.700	0.19	U
ISOPHORONE	0.16	0.700	0.16	U
N-NITROSODIPHENYLAMINE	0.16	0.700	0.16	U
N-NITROSODI-n-PROPYLAMINE	0.12	0.700	0.12	U
NAPHTHALENE	0.13	0.700	0.13	U
NITROBENZENE	0.13	0.700	0.13	U
PHENANTHRENE	0.18	0.700	0.18	U
PYRENE	0.17	0.700	0.17	U
2,4,5-TRICHLOROPHENOL	0.24	3.3	0.24	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 257

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP04-01

Lab Sample ID: A8048201

Matrix: SOIL

% Solids: 84.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.20	0.300	0.20	U
2,4-DICHLOROPHENOL	0.30	0.300	0.30	U
2,4-DIMETHYLPHENOL	0.31	0.300	0.31	U
2,4-DINITROPHENOL	0.35	3.3	0.35	~~U~~ R
2-CHLOROPHENOL	0.34	0.300	0.34	U
2-METHYLPHENOL (o-CRESOL)	0.35	0.300	0.35	U
2-NITROPHENOL	0.25	0.300	0.25	U
4,6-DINITRO-2-METHYLPHENOL	0.48	3.3	0.48	U
4-CHLORO-3-METHYLPHENOL	0.23	1.3	0.23	U
4-METHYLPHENOL (p-CRESOL)	0.34	0.300	0.34	U
4-NITROPHENOL	0.22	1.6	0.22	U
BENZOIC ACID	0.43	1.6	0.43	U
PENTACHLOROPHENOL	0.33	3.3	0.33	U
PHENOL	0.33	0.300	0.33	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01 Lab Sample ID: A8048202 Matrix: SOIL

% Solids: 70.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.15	0.700	0.15	U
1,2-DICHLOROBENZENE	0.16	0.700	0.16	U
1,3-DICHLOROBENZENE	0.16	0.700	0.16	U
1,4-DICHLOROBENZENE	0.18	0.700	0.18	U
2,4-DINITROTOLUENE	0.17	0.700	0.17	U
2,6-DINITROTOLUENE	0.16	0.700	0.16	U
2-CHLORONAPHTHALENE	0.17	0.700	0.17	U
2-METHYLNAPHTHALENE	0.14	0.700	0.14	U
2-NITROANILINE	0.16	3.3	0.16	U
3-NITROANILINE	0.14	3.3	0.14	U
3,3'-DICHLOROBENZIDINE	0.18	1.3	0.18	U
4-BROMOPHENYL PHENYL ETHER	0.21	0.700	0.21	U
4-CHLOROANILINE	0.15	1.3	0.15	U
4-CHLOROPHENYL PHENYL ETHER	0.15	0.700	0.15	U
4-NITROANILINE	0.21	3.3	0.21	U
ACENAPHTHYLENE	0.18	0.700	0.18	U
ACENAPHTHENE	0.16	0.700	0.16	U
ANTHRACENE	0.21	0.700	0.21	U
BENZO(a)ANTHRACENE	0.23	0.700	0.23	U
BENZO(a)PYRENE	0.22	0.700	0.22	U
BENZO(b)FLUORANTHENE	0.20	0.700	0.20	U
BENZO(g,h,i)PERYLENE	0.20	0.700	0.20	U
BENZYL ALCOHOL	0.17	1.3	0.17	U
bis(2-CHLOROETHOXY) METHANE	0.17	0.700	0.17	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.25	0.700	0.25	U

464 259

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01 Lab Sample ID: A8048202 Matrix: SOIL

% Solids: 70.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.046	0.700	0.046	U
bis(2-ETHYLHEXYL) PHTHALATE	0.23	0.700	0.23	U
BENZYL BUTYL PHTHALATE	0.21	0.700	0.21	U
CHRYSENE	0.19	0.700	0.19	U
DI-n-BUTYL PHTHALATE	0.22	0.700	0.22	U
DI-n-OCTYL PHTHALATE	0.24	0.700	0.24	U
DIBENZ(a,h)ANTHRACENE	0.22	0.700	0.22	U
DIBENZOFURAN	0.16	0.700	0.16	U
DIETHYL PHTHALATE	0.17	0.700	0.17	U
DIMETHYL PHTHALATE	0.17	0.700	0.17	U
FLUORANTHENE	0.24	0.700	0.24	U
FLUORENE	0.18	0.700	0.18	U
HEXACHLOROBENZENE	0.17	0.700	0.17	U
HEXACHLOROBUTADIENE	0.17	0.700	0.17	U
HEXACHLOROCYCLOPENTADIENE	0.089	0.700	0.089	U
HEXACHLOROETHANE	0.17	0.700	0.17	U
INDENO(1,2,3-c,d)PYRENE	0.23	0.700	0.23	U
ISOPHORONE	0.19	0.700	0.19	U
N-NITROSODIPHENYLAMINE	0.19	0.700	0.19	U
N-NITROSODI-n-PROPYLAMINE	0.14	0.700	0.14	U
NAPHTHALENE	0.16	0.700	0.16	U
NITROBENZENE	0.16	0.700	0.16	U
PHENANTHRENE	0.22	0.700	0.22	U
PYRENE	0.20	0.700	0.20	U
2,4,5-TRICHLOROPHENOL	0.29	3.3	0.29	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98

AAB #: A8801172 464 260

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP05-01

Lab Sample ID: A8048202

Matrix: SOIL

% Solids: 70.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.25	0.300	0.25	U
2,4-DICHLOROPHENOL	0.37	0.300	0.37	U
2,4-DIMETHYLPHENOL	0.38	0.300	0.38	U
2,4-DINITROPHENOL	0.43	3.3	0.43	~~U~~ R
2-CHLOROPHENOL	0.41	0.300	0.41	U
2-METHYLPHENOL (o-CRESOL)	0.42	0.300	0.42	U
2-NITROPHENOL	0.30	0.300	0.30	U
4,6-DINITRO-2-METHYLPHENOL	0.59	3.3	0.59	U
4-CHLORO-3-METHYLPHENOL	0.28	1.3	0.28	U
4-METHYLPHENOL (p-CRESOL)	0.41	0.300	0.41	U
4-NITROPHENOL	0.27	1.6	0.27	U
BENZOIC ACID	0.53	1.6	0.53	U
PENTACHLOROPHENOL	0.40	3.3	0.40	U
PHENOL	0.40	0.300	0.40	U

Comments:

464 261

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP06-01 Lab Sample ID: A8048203 Matrix: SOIL

% Solids: 89.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.12	0.700	0.12	U
1,2-DICHLOROBENZENE	0.12	0.700	0.12	U
1,3-DICHLOROBENZENE	0.12	0.700	0.12	U
1,4-DICHLOROBENZENE	0.14	0.700	0.14	U
2,4-DINITROTOLUENE	0.14	0.700	0.14	U
2,6-DINITROTOLUENE	0.13	0.700	0.13	U
2-CHLORONAPHTHALENE	0.13	0.700	0.13	U
2-METHYLNAPHTHALENE	0.11	0.700	0.11	U
2-NITROANILINE	0.12	3.3	0.12	U
3-NITROANILINE	0.11	3.3	0.11	U
3,3'-DICHLOROBENZIDINE	0.14	1.3	0.14	U
4-BROMOPHENYL PHENYL ETHER	0.16	0.700	0.16	U
4-CHLOROANILINE	0.12	1.3	0.12	U
4-CHLOROPHENYL PHENYL ETHER	0.12	0.700	0.12	U
4-NITROANILINE	0.17	3.3	0.17	U
ACENAPHTHYLENE	0.14	0.700	0.14	U
ACENAPHTHENE	0.12	0.700	0.12	U
ANTHRACENE	0.17	0.700	0.17	U
BENZO(a)ANTHRACENE	0.18	0.700	0.18	U
BENZO(a)PYRENE	0.18	0.700	0.18	U
BENZO(b)FLUORANTHENE	0.15	0.700	0.15	U
BENZO(g,h,i)PERYLENE	0.16	0.700	0.16	U
BENZYL ALCOHOL	0.13	1.3	0.13	U
bis(2-CHLOROETHOXY) METHANE	0.14	0.700	0.14	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.20	0.700	0.20	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP06-01 Lab Sample ID: A8048203 Matrix: SOIL

% Solids: 89.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.037	0.700	0.037	U
bis(2-ETHYLHEXYL) PHTHALATE	0.18	0.700	0.18	U
BENZYL BUTYL PHTHALATE	0.17	0.700	0.17	U
CHRYSENE	0.15	0.700	0.15	U
DI-n-BUTYL PHTHALATE	0.18	0.700	0.18	U
DI-n-OCTYL PHTHALATE	0.19	0.700	0.19	U
DIBENZ(a,h)ANTHRACENE	0.17	0.700	0.17	U
DIBENZOFURAN	0.13	0.700	0.13	U
DIETHYL PHTHALATE	0.13	0.700	0.13	U
DIMETHYL PHTHALATE	0.13	0.700	0.13	U
FLUORANTHENE	0.19	0.700	0.19	U
FLUORENE	0.14	0.700	0.14	U
HEXACHLOROBENZENE	0.14	0.700	0.14	U
HEXACHLOROBUTADIENE	0.14	0.700	0.14	U
HEXACHLOROCYCLOPENTADIENE	0.070	0.700	0.070	U
HEXACHLOROETHANE	0.13	0.700	0.13	U
INDENO(1,2,3-c,d)PYRENE	0.18	0.700	0.18	U
ISOPHORONE	0.15	0.700	0.15	U
N-NITROSODIPHENYLAMINE	0.15	0.700	0.15	U
N-NITROSODI-n-PROPYLAMINE	0.11	0.700	0.11	U
NAPHTHALENE	0.13	0.700	0.13	U
NITROBENZENE	0.12	0.700	0.12	U
PHENANTHRENE	0.18	0.700	0.18	U
PYRENE	0.16	0.700	0.16	U
2,4,5-TRICHLOROPHENOL	0.23	3.3	0.23	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP06-01 Lab Sample ID: A8048203 Matrix: SOIL

% Solids: 89.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.20	0.300	0.20	U
2,4-DICHLOROPHENOL	0.29	0.300	0.29	U
2,4-DIMETHYLPHENOL	0.30	0.300	0.30	U
2,4-DINITROPHENOL	0.34	3.3	0.34	~~U~~ R
2-CHLOROPHENOL	0.32	0.300	0.32	U
2-METHYLPHENOL (o-CRESOL)	0.33	0.300	0.33	U
2-NITROPHENOL	0.24	0.300	0.24	U
4,6-DINITRO-2-METHYLPHENOL	0.47	3.3	0.47	U
4-CHLORO-3-METHYLPHENOL	0.22	1.3	0.22	U
4-METHYLPHENOL (p-CRESOL)	0.32	0.300	0.32	U
4-NITROPHENOL	0.22	1.6	0.22	U
BENZOIC ACID	0.42	1.6	0.42	U
PENTACHLOROPHENOL	0.32	3.3	0.32	U
PHENOL	0.32	0.300	0.32	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP07-01 Lab Sample ID: A8048204 Matrix: SOIL

% Solids: 86.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.12	0.700	0.12	U
1,2-DICHLOROBENZENE	0.13	0.700	0.13	U
1,3-DICHLOROBENZENE	0.13	0.700	0.13	U
1,4-DICHLOROBENZENE	0.14	0.700	0.14	U
2,4-DINITROTOLUENE	0.14	0.700	0.14	U
2,6-DINITROTOLUENE	0.13	0.700	0.13	U
2-CHLORONAPHTHALENE	0.14	0.700	0.14	U
2-METHYLNAPHTHALENE	0.11	0.700	0.11	U
2-NITROANILINE	0.13	3.3	0.13	U
3-NITROANILINE	0.12	3.3	0.12	U
3,3'-DICHLOROBENZIDINE	0.15	1.3	0.15	U
4-BROMOPHENYL PHENYL ETHER	0.17	0.700	0.17	U
4-CHLOROANILINE	0.12	1.3	0.12	U
4-CHLOROPHENYL PHENYL ETHER	0.12	0.700	0.12	U
4-NITROANILINE	0.17	3.3	0.17	U
ACENAPHTHYLENE	0.15	0.700	0.15	U
ACENAPHTHENE	0.13	0.700	0.13	U
ANTHRACENE	0.17	0.700	0.17	U
BENZO(a)ANTHRACENE	0.19	0.700	0.19	U
BENZO(a)PYRENE	0.18	0.700	0.18	U
BENZO(b)FLUORANTHENE	0.16	0.700	0.16	U
BENZO(g,h,i)PERYLENE	0.16	0.700	0.16	U
BENZYL ALCOHOL	0.14	1.3	0.14	U
bis(2-CHLOROETHOXY) METHANE	0.14	0.700	0.14	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.20	0.700	0.20	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 265

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP07-01 Lab Sample ID: A8048204 Matrix: SOIL

% Solids: 86.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.038	0.700	0.038	U
bis(2-ETHYLHEXYL) PHTHALATE	0.19	0.700	0.19	U
BENZYL BUTYL PHTHALATE	0.17	0.700	0.17	U
CHRYSENE	0.16	0.700	0.16	U
DI-n-BUTYL PHTHALATE	0.18	0.700	0.18	U
DI-n-OCTYL PHTHALATE	0.20	0.700	0.20	U
DIBENZ(a,h)ANTHRACENE	0.18	0.700	0.18	U
DIBENZOFURAN	0.13	0.700	0.13	U
DIETHYL PHTHALATE	0.14	0.700	0.14	U
DIMETHYL PHTHALATE	0.14	0.700	0.14	U
FLUORANTHENE	0.20	0.700	0.20	U
FLUORENE	0.14	0.700	0.14	U
HEXACHLOROBENZENE	0.14	0.700	0.14	U
HEXACHLOROBUTADIENE	0.14	0.700	0.14	U
HEXACHLOROCYCLOPENTADIENE	0.072	0.700	0.072	U
HEXACHLOROETHANE	0.14	0.700	0.14	U
INDENO(1,2,3-c,d)PYRENE	0.19	0.700	0.19	U
ISOPHORONE	0.16	0.700	0.16	U
N-NITROSODIPHENYLAMINE	0.16	0.700	0.16	U
N-NITROSODI-n-PROPYLAMINE	0.12	0.700	0.12	U
NAPHTHALENE	0.13	0.700	0.13	U
NITROBENZENE	0.13	0.700	0.13	U
PHENANTHRENE	0.18	0.700	0.18	U
PYRENE	0.17	0.700	0.17	U
2,4,5-TRICHLOROPHENOL	0.24	3.3	0.24	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01 Lab Sample ID: A8048204 Matrix: SOIL

% Solids: 86.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.20	0.300	0.20	U
2,4-DICHLOROPHENOL	0.30	0.300	0.30	U
2,4-DIMETHYLPHENOL	0.31	0.300	0.31	U
2,4-DINITROPHENOL	0.35	3.3	0.35	~~U~~ R
2-CHLOROPHENOL	0.34	0.300	0.34	U
2-METHYLPHENOL (o-CRESOL)	0.34	0.300	0.34	U
2-NITROPHENOL	0.24	0.300	0.24	U
4,6-DINITRO-2-METHYLPHENOL	0.48	3.3	0.48	U
4-CHLORO-3-METHYLPHENOL	0.23	1.3	0.23	U
4-METHYLPHENOL (p-CRESOL)	0.33	0.300	0.33	U
4-NITROPHENOL	0.22	1.6	0.22	U
BENZOIC ACID	0.43	1.6	0.43	U
PENTACHLOROPHENOL	0.32	3.3	0.32	U
PHENOL	0.33	0.300	0.33	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01 Lab Sample ID: A8048205 Matrix: SOIL

% Solids: 79.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.13	0.700	0.13	U
1,2-DICHLOROBENZENE	0.14	0.700	0.14	U
1,3-DICHLOROBENZENE	0.14	0.700	0.14	U
1,4-DICHLOROBENZENE	0.16	0.700	0.16	U
2,4-DINITROTOLUENE	0.15	0.700	0.15	U
2,6-DINITROTOLUENE	0.14	0.700	0.14	U
2-CHLORONAPHTHALENE	0.15	0.700	0.15	U
2-METHYLNAPHTHALENE	0.12	0.700	0.12	U
2-NITROANILINE	0.14	3.3	0.14	U
3-NITROANILINE	0.12	3.3	0.12	U
3,3'-DICHLOROBENZIDINE	0.16	1.3	0.16	U
4-BROMOPHENYL PHENYL ETHER	0.18	0.700	0.18	U
4-CHLOROANILINE	0.13	1.3	0.13	U
4-CHLOROPHENYL PHENYL ETHER	0.13	0.700	0.13	U
4-NITROANILINE	0.19	3.3	0.19	U
ACENAPHTHYLENE	0.16	0.700	0.16	U
ACENAPHTHENE	0.14	0.700	0.14	U
ANTHRACENE	0.18	0.700	0.18	U
BENZO(a)ANTHRACENE	0.20	0.700	0.20	U
BENZO(a)PYRENE	0.19	0.700	0.19	U
BENZO(b)FLUORANTHENE	0.17	0.700	0.17	U
BENZO(g,h,i)PERYLENE	0.18	0.700	0.18	U
BENZYL ALCOHOL	0.14	1.3	0.14	U
bis(2-CHLOROETHOXY) METHANE	0.15	0.700	0.15	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.22	0.700	0.22	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 268

Analytical Method: 8270-A98 AAB #: A8B01172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01 Lab Sample ID: A8048205 Matrix: SOIL

% Solids: 79.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.041	0.700	0.041	U
bis(2-ETHYLHEXYL) PHTHALATE	0.20	0.700	0.20	U
BENZYL BUTYL PHTHALATE	0.18	0.700	0.18	U
CHRYSENE	0.17	0.700	0.17	U
DI-n-BUTYL PHTHALATE	0.20	0.700	0.20	U
DI-n-OCTYL PHTHALATE	0.21	0.700	0.21	U
DIBENZ(a,h)ANTHRACENE	0.19	0.700	0.19	U
DIBENZOFURAN	0.14	0.700	0.14	U
DIETHYL PHTHALATE	0.15	0.700	0.15	U
DIMETHYL PHTHALATE	0.15	0.700	0.15	U
FLUORANTHENE	0.21	0.700	0.21	U
FLUORENE	0.16	0.700	0.16	U
HEXACHLOROBENZENE	0.15	0.700	0.15	U
HEXACHLOROBUTADIENE	0.15	0.700	0.15	U
HEXACHLOROCYCLOPENTADIENE	0.078	0.700	0.078	U
HEXACHLOROETHANE	0.15	0.700	0.15	U
INDENO(1,2,3-c,d)PYRENE	0.20	0.700	0.20	U
ISOPHORONE	0.17	0.700	0.17	U
N-NITROSODIPHENYLAMINE	0.17	0.700	0.17	U
N-NITROSODI-n-PROPYLAMINE	0.12	0.700	0.12	U
NAPHTHALENE	0.14	0.700	0.14	U
NITROBENZENE	0.14	0.700	0.14	U
PHENANTHRENE	0.20	0.700	0.20	U
PYRENE	0.18	0.700	0.18	U
2,4,5-TRICHLOROPHENOL	0.25	3.3	0.25	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98

AAB #: A8801172

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01

Lab Sample ID: A8048205

Matrix: SOIL

% Solids: 79.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 24-Feb-98

Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.22	0.300	0.22	U
2,4-DICHLOROPHENOL	0.33	0.300	0.33	U
2,4-DIMETHYLPHENOL	0.33	0.300	0.33	U
2,4-DINITROPHENOL	0.38	3.3	0.38	~~U~~ R
2-CHLOROPHENOL	0.36	0.300	0.36	U
2-METHYLPHENOL (o-CRESOL)	0.37	0.300	0.37	U
2-NITROPHENOL	0.26	0.300	0.26	U
4,6-DINITRO-2-METHYLPHENOL	0.52	3.3	0.52	U
4-CHLORO-3-METHYLPHENOL	0.24	1.3	0.24	U
4-METHYLPHENOL (p-CRESOL)	0.36	0.300	0.36	U
4-NITROPHENOL	0.24	1.6	0.24	U
BENZOIC ACID	0.46	1.6	0.46	U
PENTACHLOROPHENOL	0.35	3.3	0.35	U
PHENOL	0.35	0.300	0.35	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98
AAB #: A8801172
Lab Name: Recra LabNet
Contract #: F46162495D80
Field Sample ID: RR-SO-DP08-02
Lab Sample ID: A8048211
Matrix: SOIL
% Solids: 79.2
Dilution: 1.00
Date Received: 19-Feb-98
Date Extracted: 24-Feb-98
Date Analyzed: 3-Mar-98
Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.14	0.700	0.14	U
1,2-DICHLOROBENZENE	0.14	0.700	0.14	U
1,3-DICHLOROBENZENE	0.14	0.700	0.14	U
1,4-DICHLOROBENZENE	0.16	0.700	0.16	U
2,4-DINITROTOLUENE	0.15	0.700	0.15	U
2,6-DINITROTOLUENE	0.14	0.700	0.14	U
2-CHLORONAPHTHALENE	0.15	0.700	0.15	U
2-METHYLNAPHTHALENE	0.12	0.700	0.12	U
2-NITROANILINE	0.14	3.3	0.14	U
3-NITROANILINE	0.12	3.3	0.12	U
3,3'-DICHLOROBENZIDINE	0.16	1.3	0.16	U
4-BROMOPHENYL PHENYL ETHER	0.18	0.700	0.18	U
4-CHLOROANILINE	0.13	1.3	0.13	U
4-CHLOROPHENYL PHENYL ETHER	0.13	0.700	0.13	U
4-NITROANILINE	0.19	3.3	0.19	U
ACENAPHTHYLENE	0.16	0.700	0.16	U
ACENAPHTHENE	0.14	0.700	0.14	U
ANTHRACENE	0.19	0.700	0.19	U
BENZO(a)ANTHRACENE	0.20	0.700	0.20	U
BENZO(a)PYRENE	0.20	0.700	0.20	U
BENZO(b)FLUORANTHENE	0.17	0.700	0.17	U
BENZO(g,h,i)PERYLENE	0.18	0.700	0.18	U
BENZYL ALCOHOL	0.15	1.3	0.15	U
bis(2-CHLOROETHOXY) METHANE	0.15	0.700	0.15	U
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	0.22	0.700	0.22	U

464 271

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.2 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	0.041	0.700	0.041	U
bis(2-ETHYLHEXYL) PHTHALATE	0.20	0.700	0.20	U
BENZYL BUTYL PHTHALATE	0.18	0.700	0.18	U
CHRYSENE	0.17	0.700	0.17	U
DI-n-BUTYL PHTHALATE	0.20	0.700	0.20	U
DI-n-OCTYL PHTHALATE	0.21	0.700	0.21	U
DIBENZ(a,h)ANTHRACENE	0.19	0.700	0.19	U
DIBENZOFURAN	0.14	0.700	0.14	U
DIETHYL PHTHALATE	0.15	0.700	0.15	U
DIMETHYL PHTHALATE	0.15	0.700	0.15	U
FLUORANTHENE	0.21	0.700	0.21	U
FLUORENE	0.16	0.700	0.16	U
HEXACHLOROBENZENE	0.15	0.700	0.15	U
HEXACHLOROBUTADIENE	0.15	0.700	0.15	U
HEXACHLOROCYCLOPENTADIENE	0.078	0.700	0.078	U
HEXACHLOROETHANE	0.15	0.700	0.15	U
INDENO(1,2,3-c,d)PYRENE	0.20	0.700	0.20	U
ISOPHORONE	0.17	0.700	0.17	U
N-NITROSODIPHENYLAMINE	0.17	0.700	0.17	U
N-NITROSODI-n-PROPYLAMINE	0.13	0.700	0.13	U
NAPHTHALENE	0.14	0.700	0.14	U
NITROBENZENE	0.14	0.700	0.14	U
PHENANTHRENE	0.20	0.700	0.20	U
PYRENE	0.18	0.700	0.18	U
2,4,5-TRICHLOROPHENOL	0.26	3.3	0.26	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801172

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.2 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 3-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	0.22	0.300	0.22	U
2,4-DICHLOROPHENOL	0.33	0.300	0.33	U
2,4-DIMETHYLPHENOL	0.34	0.300	0.34	U
2,4-DINITROPHENOL	0.38	3.3	0.38	~~U~~ R
2-CHLOROPHENOL	0.36	0.300	0.36	U
2-METHYLPHENOL (o-CRESOL)	0.37	0.300	0.37	U
2-NITROPHENOL	0.27	0.300	0.27	U
4,6-DINITRO-2-METHYLPHENOL	0.52	3.3	0.52	U
4-CHLORO-3-METHYLPHENOL	0.25	1.3	0.25	U
4-METHYLPHENOL (p-CRESOL)	0.36	0.300	0.36	U
4-NITROPHENOL	0.24	1.6	0.24	U
BENZOIC ACID	0.46	1.6	0.46	U
PENTACHLOROPHENOL	0.35	3.3	0.35	U
PHENOL	0.35	0.300	0.35	U

Comments:

464 273

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801186

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WQ-EB-01 Lab Sample ID: A8048209 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
1,2,4-TRICHLOROBENZENE	0.8	10.0	0.8	UJ R
1,2-DICHLOROBENZENE	2	10.0	2	UJ R
1,3-DICHLOROBENZENE	1	10.0	1	UJ R
1,4-DICHLOROBENZENE	1	10.0	1	UJ R
2,4-DINITROTOLUENE	1	10.0	1	UJ R
2,6-DINITROTOLUENE	2	10.0	2	UJ R
2-CHLORONAPHTHALENE	2	10.0	2	UJ R
2-METHYLNAPHTHALENE	1	10.0	1	UJ R
2-NITROANILINE	2	50.0	2	UJ R
3-NITROANILINE	2	50.0	2	UJ R
3,3'-DICHLOROBENZIDINE	2	20.0	2	UJ R
4-BROMOPHENYL PHENYL ETHER	2	10.0	2	UJ R
4-CHLOROANILINE	1	20.0	1	UJ R
4-CHLOROPHENYL PHENYL ETHER	1	10.0	1	UJ R
4-NITROANILINE	3	50.0	3	UJ R
ACENAPHTHYLENE	1	10.0	1	UJ R
ACENAPHTHENE	1	10.0	1	UJ R
ANTHRACENE	2	10.0	2	UJ R
BENZO(a)ANTHRACENE	2	10.0	2	UJ R
BENZO(a)PYRENE	2	10.0	2	UJ R
BENZO(b)FLUORANTHENE	3	10.0	3	UJ R
BENZO(g,h,i)PERYLENE	3	10.0	3	UJ R
BENZYL ALCOHOL	5	20.0	5	UJ R
bis(2-CHLOROETHOXY) METHANE	1	10.0	1	UJ R
bis(2-CHLOROETHYL) ETHER (2-CHLOROETHYL ETHE	2	10.0	2	UJ R

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 274

Analytical Method: 8270-A98 AAB #: A8B011B6

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-WQ-EB-01 Lab Sample ID: A8048209 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
bis(2-CHLOROISOPROPYL) ETHER	1	10.0	1	~~U~~ R
bis(2-ETHYLHEXYL) PHTHALATE	2	10.0	31	J
BENZYL BUTYL PHTHALATE	2	10.0	2	~~U~~ R
CHRYSENE	2	10.0	2	~~U~~ R
DI-n-BUTYL PHTHALATE	2	10.0	9	F, ~~J~~
DI-n-OCTYL PHTHALATE	2	10.0	2	~~U~~ R
DIBENZ(a,h)ANTHRACENE	2	10.0	2	~~U~~ R
DIBENZOFURAN	2	10.0	2	~~U~~ R
DIETHYL PHTHALATE	2	10.0	140	J
DIMETHYL PHTHALATE	1	10.0	1	~~U~~ R
FLUORANTHENE	2	10.0	2	~~U~~ R
FLUORENE	2	10.0	2	~~U~~ R
HEXACHLOROBENZENE	2	10.0	2	~~U~~ R
HEXACHLOROBUTADIENE	1	10.0	1	~~U~~ R
HEXACHLOROCYCLOPENTADIENE	2	10.0	2	~~U~~ R
HEXACHLOROETHANE	0.8	10.0	0.8	~~U~~ R
INDENO(1,2,3-c,d)PYRENE	3	10.0	3	~~U~~ R
ISOPHORONE	1	10.0	1	~~U~~ R
N-NITROSODIPHENYLAMINE	1	10.0	1	~~U~~ R
N-NITROSODI-n-PROPYLAMINE	1	10.0	1	~~U~~ R
NAPHTHALENE	1	10.0	1	~~U~~ R
NITROBENZENE	2	10.0	2	~~U~~ R
PHENANTHRENE	1	10.0	1	~~U~~ R
PYRENE	2	10.0	2	~~U~~ R
2,4,5-TRICHLOROPHENOL	3	50.0	3	~~U~~ R

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8270-A98 AAB #: A8801186

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WQ-EB-01 Lab Sample ID: A8048209 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 24-Feb-98 Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
2,4,6-TRICHLOROPHENOL	3	10.0	3	UR
2,4-DICHLOROPHENOL	0.8	10.0	0.8	UR
2,4-DIMETHYLPHENOL	2	10.0	2	UR
2,4-DINITROPHENOL	2	50.0	2	UR
2-CHLOROPHENOL	1	10.0	1	UR
2-METHYLPHENOL (o-CRESOL)	2	10.0	2	UR
2-NITROPHENOL	2	10.0	2	UR
4,6-DINITRO-2-METHYLPHENOL	2	50.0	2	UR
4-CHLORO-3-METHYLPHENOL	1	20.0	1	UR
4-METHYLPHENOL (p-CRESOL)	1	10.0	1	UR
4-NITROPHENOL	3	50.0	3	UR
BENZOIC ACID	7	50.0	7	UR
PENTACHLOROPHENOL	4	50.0	4	UR
PHENOL	2	10.0	2	UR

Comments:

APPENDIX C

DATA SUMMARY FORMS

PESTICIDES and PCBs

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 277

000152

Analytical Method: 8081-A98

AAB #: A8801085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-01

Lab Sample ID: A8048101

Matrix: SOIL

% Solids: 75.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0013	0.0190	0.0013	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00098	0.0330	0.00098	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0011	0.0110	0.0011	U
GAMMA BHC (LINDANE)	0.0011	0.020	0.0011	U
ALPHA-CHLORDANE	0.00098	0.0150	0.00098	U
GAMMA-CHLORDANE	0.00093	0.0150	0.00093	U
p,p'-DDD	0.0024	0.0420	0.0024	U
p,p'-DDE	0.0022	0.0250	0.0022	U
p,p'-DDT	0.0024	0.0360	0.0024	U
ALDRIN	0.0014	0.0220	0.0014	U
DIELDRIN	0.0024	0.0350	0.0024	U
ALPHA ENDOSULFAN	0.0012	0.0210	0.0012	U
BETA ENDOSULFAN	0.0070	0.0240	0.0070	U
ENDOSULFAN SULFATE	0.0020	0.0360	0.0020	U
ENDRIN	0.0023	0.0360	0.0023	U
ENDRIN ALDEHYDE	0.0019	0.0160	0.0019	U
HEPTACHLOR	0.0012	0.020	0.0012	U
HEPTACHLOR EPOXIDE	0.00090	0.0210	0.00090	U
METHOXYCHLOR	0.016	0.0570	0.016	U
PCB-1016 (AROCHLOR 1016)	0.0072	0.700	0.0072	U
PCB-1221 (AROCHLOR 1221)	0.0098	0.700	0.0098	U
PCB-1232 (AROCHLOR 1232)	0.0098	0.700	0.0098	U
PCB-1242 (AROCHLOR 1242)	0.0098	0.700	0.0098	U
PCB-1248 (AROCHLOR 1248)	0.012	0.700	0.012	U
PCB-1254 (AROCHLOR 1254)	0.011	0.700	0.011	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000153

Analytical Method: 8081-A98

AAB #: A8B01085

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP01-01

Lab Sample ID: A8048101

Matrix: SOIL

% Solids: 75.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.014	0.700	0.014	U
TOXAPHENE	0.070	0.570	0.070	U

Comments:

464 279

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000154

Analytical Method: 8081-A98

AAB #: A8801085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 74.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0013	0.0190	0.0013	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0010	0.0330	0.0010	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0011	0.0110	0.0011	U
GAMMA BHC (LINDANE)	0.0011	0.020	0.0011	U
ALPHA-CHLORDANE	0.0010	0.0150	0.0010	U
GAMMA-CHLORDANE	0.00095	0.0150	0.00095	U
p,p'-DDD	0.0025	0.0420	0.0025	U
p,p'-DDE	0.0023	0.0250	0.0023	U
p,p'-DDT	0.0025	0.0360	0.0025	U
ALDRIN	0.0014	0.0220	0.0014	U
DIELDRIN	0.0024	0.0350	0.0024	U
ALPHA ENDOSULFAN	0.0012	0.0210	0.0012	U
BETA ENDOSULFAN	0.0071	0.0240	0.0071	U
ENDOSULFAN SULFATE	0.0020	0.0360	0.0020	U
ENDRIN	0.0024	0.0360	0.0024	U
ENDRIN ALDEHYDE	0.0019	0.0160	0.0019	U
HEPTACHLOR	0.0013	0.020	0.0013	U
HEPTACHLOR EPOXIDE	0.00092	0.0210	0.00092	U
METHOXYCHLOR	0.017	0.0570	0.017	U
PCB-1016 (AROCHLOR 1016)	0.0074	0.700	0.0074	U
PCB-1221 (AROCHLOR 1221)	0.010	0.700	0.010	U
PCB-1232 (AROCHLOR 1232)	0.010	0.700	0.010	U
PCB-1242 (AROCHLOR 1242)	0.010	0.700	0.010	U
PCB-1248 (AROCHLOR 1248)	0.012	0.700	0.012	U
PCB-1254 (AROCHLOR 1254)	0.011	0.700	0.011	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000155

464 280

Analytical Method: 8081-A9° AAB #: A8B01085

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP01-02 Lab Sample ID: A8048102 Matrix: SOIL

% Solids: 74.5 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.015	0.700	0.015	U
TOXAPHENE	0.071	0.570	0.071	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

000150

464 281

Analytical Method: 8081-A98

AAB #: A8801085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP02-01

Lab Sample ID: A8048103

Matrix: SOIL

% Solids: 78.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0190	0.0012	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00094	0.0330	0.00094	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0011	0.0110	0.0011	U
GAMMA BHC (LINDANE)	0.0011	0.020	0.0011	U
ALPHA-CHLORDANE	0.00094	0.0150	0.00094	U
GAMMA-CHLORDANE	0.00089	0.0150	0.00089	U
p,p'-DDD	0.0024	0.0420	0.0024	U
p,p'-DDE	0.0021	0.0250	0.0021	U
p,p'-DDT	0.0024	0.0360	0.0024	U
ALDRIN	0.0013	0.0220	0.0013	U
DIELDRIN	0.0023	0.0350	0.0023	U
ALPHA ENDOSULFAN	0.0011	0.0210	0.0011	U
BETA ENDOSULFAN	0.0067	0.0240	0.0067	U
ENDOSULFAN SULFATE	0.0019	0.0360	0.0019	U
ENDRIN	0.0022	0.0360	0.0022	U
ENDRIN ALDEHYDE	0.0018	0.0160	0.0018	U
HEPTACHLOR	0.0012	0.020	0.0012	U
HEPTACHLOR EPOXIDE	0.00087	0.0210	0.00087	U
METHOXYCHLOR	0.016	0.0570	0.016	U
PCB-1016 (AROCHLOR 1016)	0.0070	0.700	0.0070	U
PCB-1221 (AROCHLOR 1221)	0.0094	0.700	0.0094	U
PCB-1232 (AROCHLOR 1232)	0.0094	0.700	0.0094	U
PCB-1242 (AROCHLOR 1242)	0.0094	0.700	0.0094	U
PCB-1248 (AROCHLOR 1248)	0.011	0.700	0.011	U
PCB-1254 (AROCHLOR 1254)	0.010	0.700	0.010	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98

AAB #: A8801085

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP02-01

Lab Sample ID: A8048103

Matrix: SOIL

% Solids: 78.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.014	0.700	0.014	U
TOXAPHENE	0.067	0.570	0.067	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

464 283

000153

Analytical Method: 8081-A98

AAB #: A8801085

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 79.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0190	0.0012	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00095	0.0330	0.00095	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0011	0.0110	0.0011	U
GAMMA BHC (LINDANE)	0.0011	0.020	0.0011	U
ALPHA-CHLORDANE	0.00095	0.0150	0.00095	U
GAMMA-CHLORDANE	0.00090	0.0150	0.00090	U
p,p'-DDD	0.0024	0.0420	0.0024	U
p,p'-DDE	0.0022	0.0250	0.0022	U
p,p'-DDT	0.0024	0.0360	0.0024	U
ALDRIN	0.0013	0.0220	0.0013	U
DIELDRIN	0.0023	0.0350	0.0023	U
ALPHA ENDOSULFAN	0.0011	0.0210	0.0011	U
BETA ENDOSULFAN	0.0068	0.0240	0.0068	U
ENDOSULFAN SULFATE	0.0020	0.0360	0.0020	U
ENDRIN	0.0023	0.0360	0.0023	U
ENDRIN ALDEHYDE	0.0018	0.0160	0.0018	U
HEPTACHLOR	0.0012	0.020	0.0012	U
HEPTACHLOR EPOXIDE	0.00088	0.0210	0.00088	U
METHOXYCHLOR	0.016	0.0570	0.016	U
PCB-1016 (AROCHLOR 1016)	0.0070	0.700	0.0070	U
PCB-1221 (AROCHLOR 1221)	0.0095	0.700	0.0095	U
PCB-1232 (AROCHLOR 1232)	0.0095	0.700	0.0095	U
PCB-1242 (AROCHLOR 1242)	0.0095	0.700	0.0095	U
PCB-1248 (AROCHLOR 1248)	0.011	0.700	0.011	U
PCB-1254 (AROCHLOR 1254)	0.010	0.700	0.010	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98
AAB #: A8B01085
Lab Name: Recra LabNet
Contract #: F46162495080
Field Sample ID: RR-SO-DP03-01
Lab Sample ID: A8048104
Matrix: SOIL
% Solids: 79.6
Dilution: 1.00
Date Received: 19-Feb-98
Date Extracted: 20-Feb-98
Date Analyzed: 28-Feb-98
Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.014	0.700	0.014	U
TOXAPHENE	0.068	0.570	0.068	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP03-02 Lab Sample ID: A8048105 Matrix: SOIL

% Solids: 82.9 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0190	0.0012	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00089	0.0330	0.00089	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0010	0.0110	0.0010	U
GAMMA BHC (LINDANE)	0.0010	0.020	0.0010	U
ALPHA-CHLORDANE	0.00089	0.0150	0.00089	U
GAMMA-CHLORDANE	0.00085	0.0150	0.00085	U
p,p'-DDD	0.0022	0.0420	0.0022	U
p,p'-DDE	0.0020	0.0250	0.0020	U
p,p'-DDT	0.0022	0.0360	0.0022	U
ALDRIN	0.0012	0.0220	0.0012	U
DIELDRIN	0.0022	0.0350	0.0022	U
ALPHA ENDOSULFAN	0.0010	0.0210	0.0010	U
BETA ENDOSULFAN	0.0064	0.0240	0.0064	U
ENDOSULFAN SULFATE	0.0018	0.0360	0.0018	U
ENDRIN	0.0021	0.0360	0.0021	U
ENDRIN ALDEHYDE	0.0017	0.0160	0.0017	U
HEPTACHLOR	0.0011	0.020	0.0011	U
HEPTACHLOR EPOXIDE	0.00082	0.0210	0.00082	U
METHOXYCHLOR	0.015	0.0570	0.015	U
PCB-1016 (AROCHLOR 1016)	0.0066	0.700	0.0066	U
PCB-1221 (AROCHLOR 1221)	0.0089	0.700	0.0089	U
PCB-1232 (AROCHLOR 1232)	0.0089	0.700	0.0089	U
PCB-1242 (AROCHLOR 1242)	0.0089	0.700	0.0089	U
PCB-1248 (AROCHLOR 1248)	0.010	0.700	0.010	U
PCB-1254 (AROCHLOR 1254)	0.0099	0.700	0.0099	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8B01085

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP03-02 Lab Sample ID: A8048105 Matrix: SOIL

% Solids: 82.9 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.013	0.700	0.013	U
TOXAPHENE	0.064	0.570	0.064	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

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464 287

Analytical Method: 8081-A98

AAB #: A8B01085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 81.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0190	0.0012	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00092	0.0330	0.00092	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0010	0.0110	0.0010	U
GAMMA BHC (LINDANE)	0.0010	0.020	0.0010	U
ALPHA-CHLORDANE	0.00092	0.0150	0.00092	U
GAMMA-CHLORDANE	0.00087	0.0150	0.00087	U
p,p'-DDD	0.0023	0.0420	0.0023	U
p,p'-DDE	0.0021	0.0250	0.0021	U
p,p'-DDT	0.0023	0.0360	0.0023	U
ALDRIN	0.0013	0.0220	0.0013	U
DIELDRIN	0.0022	0.0350	0.0022	U
ALPHA ENDOSULFAN	0.0011	0.0210	0.0011	U
BETA ENDOSULFAN	0.0066	0.0240	0.0066	U
ENDOSULFAN SULFATE	0.0019	0.0360	0.0019	U
ENDRIN	0.0022	0.0360	0.0022	U
ENDRIN ALDEHYDE	0.0018	0.0160	0.0018	U
HEPTACHLOR	0.0012	0.020	0.0012	U
HEPTACHLOR EPOXIDE	0.00085	0.0210	0.00085	U
METHOXYCHLOR	0.015	0.0570	0.015	U
PCB-1016 (AROCHLOR 1016)	0.0068	0.700	0.0068	U
PCB-1221 (AROCHLOR 1221)	0.0092	0.700	0.0092	U
PCB-1232 (AROCHLOR 1232)	0.0092	0.700	0.0092	U
PCB-1242 (AROCHLOR 1242)	0.0092	0.700	0.0092	U
PCB-1248 (AROCHLOR 1248)	0.011	0.700	0.011	U
PCB-1254 (AROCHLOR 1254)	0.010	0.700	0.010	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98

AAB #: A8801085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 81.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.014	0.700	0.014	U
TOXAPHENE	0.066	0.570	0.066	U

Comments:

464 289

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP04-01 Lab Sample ID: A8048201 Matrix: SOIL

% Solids: 84.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0190	0.0012	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00089	0.0330	0.00089	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0010	0.0110	0.0010	U
GAMMA BHC (LINDANE)	0.0010	0.020	0.0010	U
ALPHA-CHLORDANE	0.00089	0.0150	0.00089	U
GAMMA-CHLORDANE	0.00084	0.0150	0.00084	U
p,p'-DDD	0.0022	0.0420	0.0022	U
p,p'-DDE	0.0020	0.0250	0.0020	U
p,p'-DDT	0.0022	0.0360	0.0022	U
ALDRIN	0.0012	0.0220	0.0012	U
DIELDRIN	0.0022	0.0350	0.0022	U
ALPHA ENDOSULFAN	0.0010	0.0210	0.0010	U
BETA ENDOSULFAN	0.0063	0.0240	0.0063	U
ENDOSULFAN SULFATE	0.0018	0.0360	0.0018	U
ENDRIN	0.0021	0.0360	0.0021	U
ENDRIN ALDEHYDE	0.0017	0.0160	0.0017	U
HEPTACHLOR	0.0011	0.020	0.0011	U
HEPTACHLOR EPOXIDE	0.00082	0.0210	0.00082	U
METHOXYCHLOR	0.015	0.0570	0.015	U
PCB-1016 (AROCHLOR 1016)	0.0066	0.700	0.0066	U
PCB-1221 (AROCHLOR 1221)	0.0089	0.700	0.0089	U
PCB-1232 (AROCHLOR 1232)	0.0089	0.700	0.0089	U
PCB-1242 (AROCHLOR 1242)	0.0089	0.700	0.0089	U
PCB-1248 (AROCHLOR 1248)	0.010	0.700	0.010	U
PCB-1254 (AROCHLOR 1254)	0.0098	0.700	0.0098	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP04-01 Lab Sample ID: A8048201 Matrix: SOIL

% Solids: 84.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.013	0.700	0.013	U
TOXAPHENE	0.063	0.570	0.063	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8B01085

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01 Lab Sample ID: A8048202 Matrix: SOIL

% Solids: 70.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0014	0.0190	0.0014	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.0010	0.0330	0.0010	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0012	0.0110	0.0012	U
GAMMA BHC (LINDANE)	0.0012	0.020	0.0012	U
ALPHA-CHLORDANE	0.0010	0.0150	0.0010	U
GAMMA-CHLORDANE	0.00099	0.0150	0.00099	U
p,p'-DDD	0.0026	0.0420	0.0026	U
p,p'-DDE	0.0024	0.0250	0.0024	U
p,p'-DDT	0.0026	0.0360	0.0026	U
ALDRIN	0.0014	0.0220	0.0014	U
DIELDRIN	0.0026	0.0350	0.0026	U
ALPHA ENDOSULFAN	0.0012	0.0210	0.0012	U
BETA ENDOSULFAN	0.0074	0.0240	0.0074	U
ENDOSULFAN SULFATE	0.0021	0.0360	0.0021	U
ENDRIN	0.0025	0.0360	0.0025	U
ENDRIN ALDEHYDE	0.0020	0.0160	0.0020	U
HEPTACHLOR	0.0013	0.020	0.0013	U
HEPTACHLOR EPOXIDE	0.00096	0.0210	0.00096	U
METHOXYCHLOR	0.017	0.0570	0.017	U
PCB-1016 (AROCHLOR 1016)	0.0077	0.700	0.0077	U
PCB-1221 (AROCHLOR 1221)	0.010	0.700	0.010	U
PCB-1232 (AROCHLOR 1232)	0.010	0.700	0.010	U
PCB-1242 (AROCHLOR 1242)	0.010	0.700	0.010	U
PCB-1248 (AROCHLOR 1248)	0.012	0.700	0.012	U
PCB-1254 (AROCHLOR 1254)	0.012	0.700	0.012	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98

AAB #: A8801085

Lab Name: Recra LabWet

Contract #: F46162495080

Field Sample ID: RR-SO-DP05-01

Lab Sample ID: A8048202

Matrix: SOIL

% Solids: 70.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.015	0.700	0.015	U
TOXAPHENE	0.074	0.570	0.074	U

Comments:

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP06-01 Lab Sample ID: A8048203 Matrix: SOIL

% Solids: 89.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0011	0.0190	0.0011	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00083	0.0330	0.00083	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.00094	0.0110	0.00094	U
GAMMA BHC (LINDANE)	0.00094	0.020	0.00094	U
ALPHA-CHLORDANE	0.00083	0.0150	0.00083	U
GAMMA-CHLORDANE	0.00079	0.0150	0.00079	U
p,p'-DDD	0.0021	0.0420	0.0021	U
p,p'-DDE	0.0019	0.0250	0.0019	U
p,p'-DDT	0.0021	0.0360	0.0021	U
ALDRIN	0.0012	0.0220	0.0012	U
DIELDRIN	0.0020	0.0350	0.0020	U
ALPHA ENDOSULFAN	0.00098	0.0210	0.00098	U
BETA ENDOSULFAN	0.0059	0.0240	0.0059	U
ENDOSULFAN SULFATE	0.0017	0.0360	0.0017	U
ENDRIN	0.0020	0.0360	0.0020	U
ENDRIN ALDEHYDE	0.0016	0.0160	0.0016	U
HEPTACHLOR	0.0010	0.020	0.0010	U
HEPTACHLOR EPOXIDE	0.00076	0.0210	0.00076	U
METHOXYCHLOR	0.014	0.0570	0.014	U
PCB-1016 (AROCHLOR 1016)	0.0061	0.700	0.0061	U
PCB-1221 (AROCHLOR 1221)	0.0083	0.700	0.0083	U
PCB-1232 (AROCHLOR 1232)	0.0083	0.700	0.0083	U
PCB-1242 (AROCHLOR 1242)	0.0083	0.700	0.0083	U
PCB-1248 (AROCHLOR 1248)	0.0098	0.700	0.0098	U
PCB-1254 (AROCHLOR 1254)	0.0092	0.700	0.0092	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98

AAB #: A8B01085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP06-01

Lab Sample ID: A8048203

Matrix: SOIL

% Solids: 89.1

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.012	0.700	0.012	U
TOXAPHENE	0.059	0.570	0.059	U

Comments:

464 295

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01 Lab Sample ID: A8048204 Matrix: SOIL

% Solids: 86.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0011	0.0190	0.0011	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00087	0.0330	0.00087	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.00098	0.0110	0.00098	U
GAMMA BHC (LINDANE)	0.00098	0.020	0.00098	U
ALPHA-CHLORDANE	0.00087	0.0150	0.00087	U
GAMMA-CHLORDANE	0.00082	0.0150	0.00082	U
p,p'-DDD	0.0022	0.0420	0.0022	U
p,p'-DDE	0.0020	0.0250	0.0020	U
p,p'-DDT	0.0022	0.0360	0.0022	U
ALDRIN	0.0012	0.0220	0.0012	U
DIELDRIN	0.0021	0.0350	0.0021	U
ALPHA ENDOSULFAN	0.0010	0.0210	0.0010	U
BETA ENDOSULFAN	0.0062	0.0240	0.0062	U
ENDOSULFAN SULFATE	0.0018	0.0360	0.0018	U
ENDRIN	0.0021	0.0360	0.0021	U
ENDRIN ALDEHYDE	0.0017	0.0160	0.0017	U
HEPTACHLOR	0.0011	0.020	0.0011	U
HEPTACHLOR EPOXIDE	0.00080	0.0210	0.00080	U
METHOXYCHLOR	0.014	0.0570	0.014	U
PCB-1016 (AROCHLOR 1016)	0.0064	0.700	0.0064	U
PCB-1221 (AROCHLOR 1221)	0.0087	0.700	0.0087	U
PCB-1232 (AROCHLOR 1232)	0.0087	0.700	0.0087	U
PCB-1242 (AROCHLOR 1242)	0.0087	0.700	0.0087	U
PCB-1248 (AROCHLOR 1248)	0.010	0.700	0.010	U
PCB-1254 (AROCHLOR 1254)	0.0096	0.700	0.0096	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

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464 296

Analytical Method: 8081-A98

AAB #: A8B01085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01

Lab Sample ID: A8048204

Matrix: SOIL

% Solids: 86.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.013	0.700	0.013	U
TOXAPHENE	0.062	0.570	0.062	U

Comments:

464 297

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP08-01 Lab Sample ID: A8048205 Matrix: SOIL

% Solids: 79.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0190	0.0012	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00095	0.0330	0.00095	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0011	0.0110	0.0011	U
GAMMA BHC (LINDANE)	0.0011	0.020	0.0011	U
ALPHA-CHLORDANE	0.00095	0.0150	0.00095	U
GAMMA-CHLORDANE	0.00090	0.0150	0.00090	U
p,p'-DDD	0.0024	0.0420	0.0024	U
p,p'-DDE	0.0021	0.0250	0.0021	U
p,p'-DDT	0.0024	0.0360	0.0024	U
ALDRIN	0.0013	0.0220	0.0013	U
DIELDRIN	0.0023	0.0350	0.0023	U
ALPHA ENDOSULFAN	0.0011	0.0210	0.0011	U
BETA ENDOSULFAN	0.0067	0.0240	0.0067	U
ENDOSULFAN SULFATE	0.0019	0.0360	0.0019	U
ENDRIN	0.0023	0.0360	0.0023	U
ENDRIN ALDEHYDE	0.0018	0.0160	0.0018	U
HEPTACHLOR	0.0012	0.020	0.0012	U
HEPTACHLOR EPOXIDE	0.00087	0.0210	0.00087	U
METHOXYCHLOR	0.016	0.0570	0.016	U
PCB-1016 (AROCHLOR 1016)	0.0070	0.700	0.0070	U
PCB-1221 (AROCHLOR 1221)	0.0095	0.700	0.0095	U
PCB-1232 (AROCHLOR 1232)	0.0095	0.700	0.0095	U
PCB-1242 (AROCHLOR 1242)	0.0095	0.700	0.0095	U
PCB-1248 (AROCHLOR 1248)	0.011	0.700	0.011	U
PCB-1254 (AROCHLOR 1254)	0.010	0.700	0.010	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98

AA3 #: A8801085

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01

Lab Sample ID: A8048205

Matrix: SOIL

% Solids: 79.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 20-Feb-98

Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.014	0.700	0.014	U
TOXAPHENE	0.067	0.570	0.067	U

Comments:

464 299

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.2 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0012	0.0190	0.0012	U
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.00093	0.0330	0.00093	U
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.0010	0.0110	0.0010	U
GAMMA BHC (LINDANE)	0.0010	0.020	0.0010	U
ALPHA-CHLORDANE	0.00093	0.0150	0.00093	U
GAMMA-CHLORDANE	0.00088	0.0150	0.00088	U
p,p'-DDD	0.0023	0.0420	0.0023	U
p,p'-DDE	0.0021	0.0250	0.0021	U
p,p'-DDT	0.0023	0.0360	0.0023	U
ALDRIN	0.0013	0.0220	0.0013	U
DIELDRIN	0.0023	0.0350	0.0023	U
ALPHA ENDOSULFAN	0.0011	0.0210	0.0011	U
BETA ENDOSULFAN	0.0066	0.0240	0.0066	U
ENDOSULFAN SULFATE	0.0019	0.0360	0.0019	U
ENDRIN	0.0022	0.0360	0.0022	U
ENDRIN ALDEHYDE	0.0018	0.0160	0.0018	U
HEPTACHLOR	0.0012	0.020	0.0012	U
HEPTACHLOR EPOXIDE	0.00086	0.0210	0.00086	U
METHOXYCHLOR	0.015	0.0570	0.015	U
PCB-1016 (AROCHLOR 1016)	0.0069	0.700	0.0069	U
PCB-1221 (AROCHLOR 1221)	0.0093	0.700	0.0093	U
PCB-1232 (AROCHLOR 1232)	0.0093	0.700	0.0093	U
PCB-1242 (AROCHLOR 1242)	0.0093	0.700	0.0093	U
PCB-1248 (AROCHLOR 1248)	0.011	0.700	0.011	U
PCB-1254 (AROCHLOR 1254)	0.010	0.700	0.010	U

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801085

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.2 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 20-Feb-98 Date Analyzed: 1-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.014	0.700	0.014	U
TOXAPHENE	0.066	0.570	0.066	U

Comments:

464 301

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801202

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WO-EB-01 Lab Sample ID: A8048209 Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 25-Feb-98 Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0030	0.350	0.0030	~~U~~ R
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.023	0.230	0.023	~~U~~ R
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.026	0.240	0.026	~~U~~ R
GAMMA BHC (LINDANE)	0.026	0.250	0.026	~~U~~ R
ALPHA-CHLORDANE	0.023	0.800	0.023	~~U~~ R
GAMMA-CHLORDANE	0.022	0.370	0.022	~~U~~ R
p,p'-DDD	0.027	0.500	0.027	~~U~~ R
p,p'-DDE	0.052	0.580	0.052	~~U~~ R
p,p'-DDT	0.057	0.810	0.057	~~U~~ R
ALDRIN	0.32	0.340	0.32	~~U~~ R
DIELDRIN	0.056	0.440	0.056	~~U~~ R
ALPHA ENDOSULFAN	0.027	0.300	0.027	~~U~~ R
BETA ENDOSULFAN	0.042	0.400	0.042	~~U~~ R
ENDOSULFAN SULFATE	0.047	0.350	0.047	~~U~~ R
ENDRIN	0.055	0.390	0.055	~~U~~ R
ENDRIN ALDEHYDE	0.038	0.500	0.038	~~U~~ R
HEPTACHLOR	0.029	0.400	0.029	~~U~~ R
HEPTACHLOR EPOXIDE	0.021	0.320	0.021	~~U~~ R
METHOXYCHLOR	0.38	0.860	0.38	~~U~~ R
PCB-1016 (AROCHLOR 1016)	0.17	1.0	0.17	~~U~~ R
PCB-1221 (AROCHLOR 1221)	0.23	1.0	0.23	~~U~~ R
PCB-1232 (AROCHLOR 1232)	0.23	1.0	0.23	~~U~~ R
PCB-1242 (AROCHLOR 1242)	0.13	1.0	0.13	~~U~~ R
PCB-1248 (AROCHLOR 1248)	0.27	1.0	0.27	~~U~~ R
PCB-1254 (AROCHLOR 1254)	0.25	1.0	0.25	~~U~~ R

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98

AAB #: A8801202

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-WQ-EB-01

Lab Sample ID: A8048209

Matrix: WATER

% Solids: ____

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 25-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.34	1.0	0.34	UR
TOXAPHENE	1.6	0.500	1.6	UR

Comments:

464 303

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801420

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-WQ-EB-01-RE Lab Sample ID: A8048209RE Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 5-Mar-98 Date Analyzed: 6-Mar-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
ALPHA BHC (ALPHA HEXACHLOROCYCLOHEXANE)	0.0030	0.350	0.0030	~~U~~ R
BETA BHC (BETA HEXACHLOROCYCLOHEXANE)	0.023	0.230	0.023	~~U~~ R
DELTA BHC (DELTA HEXACHLOROCYCLOHEXANE)	0.026	0.240	0.026	~~U~~ R
GAMMA BHC (LINDANE)	0.026	0.250	0.026	~~U~~ R
ALPHA-CHLORDANE	0.023	0.800	0.023	~~U~~ R
GAMMA-CHLORDANE	0.022	0.370	0.022	~~U~~ R
p,p'-DDD	0.027	0.500	0.027	~~U~~ R
p,p'-DDE	0.052	0.580	0.052	~~U~~ R
p,p'-DDT	0.057	0.810	0.057	~~U~~ R
ALDRIN	0.32	0.340	0.32	~~U~~ R
DIELDRIN	0.056	0.440	0.056	~~U~~ R
ALPHA ENDOSULFAN	0.027	0.300	0.027	~~U~~ R
BETA ENDOSULFAN	0.042	0.400	0.042	~~U~~ R
ENDOSULFAN SULFATE	0.047	0.350	0.047	~~U~~ R
ENDRIN	0.055	0.390	0.055	~~U~~ R
ENDRIN ALDEHYDE	0.038	0.500	0.038	~~U~~ R
HEPTACHLOR	0.029	0.400	0.029	~~U~~ R
HEPTACHLOR EPOXIDE	0.021	0.320	0.021	~~U~~ R
METHOXYCHLOR	0.38	0.860	0.38	~~U~~ R
PCB-1016 (AROCHLOR 1016)	0.17	1.0	0.17	~~U~~ R
PCB-1221 (AROCHLOR 1221)	0.23	1.0	0.23	~~U~~ R
PCB-1232 (AROCHLOR 1232)	0.23	1.0	0.23	~~U~~ R
PCB-1242 (AROCHLOR 1242)	0.13	1.0	0.13	~~U~~ R
PCB-1248 (AROCHLOR 1248)	0.27	1.0	0.27	~~U~~ R
PCB-1254 (AROCHLOR 1254)	0.25	1.0	0.25	~~U~~ R

AFCEE
ORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 8081-A98 AAB #: A8801420

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-WQ-E8-01 -RE Lab Sample ID: A8048209RE Matrix: WATER

% Solids: _____ Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 5-Mar-98 Date Analyzed: 6-Mar-98

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	MDL	PQL	Concentration	Qualifier
PCB-1260 (AROCHLOR 1260)	0.34	1.0	0.34	UR
TOXAPHENE	1.6	0.500	1.6	UR

Comments:

APPENDIX D

DATA SUMMARY FORMS

INORGANICS

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000195

464 306

Analytical Method: 6010-A98

AAB #: A8B01146

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-01

Lab Sample ID: A8048101

Matrix: SOIL

% Solids: 75.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.9	5.0	15400	J, ~~B~~
ANTIMONY	1.0	1.0	1.0	U
ARSENIC	0.91	2.0	7.3	
BARIUM	0.13	0.500	135	J, ~~B~~
BERYLLIUM	0.13	0.300	1.2	
CADMIUM	0.091	0.100	0.091	U ~~J~~, M
CALCIUM	19.5	20.0	85600	J, ~~B~~
CHROMIUM	0.45	0.500	16.2	J
COBALT	0.26	0.200	7.2	
COPPER	0.45	0.500	11.3	J
IRON	5.2	5.0	15600	J, ~~B~~
LEAD	0.52	1.0	15.0	M
MAGNESIUM	1.9	5.0	2290	J, ~~B~~
MANGANESE	0.19	0.500	588	J, ~~B~~
MOLYBDENUM	0.39	0.500	2.7	J
NICKEL	0.65	0.500	13.6	
POTASSIUM	39.0	10.0	1640	J
SELENIUM	0.84	1.0	0.84	U
SILVER	0.58	0.200	0.58	U
SODIUM	195	100.0	914	B
THALLIUM	1.1	2.0	1.1	U
VANADIUM	0.32	0.500	45.7	J
ZINC	0.45	3.0	25.9	~~J~~, ~~B~~, M

Comments:

464 307

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000196

Analytical Method: 6010-A98

AAB #: A8801146

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 74.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	4.0	5.0	14400	J, ~~B~~
ANTIMONY	1.1	1.0	1.1	U
ARSENIC	0.93	2.0	6.1	
BARIUM	0.13	0.500	113	J, ~~B~~
BERYLLIUM	0.13	0.300	1.2	
CADMIUM	0.093	0.100	0.093	U ~~J~~, M
CALCIUM	2.0	20.0	9790	J, ~~B~~
CHROMIUM	0.47	0.500	17.1	J
COBALT	0.27	0.200	7.2	
COPPER	0.47	0.500	18.2	J
IRON	5.3	5.0	15000	J, ~~B~~
LEAD	0.53	1.0	13.2	M
MAGNESIUM	2.0	5.0	2390	J, ~~B~~
MANGANESE	0.20	0.500	325	J, ~~B~~
MOLYBDENUM	0.40	0.500	0.71	J
NICKEL	0.67	0.500	15.2	
POTASSIUM	40.0	10.0	2200	J
SELENIUM	0.87	1.0	0.87	U
SILVER	0.60	0.200	0.60	U
SODIUM	200	100.0	841	B
THALLIUM	1.1	2.0	1.1	U
VANADIUM	0.33	0.500	38.5	J
ZINC	0.47	3.0	36.9	~~J~~, ~~B~~, M

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000197

464 308

Analytical Method: 6010-A98

AAB #: A8801146

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP02-01

Lab Sample ID: A8048103

Matrix: SOIL

% Solids: 78.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.8	5.0	17900	J, ~~B~~
ANTIMONY	1.0	1.0	1.0	U
ARSENIC	0.88	2.0	4.6	
BARIUM	0.13	0.500	135	J, ~~B~~
BERYLLIUM	0.13	0.300	1.2	
CADMIUM	0.088	0.100	0.088	U ~~J~~, M
CALCIUM	1.9	20.0	8110	J, ~~B~~
CHROMIUM	0.44	0.500	17.7	J
COBALT	0.25	0.200	6.2	
COPPER	0.44	0.500	11.3	J
IRON	5.1	5.0	13500	J, ~~B~~
LEAD	0.51	1.0	12.3	M
MAGNESIUM	1.9	5.0	2420	J, ~~B~~
MANGANESE	0.19	0.500	269	J, ~~B~~
MOLYBDENUM	0.38	0.500	0.38	UJ
NICKEL	0.63	0.500	12.8	
POTASSIUM	38.0	10.0	1990	J
SELENIUM	0.82	1.0	0.82	U
SILVER	0.57	0.200	0.57	U
SODIUM	190	100.0	646	B
THALLIUM	1.1	2.0	1.1	U
VANADIUM	0.32	0.500	41.4	J
ZINC	0.44	3.0	28.1	~~J~~, ~~B~~, M

Comments:

464 3 9

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000193

Analytical Method: 6010-A98 AAB #: A8B01146

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-01 Lab Sample ID: A8048104 Matrix: SOIL

% Solids: 79.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 23-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.8	5.0	19600	J,B
ANTIMONY	1.0	1.0	1.0	U
ARSENIC	0.88	2.0	6.6	
BARIUM	0.12	0.500	188	J,B
BERYLLIUM	0.12	0.300	1.1	
CADMIUM	0.088	0.100	0.088	U~~J~~,M
CALCIUM	1.9	20.0	46000	J,B
CHROMIUM	0.44	0.500	19.0	J
COBALT	0.25	0.200	6.5	
COPPER	0.44	0.500	10.1	J
IRON	5.0	5.0	15600	J,B
LEAD	0.50	1.0	11.3	M
MAGNESIUM	1.9	5.0	2740	J,B
MANGANESE	0.19	0.500	750	J,B
MOLYBDENUM	0.38	0.500	0.38	UJ
NICKEL	0.63	0.500	13.3	
POTASSIUM	37.7	10.0	1930	J
SELENIUM	0.82	1.0	0.82	U
SILVER	0.56	0.200	0.56	U
SODIUM	188	100.0	695	B
THALLIUM	1.1	2.0	1.1	U
VANADIUM	0.31	0.500	38.5	J
ZINC	0.44	3.0	29.2	~~J~~,B,M

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000199

Analytical Method: 6010-A98

AAB #: A8B01146

Lab Name: Recra LabNet

Contract #: F46162495D80

464 310

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 82.9

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.6	5.0	13300	J, ~~B~~
ANTIMONY	0.96	1.0	0.96	U
ARSENIC	0.84	2.0	3.8	
BARIUM	0.12	0.500	119	J, ~~B~~
BERYLLIUM	0.12	0.300	0.76	
CADMIUM	0.084	0.100	0.084	U ~~J~~, M
CALCIUM	17.9	20.0	132000	J, ~~B~~
CHROMIUM	0.42	0.500	13.8	J
COBALT	0.24	0.200	3.5	
COPPER	0.42	0.500	7.1	J
IRON	4.8	5.0	10900	J, ~~B~~
LEAD	0.48	1.0	8.5	M
MAGNESIUM	1.8	5.0	1960	J, ~~B~~
MANGANESE	0.18	0.500	216	J, ~~B~~
MOLYBDENUM	0.36	0.500	0.36	U J
NICKEL	0.60	0.500	9.1	
POTASSIUM	35.8	10.0	1330	J
SELENIUM	0.78	1.0	0.78	U
SILVER	0.54	0.200	0.54	U
SODIUM	179	100.0	775	B
THALLIUM	1.0	2.0	1.0	U
VANADIUM	0.30	0.500	30.2	J
ZINC	0.42	3.0	21.2	~~J~~, ~~B~~, M

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 6010-A98

AAB #: A8B01146

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 81.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.6	5.0	17700	J, ~~B~~
ANTIMONY	0.96	1.0	0.96	U
ARSENIC	0.84	2.0	6.1	
BARIUM	0.12	0.500	152	J, ~~B~~
BERYLLIUM	0.12	0.300	1.0	
CADMIUM	0.084	0.100	0.084	U~~J~~, M
CALCIUM	1.8	20.0	42100	J, ~~B~~
CHROMIUM	0.42	0.500	17.3	J
COBALT	0.24	0.200	4.9	
COPPER	0.42	0.500	9.0	J
IRON	4.8	5.0	13800	J, ~~B~~
LEAD	0.48	1.0	10.2	M
MAGNESIUM	1.8	5.0	2560	J, ~~B~~
MANGANESE	0.18	0.500	394	J, ~~B~~
MOLYBDENUM	0.36	0.500	0.36	UJ
NICKEL	0.60	0.500	12.0	
POTASSIUM	36.1	10.0	1700	J
SELENIUM	0.78	1.0	0.78	U
SILVER	0.54	0.200	0.54	U
SODIUM	180	100.0	697	B
THALLIUM	1.0	2.0	1.0	U
VANADIUM	0.30	0.500	36.7	J
ZINC	0.42	3.0	28.6	~~J~~, ~~B~~, M

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000223

Analytical Method: 7471-A98 AAB #: A8B01250

Lab Name: Recra LabNet Contract #: F46162495D80 464 317

Field Sample ID: RR-SO-DP01-01 Lab Sample ID: A8048101 Matrix: SOIL

% Solids: 75.9 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 27-Feb-98 Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.053	0.100	0.053	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7471-A98

AAB #: A8801250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: A8048102

Matrix: SOIL

% Solids: 74.5

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.054	0.100	0.054	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000225

Analytical Method: 7471-A98

AAB #: A8B01250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP02-01

Lab Sample ID: A8048103

Matrix: SOIL

464 314

% Solids: 78.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.051	0.100	0.051	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000226

464 315

Analytical Method: 7471-A98

AAB #: A8801250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 79.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.050	0.100	0.050	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000227

Analytical Method: 7471-A98

AAB #: A8B01250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 82.9

Dilution: 1.00

464 316

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.048	0.100	0.048	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 317

000228

Analytical Method: 7471-A98

AAB #: A8801250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 81.7

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.049	0.100	0.049	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000237

Analytical Method: 7421-A98

AAB #: A8B01767

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-01

Lab Sample ID: A8048101

Matrix: SOIL

% Solids: 75.9

Dilution: 5.00

464 318

Date Received: 19-Feb-98

Date Extracted: 18-Mar-98

Date Analyzed: 20-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	2.2	0.500	19.1	

Comments:

INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421-A98

AAB #: AB801767

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP01-02

Lab Sample ID: AB048102

Matrix: SOIL

% Solids: 74.5

Dilution: 5.00

Date Received: 19-Feb-98

Date Extracted: 18-Mar-98

Date Analyzed: 20-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	2.2	0.500	19.8	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000239

Analytical Method: 7421-A98 AAB #: A8B01767

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-SO-DP02-01 Lab Sample ID: A8048103 Matrix: SOIL

% Solids: 78.0 Dilution: 5.00

464 320

Date Received: 19-Feb-98 Date Extracted: 18-Mar-98 Date Analyzed: 20-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	2.1	0.500	18.8	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421-A98

AAB #: A8801767

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-01

Lab Sample ID: A8048104

Matrix: SOIL

% Solids: 79.6

Dilution: 50.00

Date Received: 19-Feb-98

Date Extracted: 18-Mar-98

Date Analyzed: 20-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	20.4	0.500	339	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

461 3-- 000241

Analytical Method: 7421-A98

AAB #: A8801767

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-02

Lab Sample ID: A8048105

Matrix: SOIL

% Solids: 82.9

Dilution: 5.00

Date Received: 19-Feb-98

Date Extracted: 18-Mar-98

Date Analyzed: 20-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	2.0	0.500	15.8	

Comments:

464 323

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000242

Analytical Method: 7421-A98

AAB #: A8B01767

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP03-03

Lab Sample ID: A8048106

Matrix: SOIL

% Solids: 81.7

Dilution: 5.00

Date Received: 19-Feb-98

Date Extracted: 18-Mar-98

Date Analyzed: 20-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	2.0	0.500	40.8	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 324

000331

Analytical Method: 6010-A98

AAB #: A8801146

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP04-01

Lab Sample ID: A8048201

Matrix: SOIL

% Solids: 84.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.5	5.0	4770	J, ~~B~~
ANTIMONY	0.94	1.0	0.94	U
ARSENIC	0.83	2.0	3.6	
BARIUM	0.12	0.500	20.8	J, ~~B~~
BERYLLIUM	0.12	0.300	0.38	
CADMIUM	0.083	0.100	0.083	U, M, ~~J~~
CALCIUM	17.7	20.0	239000	J, ~~B~~
CHROMIUM	0.41	0.500	7.4	J
COBALT	0.24	0.200	1.4	
COPPER	0.41	0.500	3.3	J
IRON	4.7	5.0	5420	J, ~~B~~
LEAD	0.47	1.0	17.4	~~J~~, M
MAGNESIUM	1.8	5.0	2600	J, ~~B~~
MANGANESE	0.18	0.500	79.2	J, ~~B~~
MOLYBDENUM	0.35	0.500	0.97	J
NICKEL	0.59	0.500	5.1	
POTASSIUM	35.4	10.0	1020	J
SELENIUM	0.77	1.0	0.77	U
SILVER	0.53	0.200	0.53	U
SODIUM	.177	100.0	1270	B
THALLIUM	1.0	2.0	1.0	U
VANADIUM	0.30	0.500	17.0	J
ZINC	0.41	3.0	21.5	M, ~~B~~, ~~J~~

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 325

Analytical Method: 6010-A98 AAB #: A8801146

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01 Lab Sample ID: A8048202 Matrix: SOIL

% Solids: 70.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 23-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	4.2	5.0	3650	J, ~~B~~
ANTIMONY	1.1	1.0	1.1	U
ARSENIC	0.99	2.0	3.6	
BARIUM	0.14	0.500	14.2	J, ~~B~~
BERYLLIUM	0.14	0.300	0.34	
CADMIUM	0.099	0.100	0.099	U, M, ~~J~~
CALCIUM	21.2	20.0	371000	J, ~~B~~, ~~J~~
CHROMIUM	0.49	0.500	10.2	J
COBALT	0.28	0.200	1.2	
COPPER	0.49	0.500	2.7	J
IRON	5.6	5.0	5760	J, ~~B~~
LEAD	0.56	1.0	9.3	M
MAGNESIUM	2.1	5.0	3950	J, ~~B~~
MANGANESE	0.21	0.500	102	J, ~~B~~
MOLYBDENUM	0.42	0.500	3.6	J
NICKEL	0.71	0.500	7.5	
POTASSIUM	42.4	10.0	1000	J
SELENIUM	0.92	1.0	0.92	U
SILVER	0.64	0.200	0.64	U
SODIUM	212	100.0	1490	B
THALLIUM	1.2	2.0	1.2	U
VANADIUM	0.35	0.500	24.2	J
ZINC	0.49	3.0	14.1	M, ~~B~~, ~~J~~

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 326

Analytical Method: 6010-A98 AAB #: A8801146

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-D906-01 Lab Sample ID: A8048203 Matrix: SOIL

% Solids: 89.1 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 23-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.3	5.0	1670	J, ~~B~~
ANTIMONY	0.88	1.0	0.88	U
ARSENIC	0.77	2.0	1.6	F
BARIUM	0.11	0.500	8.3	J, ~~B~~
BERYLLIUM	0.11	0.300	0.16	F
CADMIUM	0.077	0.100	0.077	U, M, ~~B~~
CALCIUM	16.6	20.0	274000	J, ~~B~~
CHROMIUM	0.39	0.500	5.7	J
COBALT	0.22	0.200	0.58	
COPPER	0.39	0.500	1.5	J
IRON	4.4	5.0	3210	J, ~~B~~
LEAD	0.44	1.0	5.5	M
MAGNESIUM	1.6	5.0	2520	J, ~~B~~
MANGANESE	0.16	0.500	72.2	J, ~~B~~
MOLYBDENUM	0.33	0.500	0.85	J
NICKEL	0.55	0.500	3.8	
POTASSIUM	33.1	10.0	634	J
SELENIUM	0.72	1.0	0.72	U
SILVER	0.50	0.200	0.50	U
SODIUM	166	100.0	1230	B
THALLIUM	0.94	2.0	0.94	U
VANADIUM	0.28	0.500	15.0	J
ZINC	0.39	3.0	12.3	M, ~~B~~, ~~J~~

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 6010-A98 AAB #: A8B01146

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01 Lab Sample ID: A8048204 Matrix: SOIL

% Solids: 86.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 23-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.4	5.0	6970	J, ~~B~~
ANTIMONY	0.92	1.0	0.92	U
ARSENIC	0.80	2.0	2.5	
BARIUM	0.11	0.500	37.9	J, ~~B~~
BERYLLIUM	0.11	0.300	0.39	
CADMIUM	0.080	0.100	0.080	U, M, ~~J~~
CALCIUM	17.2	20.0	255000	J, ~~B~~
CHROMIUM	0.40	0.500	9.8	J
COBALT	0.23	0.200	2.1	
COPPER	0.40	0.500	3.8	J
IRON	4.6	5.0	5760	J, ~~B~~
LEAD	0.46	1.0	13.4	M
MAGNESIUM	1.7	5.0	2740	J, ~~B~~
MANGANESE	0.17	0.500	144	J, ~~B~~
MOLYBDENUM	0.34	0.500	0.48	F, ~~J~~
NICKEL	0.57	0.500	5.7	
POTASSIUM	34.5	10.0	1050	J
SELENIUM	0.75	1.0	0.75	U
SILVER	0.52	0.200	0.52	U
SODIUM	172	100.0	861	B
THALLIUM	0.98	2.0	0.98	U
VANADIUM	0.29	0.500	24.7	J
ZINC	0.40	3.0	21.0	M, ~~B~~, ~~J~~

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 328

Analytical Method: 6010-A98

AAB #: A8B01146

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01

Lab Sample ID: A8048205

Matrix: SOIL

% Solids: 79.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.7	5.0	19500	J, ~~B~~
ANTIMONY	0.99	1.0	0.99	U
ARSENIC	0.87	2.0	4.9	
BARIUM	0.12	0.500	173	J, ~~B~~
BERYLLIUM	0.12	0.300	1.0	
CADMIUM	0.087	0.100	0.087	U, M, ~~J~~
CALCIUM	18.6	20.0	71400	J, ~~B~~
CHROMIUM	0.43	0.500	19.6	J
COBALT	0.25	0.200	5.5	
COPPER	0.43	0.500	7.5	J
IRON	5.0	5.0	16100	J, ~~B~~
LEAD	0.50	1.0	9.7	M
MAGNESIUM	1.8	5.0	2790	J, ~~B~~
MANGANESE	0.18	0.500	346	J, ~~B~~
MOLYBDENUM	0.37	0.500	0.47	F, ~~J~~
NICKEL	0.62	0.500	11.1	
POTASSIUM	37.1	10.0	2030	J
SELENIUM	0.80	1.0	0.80	U
SILVER	0.56	0.200	0.56	U
SODIUM	186	100.0	1010	B
THALLIUM	1.0	2.0	1.0	U
VANADIUM	0.31	0.500	34.3	J
ZINC	0.43	3.0	31.0	M, ~~B~~, ~~J~~

Comments:

464 329

INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 6010-A98 AAB #: A8B01146

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.2 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 23-Feb-98 Date Analyzed: 28-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	3.7	5.0	18400	J, ~~B~~
ANTIMONY	0.99	1.0	0.99	U
ARSENIC	0.87	2.0	3.6	
BARIUM	0.12	0.500	136	J, ~~B~~
BERYLLIUM	0.12	0.300	0.97	
CADMIUM	0.087	0.100	0.087	U, M, ~~J~~
CALCIUM	18.6	20.0	112000	J, ~~B~~
CHROMIUM	0.43	0.500	17.4	J
COBALT	0.25	0.200	4.2	
COPPER	0.43	0.500	7.1	J
IRON	5.0	5.0	12400	J, ~~B~~
LEAD	0.50	1.0	8.7	M
MAGNESIUM	1.8	5.0	2580	J, ~~B~~
MANGANESE	0.18	0.500	311	J, ~~B~~
MOLYBDENUM	0.37	0.500	0.37	U J
NICKEL	0.62	0.500	9.3	
POTASSIUM	37.2	10.0	1930	J
SELENIUM	0.80	1.0	0.80	U
SILVER	0.56	0.200	0.56	U
SODIUM	186	100.0	827	B
THALLIUM	1.0	2.0	1.0	U
VANADIUM	0.31	0.500	29.2	J
ZINC	0.43	3.0	25.5	M, ~~B~~, ~~J~~

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 330

Analytical Method: 6010-A98

AAB #: A8B01148

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-EB-01

Lab Sample ID: A8048209

Matrix: WATER

% Solids: 0.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 23-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
ALUMINUM	0.045	0.050	0.47	
MANGANESE	0.0015	0.0050	0.0085	
ANTIMONY	0.0075	0.010	0.0075	U
ARSENIC	0.0070	0.010	0.0070	U
BERYLLIUM	0.0010	0.0010	0.0010	U
CADMIUM	0.00070	0.0010	0.00070	U
CHROMIUM	0.0035	0.0050	0.0035	U
COBALT	0.0020	0.0020	0.0020	U
LEAD	0.0035	0.010	0.0035	U
MOLYBDENUM	0.0030	0.0050	0.0030	U
NICKEL	0.0050	0.0050	0.0050	U
POTASSIUM	0.30	0.200	0.30	U
SELENIUM	0.010	0.010	0.010	U
SILVER	0.0045	0.0050	0.0045	U
THALLIUM	0.0085	0.020	0.0085	U
VANADIUM	0.0025	0.0050	0.0025	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7471-A98

AAB #: A8B01250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP04-01

Lab Sample ID: A8048201

Matrix: SOIL

% Solids: 84.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.047	0.100	0.047	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2464 3
RESULTS

Analytical Method: 7471-A98 AAB #: A8B01250

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01 Lab Sample ID: A8048202 Matrix: SOIL

% Solids: 70.6 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 27-Feb-98 Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.057	0.100	0.057	U

Comments:

464 333

INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7471-A98

AAB #: A8801250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP06-01

Lab Sample ID: A8048203

Matrix: SOIL

% Solids: 89.1

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.045	0.100	0.045	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7471-A98

AAB #: A8801250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01

Lab Sample ID: A8048204

Matrix: SOIL

% Solids: 86.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.047	0.100	0.047	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7471-A98

AAB #: A8B01250

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-01

Lab Sample ID: A8048205

Matrix: SOIL

% Solids: 79.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 27-Feb-98

Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.050	0.100	0.050	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 336

Analytical Method: 7471-A98 AAB #: A8801250

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02 Lab Sample ID: A8048211 Matrix: SOIL

% Solids: 79.2 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 27-Feb-98 Date Analyzed: 27-Feb-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.051	0.100	0.051	U

Comments:

464 337

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 6010-A98

AAB #: A8B01306

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-WQ-EB-01

Lab Sample ID: A8048209

Matrix: WATER

% Solids: 0.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 2-Mar-98

Date Analyzed: 2-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
BARIUM	0.0015	0.0050	0.0060	
CALCIUM	0.015	0.200	2.5	B
COPPER	0.0035	0.0050	0.0035	U
IRON	0.045	0.050	0.43	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 338

Analytical Method: 6010-A98 AAB #: A8801430

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-WQ-EB-01 Lab Sample ID: A8048209 Matrix: WATER

% Solids: 0.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 5-Mar-98 Date Analyzed: 10-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
ZINC	0.0025	0.020	0.023	
SODIUM	1.5	0.500	4.2	

Comments:

464 339

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7470-A98 AAB #: A8801471

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-WO-EB-01 Lab Sample ID: A8048209 Matrix: WATER

% Solids: 0.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 6-Mar-98 Date Analyzed: 6-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
MERCURY	0.00024	0.0010	0.00024	U

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 340

Analytical Method: 7421-A98 AAB #: A8801689

Lab Name: Recra LabNet Contract #: F46162495D80

Field Sample ID: RR-SO-DP04-01 Lab Sample ID: A8048201 Matrix: SOIL

% Solids: 84.3 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 16-Mar-98 Date Analyzed: 17-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	0.39	0.500	9.3	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421-A98

AAB #: A8801689

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP05-01

Lab Sample ID: A8048202

Matrix: SOIL

% Solids: 70.6

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 16-Mar-98

Date Analyzed: 17-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	0.47	0.500	11.4	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 342

Analytical Method: 7421-A98

AAB #: A8801689

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP06-01

Lab Sample ID: A8048203

Matrix: SOIL

% Solids: 89.1

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 16-Mar-98

Date Analyzed: 17-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	0.36	0.500	16.1	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

464 343

000448

Analytical Method: 7421-A98

AAB #: A8B01689

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP07-01

Lab Sample ID: A8048204

Matrix: SOIL

% Solids: 86.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 16-Mar-98

Date Analyzed: 17-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	0.38	0.500	10.6	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000449

Analytical Method: 7421-A98

AAB #: A8B01689

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-SO-DP08-01

Lab Sample ID: A8048205

Matrix: SOIL

464 344

% Solids: 79.3

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 16-Mar-98

Date Analyzed: 17-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	0.41	0.500	15.1	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 7421-A98

AAB #: A8801689

Lab Name: Recra LabNet

Contract #: F46162495D80

Field Sample ID: RR-SO-DP08-02

Lab Sample ID: A8048211

Matrix: SOIL

% Solids: 79.2

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 16-Mar-98

Date Analyzed: 17-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/KG

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	0.42	0.500	11.8	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

Analytical Method: 6010-A98 AAB #: A8801696

Lab Name: Recra LabNet Contract #: F46162495080

Field Sample ID: RR-WO-EB-01 Lab Sample ID: A8048209 Matrix: WATER

% Solids: 0.0 Dilution: 1.00

Date Received: 19-Feb-98 Date Extracted: 16-Mar-98 Date Analyzed: 19-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
MAGNESIUM	0.020	0.050	0.16	

Comments:

AFCEE
INORGANIC ANALYSES DATA SHEET 2
RESULTS

000471

464 347

Analytical Method: 7421-A98

AAB #: A8801696

Lab Name: Recra LabNet

Contract #: F46162495080

Field Sample ID: RR-WQ-EB-01

Lab Sample ID: A8048209

Matrix: WATER

% Solids: 0.0

Dilution: 1.00

Date Received: 19-Feb-98

Date Extracted: 16-Mar-98

Date Analyzed: 17-Mar-98

Concentration Units (ug/L or mg/kg dry weight): MG/L

Analyte	MDL	PQL	Concentration	Qualifier
LEAD	0.0033	0.0050	0.0033	U

Comments:

APPENDIX E

DATA SUMMARY FORMS

TPH

Environmental Company Inc, The
Wet Chemistry Analysis

001323

464 349

Client Sample No.

RRSODP0101

Lab Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: ____ SAS No.: ____ SDG No.: ____

Matrix (soil/water): SOIL Lab Sample ID: A8048101

% Solids: 75.9 Date Samp/Recv: 02/17/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	68.2				418.1	03/14/98

Comments:

FORM I - WC

Environmental Company Inc, The
Wet Chemistry Analysis

001324 464 35

Client Sample No.

RRSODP0102

L Name: Recra LabNet Contract: F46162495D80

ab Code: RECNY Case No.: ____ SAS No.: _____ SDG No.: _____

atrix (soil/water): SOIL Lab Sample ID: A8048102

% Solids: 74.5 Date Samp/Recv: 02/17/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	62.9				418.1	03/14/98

omments:

FORM I - WC

464 351

Environmental Company Inc, The
Wet Chemistry Analysis

001325
Client Sample No.

RRSODP0201

Lab Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Lab Sample ID: A8048103

% Solids: 78.0 Date Samp/Recv: 02/17/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	36.9				418.1	03/14/98

Comments:

FORM I - WC

Environmental Company Inc, The
Wet Chemistry Analysis

001326 464 352

Client Sample No.

RRSODP0301

a' me: Recra LabNet Contract: F46162495D80

ab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

atrix (soil/water): SOIL Lab Sample ID: A8048104

Solids: 79.6 Date Samp/Recv: 02/17/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	128				418.1	03/14/98

omments:

FORM I - WC

464 353

Environmental Company Inc, The
Wet Chemistry Analysis

001327
Client Sample No.

RRSODP0302

ab Name: Recra LabNet Contract: F46162495D80

ab Code: RECNY Case No.: ____ SAS No.: _____ SDG No.: _____

atrix (soil/water): SOIL Lab Sample ID: A8048105

Solids: 82.9 Date Samp/Recv: 02/17/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	29.2				418.1	03/14/98

omments:

Environmental Company Inc, The
Wet Chemistry Analysis

001320464 354

Client Sample No.

RRSODP0303

ab Name: Recra LabNet Contract: F46162495D80

ab Code: RECNY Case No.: ____ SAS No.: ____ SDG No.: ____

atrix (soil/water): SOIL Lab Sample ID: A8048106

Solids: 81.7 Date Samp/Recv: 02/17/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	12.5	U			418.1	03/14/98

omments:

FORM I - WC

464 355

Environmental Company Inc, The
Wet Chemistry Analysis

000491

Client Sample No.

RR-SO-DP04-01

Lab Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Lab Sample ID: A8048201

Solids: 84.3 Date Samp/Recv: 02/18/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	12.5	U			418.1	03/14/98

Comments:

FORM I - WC

Environmental Company Inc, The
Wet Chemistry Analysis

Client Sample No.

RR-SO-DP05-01

ame: Recra LabNet Contract: F46162495D80

ab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

atrix (soil/water): SOIL Lab Sample ID: A8048202

Solids: 70.6 Date Samp/Recv: 02/18/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	67.3				418.1	03/14/98

omments:

Environmental Company Inc, The
Wet Chemistry Analysis

464 357

Client Sample No.

RR-SO-DP06-01

Lab Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: ____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Lab Sample ID: A8048203

% Solids: 89.1 Date Samp/Recv: 02/18/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	12.5	U			418.1	03/14/98

Comments:

FORM I - WC

Environmental Company Inc, The
Wet Chemistry Analysis

Client Sample No.

RR-SO-DP07-01

Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Lab Sample ID: A8048204

% Solids: 86.3 Date Samp/Recv: 02/18/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	33.4				418.1	03/14/98

Comments:

Environmental Company Inc, The
Wet Chemistry Analysis

464 359

Client Sample No.

RR-SO-DP08-01

Lab Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Lab Sample ID: A8048205

% Solids: 79.3 Date Samp/Recv: 02/18/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	12.5	U			418.1	03/14/98

Comments:

Environmental Company Inc, The
Wet Chemistry Analysis

464 360

Client Sample No.

RR-SO-DP08-02

Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): SOIL Lab Sample ID: A8048211

% Solids: 79.2 Date Samp/Recv: 02/18/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	UG/G	12.5	U			418.1	03/14/98

Comments:

FORM I - WC

464 36

Environmental Company Inc, The
Wet Chemistry Analysis

Client Sample No.

RR-WQ-EB-01

Lab Name: Recra LabNet Contract: F46162495D80

Lab Code: RECNY Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix (soil/water): WATER Lab Sample ID: A8048209

% Solids: 0.0 Date Samp/Recv: 02/18/98 02/19/98

Parameter Name	Units of Measure	Result	C	Q	M	Method Number	Analyzed Date
Total Recoverable Petroleum Hydrocarbons	MG/L	0.25	U			418.1	03/03/98

Comments:

APPENDIX F

DATA QUALIFIERS

ORGANIC DATA QUALIFIERS

U - Indicates that the compound was analyzed for, but not detected. The associated numerical value is at or below the Method Detection Limit (MDL).

J - The compound was positively identified. The associated numerical value is an estimated quantity.

UJ - The compound was analyzed for, but not detected. The sample quantitation limit is an estimated quantity due to variance from quality control limits.

F - The compound was positively identified. However, the associated numerical value is below the Practical Quantitation Limit (PQL).

B - The compound was found in the associated blank, as well as in the sample.

M - Designates that a matrix effect may be present due to accuracy and/or precision being generated out of specification for the MS/MSD.

T - Tentatively Identified Compound (GC/MS)

E - Reported value is estimated due to quantitation above the calibration range.

D - Reported result taken from diluted sample analysis.

R - Reported value is unusable and rejected due to variance from quality control limits.

NA - Not Analyzed.

INORGANIC DATA QUALIFIERS

U - Indicates that the analyte was analyzed for, but not detected. The associated numerical value is at or below the Method Detection Limit (MDL).

J - The analyte was positively identified. The reported value is estimated due to variance from quality control limits.

UJ - The element was analyzed for, but not detected. The sample quantitation limit is an estimate due to variance from quality control limits.

B - The compound was found in the associated blank, as well as in the sample.

M - Designates that a matrix effect may be present due to accuracy and/or precision being generated out of specification for the MS/MSD.

F - The compound was positively identified. However, the associated numerical value is below the Practical Quantitation Limit (PQL).

R - Reported value is unusable and rejected due to variance from quality control limits.

NA - Not analyzed.

464 365

APPENDIX G

CASE NARRATIVES

NARRATIVE

Laboratory Name: Recra Environmental, Inc.
Laboratory Code: RECNY
Contract Number: NY97-126

SDG Number: n.a. Job Number(s): A98-0481

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers and data quality objectives for these analyses refer to the following references:

- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Third Edition, September 1994, U.S. Environmental Protection Agency, Office of Solid Waste.
- Annual Book of ASTM Standards, American Society for Testing and Materials, 1991.
- Site Assessment, Investigation and Characterization of the Off-Site Weapons Storage Area, NAS Carswell Field, Ft. Worth, Delivery Order 0009.
- 40 CFR Part 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act" October 26, 1984 (Federal Register) U.S. Environmental Protection Agency.

GENERAL COMMENTS

Comments pertain to data on one or all pages of this report. The enclosed data have been reported using data qualifiers as defined in the site specific Quality Assurance Project Plan.

All presented data reflect the laboratories abilities to meet the required Method Detection Limits (MDL) and associated Practical Quantification Limits (PQL). Sample specific reporting limits also illustrate necessary dilutions, extraction weights and volumes, and dry weight corrections as appropriate.

Analytical results are presented utilizing AFCEE defined MDL's. Results between the PQL and the MDL adjusted for appropriate analytical conditions are presented with an "F" flag, however instrument limitations were not, in all cases, capable of accurately discriminating the presence or absence of specific constituents at these MDL levels.

Chromatographically m-Xylene and p-Xylene coelute and are flagged on Form II Data Sheets with a "1" and "1U" qualifier. Positive hits are reported as m-Xylene and are considered either/or. RFs and nanogram values in ICALs, CCALs, SCVs, MSBs, and QC samples are not reported for p-Xylene due to inability to differentiate and quantitate the isomers.

Spiking compound p-Xylene percent recovery is at 0% due to coelution with m-Xylene.

METHOD SPECIFIC NON-CONFORMANCE SUMMARIES

Method 8260 - Volatile Organic Compounds

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Extract. Holding Time	N/A	-	-
Anal. Holding Time	None	-	-
GC/MS Tuning	None	-	-
DDT Breakdown	N/A	-	-
Peak Tailing	N/A	-	-
ICAL (%RSD & RTW)	A8B01178 A710000186 1,2,3-Trichlorobenzene	Linear Regression	None
2nd Source ICAL Verification	None	-	-
CCAL (%D & RTW)	A8B01193 A8C0000909 n-Butylbenzene Hexachlorobutadiene	None	Not detected in any of the associated client samples.
Internal Standards (%R &/or RT)	RR-SO-DP01-02 RR-SO-DP02-01 RR-SO-DP03-03 1,4-Dichlorobenzene-d4	Reanalyzed	Reanalyses exhibited similar results, confirming matrix effect.
LCS	A8B01193 A8B0119301 1,1,1,2-Tetrachloroethane	None	Recovery biased high. Not detected in any of the associated client samples.
MS/MSD (%R &/or RPD)	None provided	-	-
Surrogates	None	-	-
Method Blanks	A8B01194 A8B0119402 MeCl2	None	Associated client samples were reanalyses to determine matrix effect with the exception of RR-SO-DP03-01. MeCl2 was not detected in the original sample and blank analyses.
Compound Response Factor > 0.10 & 0.30	None	-	-

Method 8270 - Semivolatile Organic Compounds

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Extract. Holding Time	None	None	-
Anal. Holding Time	None	-	-
GC/MS Tuning	None	-	-
DDT Breakdown	None	-	-
Peak Tailing	None	-	-
ICAL (%RSD & RTW)	A8I0000216 Benzyl Alcohol; 2,4-Dinitrophenol	Linear Regression	None
2nd Source ICAL Verification	A8S0000125 Seven analytes	None	Not detected in any of the associated client samples.
CCAL (%D & RTW)	A8C0000951 2,4-Dinitrophenol	None	Recovery biased high; Not detected in any of the associated samples.
Internal Standards (%R &/or RT)	None	-	-
LCS	None	-	-
MS/MSD (%R &/or RPD)	None provided	-	-
Surrogates	None	-	-
Method Blanks	None	-	-
Compound Response Factor > 0.05	None	-	-

Method 8081 - Organochlorine Pesticides & PCB's

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Extract. Holding Time	None	-	-
Anal. Holding Time	None	-	-
ICAL (%RSD & RTW)	A8B01085 A8B01202 A8I0000214 p,p-DDT Methoxychlor Toxaphene	Linear regression	None
2nd Source ICAL Verification	A8B01085 A8B01202 A8S0000122 p,p-DDT	None	Not detected in any of the associated client samples.
ICAL Verification (%RPD)	N/A	-	-
CCAL Verification (%D & RTW)	None	-	-
LCS	None	-	-
MS/MSD (%R &/or RPD)	None	-	-
Surrogates	None	-	-
Breakdown Check (Endrin and DDT)	None	-	-
Method Blanks	None	-	-

Method 6010 - ICP Metals Analysis
Interference Checks and Serial Dilutions performed as required per method.

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Holding Time	None	-	-
ICAL	None	-	-
ICAL Verification	None	-	-
ICAL Blank	A8B01146 A8B0161706 Ca	None	<PQL
2nd Source Verification	None	-	-
CCAL Verification (%D)	None	-	-
CCAL Blank	Several blanks contained analytes of interest.	None	<PQL
LCS	A8B01146 A8B0114604 Sb	None	The recovery was biased high. The recovery falls within the manufacturer's specified limits, however exceeds the QAP limits.
MS/MSD (%R &/or RPD)	None provided	-	-
Method Blank	A8B01146 A8B0114603 1). Ca 2). Ba	None	1). >PQL All associated client samples contained a concentration of Ca that was (10) times greater than the blank. 2). <PQL

Sodium and Potassium are non-linear elements and they are calibrated using a single point initial calibration.

Sodium, Potassium, and Silver laboratory derived MDLs were greater than the PQLs (Soil). All the blanks were qualified with an asterisk(*) for these elements on the forms I-5.

Method 7470 - Mercury 464 371

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Holding Time	None	-	-
ICAL	None	-	-
ICAL Verification	None	-	-
ICAL Blank	None	-	-
2nd Source Verification	None	-	-
CCAL Verification (%D)	None	-	-
CCAL Blank	None	-	-
LCS	None	-	-
MS/MSD (%R &/or RPD)	None	-	-
Method Blank	None	-	-

Method 418.1 - Total Recoverable Petroleum Hydrocarbons

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Holding Time	None	-	-
LCS/MSB	None	-	-
MD/MSD (%R &/or RPD)	None	-	-
Method Blank	None	-	-

In the above non-conformance summaries ICAL and CCAL refers to initial and continuing calibrations respectively. RT and/or RTW refers to retention time and retention time windows respectively. LCS is an abbreviation for laboratory control sample, MSB is matrix spike blank (lab prepared control sample) and MS/MSD represents matrix spike and matrix spike duplicate. MD is the abbreviation for matrix duplicate. The %R refers to % recovery of spikes, surrogates or internal standards and RPD or %D refers to relative percent difference and percent difference as per the methods.

"I certify that this package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions presented above. Release of the data contained in this hardcopy data package has been authorized by a duly authorized representative of Recra Environmental, Inc., as verified by the following signature."

Kenneth E. Kasperek

3/31/98

Date

"This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet."

NARRATIVE

Laboratory Name: Recra Environmental, Inc.
Laboratory Code: RECNY
Contract Number: NY97-126

SDG Number: n.a. Job Number(s): A98-0482

METHODOLOGY

The specific methodologies employed in obtaining the enclosed analytical results are indicated on the specific data tables. The method numbers and data quality objectives for these analyses refer to the following references:

* "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846), Third Edition, September 1994, U.S. Environmental Protection Agency, Office of Solid Waste.
* Annual Book of ASTM Standards, American Society for Testing and Materials, 1991.
* Site Assessment, Investigation and Characterization of the Off-Site Weapons Storage Area, NAS Carswell Field, Ft. Worth, Delivery Order 0009.
* 40 CFR Part 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act" October 26, 1984 (Federal Register) U.S. Environmental Protection Agency.

GENERAL COMMENTS

Comments pertain to data on one or all pages of this report. The enclosed data have been reported using data qualifiers as defined in the site specific Quality Assurance Project Plan.

All presented data reflect the laboratories abilities to meet the required Method Detection Limits (MDL) and associated Practical Quantification Limits (PQL). Sample specific reporting limits also illustrate necessary dilutions, extraction weights and volumes, and dry weight corrections as appropriate.

Analytical results are presented utilizing AFCEE defined MDL's. Results between the PQL and the MDL adjusted for appropriate analytical conditions are presented with an "F" flag, however instrument limitations were not, in all cases, capable of accurately discriminating the presence or absence of specific constituents at these MDL levels.

Chromatographically m-Xylene and p-Xylene coelute and are flagged on Form II Data Sheets with a "1" and "1U" qualifier. Positive hits are reported as m-Xylene and are considered either/or. RFs and nanogram values in ICALs, CCALs, SCVs, MSBs, and QC samples are not reported for p-Xylene due to inability to differentiate and quantitate the isomers.

Spiking compound p-Xylene percent recovery is at 0% due to coelution with m-Xylene.

METHOD SPECIFIC NON-CONFORMANCE SUMMARIES

Method 8260 - Volatile Organic Compounds

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Extract. Holding Time	N/A	-	-
Anal. Holding Time	None	-	-
GC/MS Tuning	None	-	-
DDT Breakdown	N/A	-	-
Peak Tailing	N/A	-	-
ICAL (%RSD & RTW)	A8B01178 A710000186 1,2,3-Trichlorobenzene	Linear Regression	None
2nd Source ICAL Verification	None	-	-
CCAL (%D & RTW)	A8B01194 A8C0000909 n-Butylbenzene Hexachlorobutadiene	None	Not detected in any of the associated client samples.
Internal Standards (%R &/or RT)	None	-	-
LCS	A8B01193 A8B0119301 1,1,1,2-Tetrachloroethane	None	Recovery biased high. Not detected in any of the associated client samples.
MS/MSD (%R &/or RPD)	RR-SO-DP04-01 Dichlorofluoro-methane	None	LCS compliant.
Surrogates	None	-	-
Method Blanks	A8B01194 A8B0119402 MeCl2	None	Associated client samples were reanalyses to determine matrix effect. MeCl2 was not detected in the original sample and blank analyses which was not submitted with this data package.
Compound Response Factor > 0.10 & 0.30	None	-	-

Method 8270 - Semivolatile Organic Compounds

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Extract. Holding Time	None	None	-
Anal. Holding Time	None	-	-
GC/MS Tuning	None	-	-
DDT Breakdown	None	-	-
Peak Tailing	None	-	-
ICAL (%RSD & RTW)	1). A8B01172 A8I0000216 Benzyl Alcohol 2,4-Dinitrophenol 2). A8B01186 A8I0000199 Benzyl Alcohol Benzoic Acid	None	Not detected in any of the associated client samples.
2nd Source ICAL Verification	1). A8B01172 A8S0000125 Several 2). A8B01186 A8S0000115 Several	None	Not detected in any of the associated client samples.
CCAL (%D & RTW)	A8B01172 1). A8C0000951 2,4-Dinitrophenol A8B01186 2). A8C0000905 Benzo(a)pyrene, Dibenzo(a,h) anthracene, Benzo(g,h,i)perylene 3). A8C0000935 Indeno(1,2,3-cd)Pyrene, Dibenz(a,h)Anthracene	None	Not detected in any of the associated samples.
Internal Standards (%R &/or RT)	None	-	-
LCS	A8B01186 A8B0118601 Hexachlorocyclopentadiene, Naphthalene	None	Insufficient volume to re-extract associated samples.
MS/MSD (%R &/or RPD)	None	-	-

464 377

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Surrogates	MSB Phenol-D5 RR-WQ-EB-01 Phenol-D5 Terphenyl-D14	None	None
Method Blanks	None	-	-
Compound Response Factor > 0.05	None	-	-

Method 8081 - Organochlorine Pesticides & PCB's

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Extract. Holding Time	None	-	-
Anal. Holding Time	None	-	-
ICAL (%RSD & RTW)	1). A8B01085 A8B01202 A8I0000214 p,p-DDT Methoxychlor Toxaphene 2). A8B01420 A8I0000243 Several	Linear regression	None
2nd Source ICAL Verification	A8B01085 A8B01202 A8S0000122 p,p-DDT	None	Not detected in any of the associated client samples.
ICAL Verification (%RPD)	N/A	-	-
CCAL Verification (%D & RTW)	None	-	-
LCS	A8B01202 A8B0120201 Several A8B0120203 Alpha BHC Aldrin	Samples re-extracted outside of holding time & reanalyzed due to noncompliant QC.	A8B01420 A8B0142001 A8B0142003 Recoveries compliant. Both sets of data reported.
MS/MSD (%R &/or RPD)	None	-	-
Surrogates	MSB, MSBD, Method Blank, RR-WG-DC02-01, RR-WQ-EB-01 DCBP, TCMX	Samples were re-extracted outside of holding time & reanalyzed.	All surrogate recoveries were compliant with the exception of RR-WG-DC02-01 DCBP
Breakdown Check (Endrin and DDT)	None	-	-
Method Blanks	None	-	-

Due to overlapping chromographic pattern, the matrix spike and matrix spike duplicate were prepared individually for Pesticides and Aroclors (1016/1260). The following laboratory ID suffixes were utilized: P1 (Pesticide matrix spike), P2 (Aroclor matrix spike), P3 (Pesticide matrix spike duplicate), P4 (Aroclor matrix spike duplicate).

Method 6010 - ICP Metals Analysis

Interference Checks and Serial Dilutions performed as required per method.

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Holding Time	None	-	-
ICAL	None	-	-
ICAL Verification	None	-	-
ICAL Blank	A8B01146 A8B0161810 Cd, Ca	None	<PQL
2nd Source Verification	None	-	-
CCAL Verification (%D)	None	-	-
CCAL Blank	Several blanks contained analytes of interest.	None	<PQL
LCS	A8B01146 A8B0114604 Sb	None	The recovery was biased high. The recovery also falls within the manufacturer's specified limits, however exceeds the QAP limits.
MS/MSD (%R &/or RPD)	RR-SO-DP04-01 Cd, Pb, Zn	None	LCS compliant.
Method Blank	A8B01146 A8B0114603 1). Ca A8B01306 A8B0130603 2). Ca	None	1). & 2). >PQL All associated client samples contained a concentration of Ca that was (10) times greater than the blank.

Sodium and Potassium are non-linear elements and they are calibrated using a single point initial calibration.

Sodium and Potassium laboratory derived MDLs were greater than the PQLs (Waters). All the blanks were qualified with an asterisk(*) for these elements on the forms I-5.

Sodium, Potassium, and Silver laboratory derived MDLs were greater than the PQLs (Soil). All the blanks were qualified with an asterisk(*) for these elements on the forms I-5.

Method 7470 - Mercury

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Holding Time	None	-	-
ICAL	None	-	-
ICAL Verification	None	-	-
ICAL Blank	None	-	-
2nd Source Verification	None	-	-
CCAL Verification (%D)	None	-	-
CCAL Blank	None	-	-
LCS	None	-	-
MS/MSD (%R &/or RPD)	None	-	-
Method Blank	None	-	-

Method 418.1 - Total Recoverable Petroleum Hydrocarbons

QUALITY CRITERIA	NON-CONFORMANCE	CORRECTIVE ACTION	COMMENT(S)
Holding Time	None	-	-
LCS/MSB	None	-	-
MD/MSD (%R &/or RPD)	None	-	-
Method Blank	None	-	-

In the above non-conformance summaries ICAL and CCAL refers to initial and continuing calibrations respectively. RT and/or RTW refers to retention time and retention time windows respectively. LCS is an abbreviation for laboratory control sample, MSB is matrix spike blank (lab prepared control sample) and MS/MSD represents matrix spike and matrix spike duplicate. MD is the abbreviation for matrix duplicate. The %R refers to % recovery of spikes, surrogates or internal standards and RPD or %D refers to relative percent difference and percent difference as per the methods.

"I certify that this package is in compliance with the terms and conditions of the contract both technically and for completeness, for other than the conditions presented above. Release of the data contained in this hardcopy data package has been authorized by a duly authorized representative of Recra Environmental, Inc., as verified by the following signature."

K E Kasperek

Kenneth E. Kasperek

3/25/98

Date

"This data report shall not be reproduced, except in full, without the written authorization of Recra LabNet."

464 383

APPENDIX K

AGENCY REVIEW COMMENTS

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

DEC 16 1998

Mr. John Doepker
Department of the Air Force
Aeronautical Systems Center
Restoration Division, Environmental Management
ASC/EMR Building 8
1801 Tenth St Suite 2
Wright-Patterson AFB, OH 45433-7626

Re: Technical Review and Comment
Draft Report (July 1998)
Site Assessment and Investigation
Railroad Right-of-Way
Air Force Plant 4 Superfund Site
Tarrant County, Texas

Dear Mr. Doepker:

The U.S. Environmental Protection Agency (EPA) has performed a technical review of the U.S. Air Force's document titled "Draft Report, Site Assessment and Investigation of the Railroad Right-of-Way" (July 1998). The EPA agrees with the report's recommendation that no further action is required for the Railroad Right-of-Way.

If you have any questions concerning our comment, please call me at (214) 665-7437.

Sincerely yours,

Rafael A. Casanova

Rafael A. Casanova
Remedial Project Manager

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FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE